English *Capability*-constructions:

A Descriptive Study

(英語の可能構文：記述的研究)

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Chapter 1

1. Introduction

1.1 Aim of this thesis

The aim of this thesis is to provide a data-oriented description of capability *can* and five English *capability*-constructions (defined later). The form expressing the notion of *ability*/*capability* tends to be associated with modal auxiliary verb *can*. Due to this, the description of *capability*-constructions seems to be strongly biased toward that of *can*, and the ancillary consideration of *be able to* (cf. Coates 1983, Quirk et al. 1985, Palmer 1988, Biber et al. 1999, Huddleston and Pullum 2002, Leech 2004, and Collins 2009 among others). There is a vast amount of literature on *can* and *be able to,* which is often discussed with special reference to *can*. Other references include: usage guides such as Peters 2004 and Swan 2005, grammar books such as Thompson and Maritnet 1986, Leech 1989, and Hands et al. 2011, and pedagogical grammar references such as Oxford's *Living Grammar* and *Practice Grammar* series, Cambridge's *Grammar in Use* series, and Heine's *Practical Grammar* series to name a few. It is a matter of course that almost every dictionary has entries dedicated to each *capability*-constructions. To the best of my knowledge, the exceptions are Fachinetti (2000), Aijmer (2004), and Terada (2010), all of which discuss *be able to*. There seems to be little study on other constructions.

However, there is a wealth of *capability*-constructions in English. For instance, *Longman Language Activator*[2] enumerates the phrases as the synonyms of *can*, including *be able to do sth*, *have the ability to do sth*, *be capable of doing sth*, *know*

how to do sth, *it is possible for sb to do sth*, *be in a postion to do sth*, *enable sb to do sth*, and *make it possible*. The current state can be seen in Figure 1-1, which is based on Quirk et al. (1985: 236) and *Longman Language Activator*[2].

	Modal auxiliaries	**Marginal auxiliaries**	**Idioms**	...
Ability	*can*	*be able to*	*be capable of*	...
Obligation	*must*	*have to*	*be forced to*	...
Volition	*will*	*be going to*	*be ready to*	...
⋮	⋮	⋮	⋮	

(b)

(a)

Figure 1-1. Current state on constructions related to modality

The prevailing pattern of discussion is to describe the constructions from viewpoint (a). Namely, the explanation of modal auxiliaries is followed by consideration of marginal auxiliaries. Idioms or constructions in the third row are mentioned only in passing if at all. However, this thesis aims to describe *capability*-construction from the point of view of (b). That is, the purpose of this thesis is to describe *capability*-constructions as a whole with little reference to modality[1].

1.2 Data

The data used in this study consist of three corpora, all of which are standard American written English. One is the Brown corpus, which contains one million words of written American English from the 1960s. Another is the Frown corpus, which also comprises one million words of written American English from the 1990s.

The final corpus is the American edition of *Time* magazine from the time period 1989-1993 (about eight million words, provided in a CD-ROM).

One reason why the Brown and Frown corpora are used, when there are many other available corpora, is that they are excellent corpora based on rigid sampling methods[2]. The frequency of a balanced corpus is considered to reflect the actual uses of the language (cf. Ishikawa 2102). Another reason is their manageability. One can examine every context of instances found in the corpora, making qualitative analyses undemanding to perform. In addition, the reason for using *Time* is to complement the Brown and Frown corpora. Of note, not all descriptions are always conducted by using all of the data from *Time* 89-93. They are mainly used to supplement the attested patterns of a *capability*-construction with a low frequency. This information is usually provided in footnotes.

1.3 The notion of capability

Almost all grammar books or dictionaries explain that one of the chief meanings of *can* is that of ability (e.g. Leech 2004). The word *ability* usually implies human subjects. For example, *Webster's New Dictionary of Synonyms* (1984: 3) notes that "**Ability** primarily denotes the quality or character of being able (as to do or perform) and is applied chiefly to human beings." However, the subjects of the sentence exhibiting "ability" are often non-human as seen in (1).

(1) There are those from whom not even *death* **has been able to** disconnect me. — George P. Elliott, *Harper's*, September 1970. [Gilman 1989: 3]

In this regard, *Longman Dictionary of American English*[4] defines *capability* as "the

ability of a machine, person, or organization to do something, especially something difficult." Namely, the word *capability* includes the "ability" of both human and nonhuman subjects in its meaning. To avoid the misleading association of the word *ability* with human subjects, the word *capability* is employed in this thesis. Thus, the constructions conveying the concept of *ability*/*capability* will be called *capability*-constructions.

1.4 The semantic range of capability

This thesis interprets the notion of capability broadly. Palmer (2001: 10) remarks that capability "has to be interpreted rather more widely than in terms of the subjects' physical and mental power, to include circumstances that immediately affect them (*ibid*.)". He gives two examples as seen in (2) to show the validity of the broader interpretation.

(2) a. He **can** run a mile in five minutes. (Dynamic: he has the ability)

b. He **can** escape. (Dynamic: the door's not locked)

[Palmer 2001: 10]

In (2a), what enables "he" to "run a mile in five minutes" is his inner physical ability or power. On the other hand, in (2b) what allows "he" to "escape" is the outside circumstance in which the door is not locked. The former will be called a narrow interpretation and the latter a wide interpretation.

In a similar vein, *Genius English-Japanese Dictionary*[5] (2014) divides capability into two subtypes: one is *naizaiteki nouryoku* "inherent ability" (capability inherent in agents) as seen in (3) and the other is *joukyouteki nouryoku* "circumstantial

ability" (some external circumstances enable agents to do something) as in (4).

(3) a. I **can** read French, but I **can't** speak it.

b. They want a girl who **can** play the piano.

c. Our child is only ten months, but she **can** already walk.

(4) a. The rain has stopped so we **can** go home without an umbrella.

b. We **can** go to Rome in June because both of us have a week off work.

[Genius[5]]

In (3), the agents **can** *read French*, *play the piano*, and *walk* because they have knowledge, skills, and power inherent in them. In contrast, the agents in (4) **can** *go home* or *go to Rome* because the circumstances outside the agents make it possible for them to perform the respective actions (e.g. the circumstances in which "the rain has stopped" in the case of (4a)). Namely, "*naizaiteki nouryoku"* corresponds to a narrow interpretation and "*joukyouteki nouryoku*" is analogous to a wide interpretation.

In sum, this thesis follows these studies and interprets the notion of capability broadly. That is, capability "include(s) circumstances that immediately affect them [= subjects]" (Palmer 2001: 10). Similar positions can be seen in Sheurweghs (1959), Close (1975, 1977), Hornby (1975), Declerck (1991), Eastwood (1994), among others[3].

1.5 Perception verbs and metal verbs

In this thesis, *can* followed by perception and mental verbs as seen in (5) is considered to be a subtype of capability.

(5) a. She **can** run the marathon in under three hours. [potential]

b. I **can** hear something rattling. [currently actualized]

[Huddleston and Pullum 2002: 184]

In this regard, Huddleston and Pullum (*ibid*.) states that "Ability is a matter of internal properties on the part of the subject-referent ... Two subcases can be distinguished: potential and currently actualised. The latter is found with sense verbs and various verbs of cognition ...." Their "sense verbs" and "various verbs of cognition" are equivalent to perception verbs and mental verbs in this thesis, respectively. Following the remarks of Huddleston and Pullum (2002), this use is regarded as a subtype of capability use. Other researchers holding a similar position are Coates (1983), Leech (2001), and Carter et al. (2011)[4].

1.6 Target constructions of this thesis

In this thesis, capability *can* and five *capability*-constructions will be discussed. The criterion for selecting the constructions is based on the classification of *Longman Language Activator*[2]. Of the constructions enumerated as the synonyms of *can* in this dictionary, those that have not been provided with detailed descriptions in previous studies and those that appear at a sufficient rate in the corpora have been selected as well as capability *can*. Therefore, the constructions discussed in this thesis are shown with examples as seen in (6). All examples are from *Longman Language Activator*[2].

(6) a. S CAN DO

How many hamburgers do you think you **can** eat?

b. BE ABLE TO DO

Those bags look really heavy — are you sure you'll **be able to** carry them on your own?

c. BE CAPABLE OF DOING

Around 7 or 8, children **are** already **capable of** making their own moral evaluations.

d. S ENABLE O TO DO

The money from my grandmother **enabled** us **to** buy the house.

e. IT BE POSSIBLE FOR N TO DO

It might **be possible to** use the school library on Saturdays.

f. S MAKE IT POSSIBLE FOR N TO DO

The loan **made it possible for** him **to** continue his education.

To note, "negative" *capability*-constructions such as *be unable to do*, *be incapable of doing*, and *it be impossible for N to do* will not be examined in this thesis.

1.7 Constructions and patterns

The term *construction* in the thesis is not used in the sense of Construction Grammar (e.g. Fillmore, Kay, and O'Connor 1986, Fillmore 1988, and Goldberg 1995, 2006, among others). Rather, it is intended to denote what is used in traditional grammars or descriptive studies, which is roughly defined as the repeated occurrence of a sequence of words put together to form a larger phrase. In this context, the word *construction* in this thesis is roughly equivalent to *pattern*, the original notion of which goes back to Hornby (1975) (See Hunston and Francis 2000 for the history of the use of the term *pattern* in linguistics.)

In this thesis, the word *pattern* is employed as the sub-construction of a construction. For example, the *S enable O to do* construction exhibits some repeated occurrence of a sequence of words, including *preposition [P] enabling O to do* (the objects of prepositions), *SV, enabling O to do* (adverbial participle clauses), and *NP [that enable O to do]* (post-nominal modification). These repeated strings of words will be labeled as patterns in this thesis. Sub-patterns are also used in some contexts, but they are used as the synonyms of the patterns. The situation is illustrated in Figure 1-2.

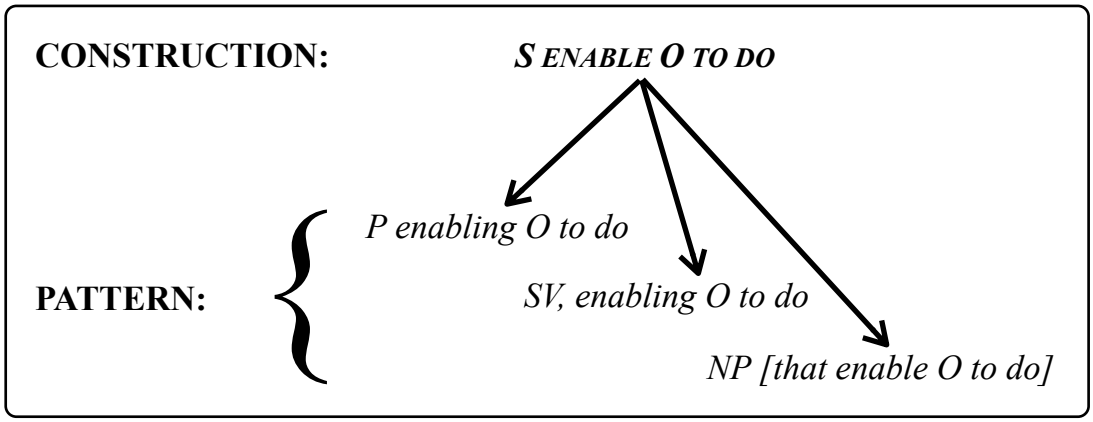

Figure 1-2. Relation between constructions and patterns

1.8 Definitions of grammatical terminologies

In this section, the definitions are provided for recurrent grammatical terminologies used in this thesis.

1.8.1 Tense

The forms expressing time in English, technically, are divided broadly into tense (present and pretrite), aspect (perfect and progressive), and modal (*will*, *shall*, and *be going to*) (cf. Quirk et al. 1985, Biber et al 1999, and Huddleston and Pullum

2002). Other, more non-technical frameworks lump them together and treat them under the umbrella of tense (cf. Swan 2005 and Hands et al. 2011). In this thesis, the latter all-embracing approach is adopted because of its practical usefulness. This simple method works better and yields more interesting results than the more rigorous one. Thus, the tense system used in this thesis will consist of future (*will*, *shall*, and *be going to*), present progressive, present perfect, and past perfect. The term *perfect systems* is sometimes employed to denote both present perfect and past perfect simultaneously.

1.8.2 Participial constructions

In traditional English grammar written in Japanese, the construction as seen in (7) is known as participial construction.

(7) a. *Driving home after work*, I accidentally went through a red light.

b. *Confident of the justice of their cause*, they agreed to put their case before an arbitration panel. [In both sentences, emphasis in original]

[Quirk et al. 1986: 1121]

However, as Ando (2005: 241) notes, this construction is usually labelled adverbial participle clauses by, for example, Quirk et al. (*op. cit.*). In addition, they label (7b) as adverbial verbless clauses. Furthermore, adverbial participle clauses exhibit the following four patterns, seen below in (8).

(8) a. He shrugged his shoulders, **saying** he didn't know and didn't care.

b. He was an unusually good carpenter, **having learned** the craft from his

father.

c. **Looking down** from the plane, I could see the east coast of the coral island.

d. **Having lost** the bet, he had to pay for dinner.

[Egawa 1991]

(8a) and (8b) are placed after main clauses and (8c) and (8d) are before them. The former types are called postposing types and the latter preposing types. (8a) and (8c) are simple forms in that they appear only in participles. In contrast, (8b) and (8d) are complex forms in that they appear in perfect forms. The former are called simple types and the latter (perfect forms as well as clauses accompanied by negatives, adverbials, and conjunctions) are called complex types. In short, in this thesis (8a) will be called a simple postposing type, (8b) a complex postposing type, (8c) a simple preposing type, and (8d) a complex preposing type.

1.8.3 Non-finite clauses

Traditional descriptions of English grammar involve three types of non-finite clauses: *to*-infinitive clauses, (past and present) participle clauses, and gerund clauses. Not all of the uses of each non-finite clause occur in the corpora. Some recurrent uses are exemplified in (9).

(9) a. I don't **want** *to see* you again. [Swan 2005: 257]

b. He's **finished** *mending* his car. [Swan *ibid*.: 271]

c. You can't make an omelet **without** *breaking* eggs. [Swan *ibid*.: 273]

d. I'm going to Austria *to learn* German. [Swan *ibid*.: 265]

e. Your task **is** *to get across* the river without being seen. [Swan *ibid*.: 265]

(9a) and (9b) are traditionally known as *the objects of verbs or predicates*. The non-finite forms after the governing verbs are usually referred to as *the complements of verbs or predicates*. Cases similar to (9c) are traditionally called *the objects of prepositions*. The use of *to*-infinitives in (9d) are referred to as *adverbial to-infinitive clauses* for lack of a better term. The use of (9e) is known as *the complements of subjects* (cf. Quirk et al. 1985).

Present participle clauses and gerund clauses are identical in forms, i.e., a verb stem plus a suffix *-ing*: *doing*. Huddleston and Pullum (2002) treat them together and label them a gerund-participle form. Swan (2005) calls such a form simply the *ing*-form. Following Swan (*op. cit*.), the simpler term *ing*-form is sometimes used in this thesis.

1.8.4 Post-nominal modifications

There are three patterns attested as post-nominal modifications in the corpora as seen in (10).

(10) a. Is there any milk [*to put on* the cornflakes]? [Swan *ibid*.: 285]

b. Anyone [*touching* that wire] will get a shock. [Swan *ibid*.: 383]

c. I forget most of the <u>films</u> [that I see]. [Swan *ibid*.: 494]

For lack of a better term, (10a) is labeled as an adjectival *to*-infinitive clause and (10b) an adjectival participle clause. (10c) is a typical normal relative clause. The underlined word is called an antecedent or head noun, *that* is referred to as a

relativizer, and the relativized elements are described as gaps (cf. Quirk et al. 1985)

1.9 Semantic classification of verbs

This thesis will adopt the classification of the verbs of Biber et al. (1999). They classify verbs into seven major semantic types: activity verbs, communication verbs, mental verbs, causative verbs, verbs of simple occurrence, verbs of existence or relationship, and aspectual verbs. Below is a description of each type of verbs.

• Activity verbs

Activity verbs mainly express actions and events "that could be associated with choice" (Biber et al. 1999: 361) and take a subject with the semantic role of agent. The agent is defined as "the willful initiator of the action" (*ibid*.: 123). Typical examples of such can be seen in (11).

(11) a. Then you should **move** any obstacles before. (CONV)

b. He **bought** biscuits and condensed milk. (FICT)

c. The airline had **opened** the route on the basis that it would be the first of many. (NEWS)

d. In many of these jobs, women are **working** with women only. (ACAD)

[*ibid*.: 361]

Activity verbs can be both transitive as in (12a), or intransitive as in (12b).

(12) a. Even the smallest boys **brought** little piece of wood and threw them in. (FICT†)

b. From Haworth they **went** to Holyhead and on to Dublin. (NEWS)

[*ibid*.: 362]

Biber et al. note that many activity verbs can be used to denote non-volitional actions, events, or static relations as well as volitional activities (*ibid*.). Sentences in (13) are those of the non-volitional versions of the same verbs in (11a) and (11d).

(13) a. During that time continents, oceans, and mountain chains have **moved** horizontally and vertically. (ACAD†)

b. Compulsory elementary education was **working** with a vengeance. (ACAD)

[*ibid*.]

Biber et al. (2002: 107) list the twenty most common activity verbs. seen in (14).

(14) bring, buy, come, follow, get, give, go, leave, make, meet, move, pay, play, put, run, show, take, try, use, work [*ibid*.]

• Communication verbs

According to Biber et al. (1999: 362), and as shown in (15), communication verbs are those that "involve communication activities (speaking and writing)."

(15) a. You **said** you don't have it. (CONV)

b. "Stop that", he **shouted**. (FICT)

c. The organiser **asked** me if I wanted to see how the money was spent. (NEWS)

d. He might find it impossible to **write** in the tone or theme he first took up. (ACAD†)

[*ibid*.]

Biber et al. (2002: 107) make a list of the twelve most common communication verbs shown in (16).

(16) ask, call, claim, describe, offer, say, speak, suggest, talk, tell, thank, write

[*ibid*.]

• **Mental verbs**

Mental verbs, according to Biber et al. (1999: 362), express a wide range of activities and states that humans usually experience. They neither involve physical action nor necessarily entail volition. They take a subject with the semantic role of recipient, which is defined as "an animate being who is the non-volitional receiver or experiencer involved in an action or state" (*ibid*.: 124). They are classified into four sub-types: i) verbs with cognitive meanings (*e.g. think*, *know*), ii) verbs with emotional meanings that denote various attitude or desires (*e.g. love*, *want*), iii) verbs concerned with perception (*e.g. see*, *taste*), and iv) those involving receipt of communication (*e.g. read*, *hear*). Some examples are provided in (17)

(17) a. I **think** it was Freddie Kruger. (CONV) [*ibid*.: 362]

b. I would **love** to kick it. (CONV) [*ibid*.: 362]

c. Then he **tasted** the brandy: it was rough but he needed it. (FICT) [*ibid*.: 145]

d. Dr. Gruner asked Uncle Sammler to **read** a few items from the Market

Letter. (FICT) [*ibid*.: 722]

Biber et al. (1999: 362) notes that from a different point of view, mental verbs are further divided into two sub-types: dynamic mental verbs and stative mental verbs. The former type of verbs are those which denote relatively dynamic cognitive activities. Examples of typical types of such verbs are shown in (18) and (19).

(18) calculate, consider, decide, discover, examine, learn, read, solve, study

(19) a. Mr Tench **examined** his companion again with surprise. (FICT)

b. Curry has **decided** to by-pass the Italian Open to lend his support to the Senate Open. (NEWS†)

c. We might even **discover** that he was a lower member of abstract nouns than other writers of his time. (ACAD)

[*ibid*.: 363]

The verbs belonging to the latter class are more stative in meaning. They include: i) verbs denoting cognitive states and ii) verbs expressing emotional or attitudinal states. The typical verbs of each subgroup and their examples are given below.

• Cognitive states

(20) believe, doubt, know, remember, understand

(21) a. Oh yeah, right we all **believe** that. (CONV)

b. I **remember** the way you used to bash that ball. (FICT)

• Emotional or attitudinal states

(22) enjoy, fear, feel, hate, like, love, prefer, suspect, want

(23) a. He **hated** this weekly ritual of bathing. (FICT†)

b. I **preferred** life as it was. (NEWS)

[*ibid*.: 363]

• Verbs of facilitation or causation

Verbs of facilitation or causation indicate that "some person or inanimate entity bring about a new state of affairs" (Biber et al. 1999: 363). These verbs express the facilitated action in a nominalized direct object or in a complement clause which follows the verb phrase (*ibid*.). The verbs according to Biber et al. that belong to this type are seen in (24) and examples of their use are shown in (25) and (26).

(24) allow, cause, enable, force, help, let, require, permit

(25) Causative verbs with nominalized direct objects

a. Still other rules **cause** the deletion of elements from the structure. (ACAD)

b. The I. U. P. A. C. system **permits** the naming of any alkane on sight. (ACAD†)

c. Suction methods for obtaining solution **require** careful interpretation. (ACAD†)

(26) Causative verbs with following complement clauses

a. What **caused** you to be ill? (FICT)

b. Police and council leaders agreed to **let** a court decide the fate of the trees. (NEWS†)

c. The second dimension of interpretation then **requires** him to judge which of these readings makes the work in progress best. (ACAD)

[*ibid*.: 363]

For simplicity, they refer to these verbs as **causative** verbs.

• Verbs of simple occurrence

Verbs of simple occurrence "primarily report events (typically physical events) that occur apart from any volitional activity" (Biber et al. 1999: 364). In short, they are verbs "which simply document that an event happened" (*ibid*.: 383). Their subjects tend to have a semantic affected role, which is defined as "an animate or inanimate participant affected by an action, or directly involved in an action" (*ibid*.: 127). The typical verbs of this class and a few examples are shown in (27) and (28).

(27) • become, change, happen, develop, grow, increase, occur [*ibid*.: 364]

• die, arise, be born, emerge, fall, increase, last, rise, disappear, flow, shine, sink, slip [*ibid*.: 369-70]

• last, arose, break down, grow up, set in, come off, run off, look like, fall into, run into, come down to [*ibid*.: 383, 109, 410, 418, 426]

(28) a. The lights **changed**. (CONV)

b. The word of adults had once again **become** law. (FICT†)

c. Resistant organisms may **develop** in the alimentary tract. (ACAD†)

[*ibid*.: 364]

• **Verbs of existence or relationship**

Verbs of existence or relationship are classified into three types: i) copular verbs such as *be*, *seem*, *appear*, ii) verbs reporting a state of existence such as *exist*, *live*, and *stay*, and iii) verbs reporting a relationship between entities such as *contain*, *include*, *involve*, and *represent* (Biber et al. 1999: 364). Examples of the three types can be seen below.

• Copular verbs

(29) a. The problem **is** most acute in rural areas. (NEWS)

b. All these uses **seem** natural and serviceable. (ACAD)

• State of existence

(30) a. She had gone to **live** there during the summer holidays. (FICT)

b. These varying conditions may **exist** in close proximity. (ACAD†)

• Relationship

(31) a. The exercise will **include** random stop checks by police, and **involve** special constables and traffic wardens. (NEWS)

b. Comparison with equation (3.3) shows that the area **represents** the work done per unit mass. (ACAD)

[*ibid*.: 364]

Other verbs existence or relationship they refer to can be seen in (32).

(32) • look, stand, indicate, deserve, fit, be located, matter, reflect, relate, remain, reveal, send, tend, concern, constitute, define, be derived, illustrate, imply,

lack, owe, own possess, suit, vary [*ibid*.: 369-371]

• turn out, depend on, belong to, account for, consist of, differ from, refer to, rely on, stand for, be compared with, be related to, be set out in, be made up of, be cut off from [*ibid*.: 410, 418. 422, 426]

For simplicity, Biber et al. refer to these verbs as **existence** verbs.

• Aspectual verbs

Aspectual verbs "characterize the stage of progress of some other event or activity, typically reported in a complement clause following the verb phrase" (Biber et al. 1999:364). Such verbs include *begin*, *continue*, *finish*, *keep*, *start*, and *stop*. Examples of such are shown in (33).

(33) a. Tears **started** to trickle down his cheeks. (FICT)

b. She **kept** running out of the room. (CONV)

c. He couldn't **stop** talking about me. (CONV†)

1.10 Genre analysis

In this thesis, genre analysis will be presented at the end of the analysis of each *capability*-construction. This section provides a brief explanation for genre analysis[5]. Concerning one of the major strengths of the BROWN family corpora, Hundt and Leech (2012: 179) state that "the exactitude of corpus design enables robust comparisons to take place across macro-categories (Press, General Prose, Learned, Fiction)." Table 1-1 shows the contents of the Brown and Frown corpora in terms of macro-categories.

A-C Press:	press reportage, editorials, reviews	c. 176,000 words
D-H General Prose:	religion, skills and hobbies, popular lore, biography and memories, etc., miscellaneous	c. 412,000 words
J Learned:	academic writing (monographs and journals, various fields)	c. 160,000 words
K-R Fiction:	general, mystery, science, adventure fiction; romance and love story; humor	c. 252,000 words

Table 1-1. Contents of the Brown and Frown corpora in terms of macro-categories (Hundt and Leech 2012: 179)

In this thesis, these "macro-categories" will be simply referred to as genre. More precisely, *genre* refers to "the type of text that a piece of writing or spoken discourse belongs to from the point of view of its purpose, setting, and conventions of language use" (Aarts et al. 2014: 178). Genre analysis, thus, is comprised of comparisons across four macro-categories (i.e., *genres*). By examining the frequency of the occurrences of each *capability*-construction in four genres, one can find the genre(s) that a *capability*-construction prefers.

1.11 Organization of the thesis

The organization of the thesis is as follows: Chapter 2 examines previous studies on capability *can* and five *capability*-constructions and identifies their problems. Chapter 3 is a data-oriented description of capability *can*. Chapter 4 consists of a data-oriented description of five *capability*-constructions in English. Chapter 5 summarizes major results from Chapters 3 and 4 and draws conclusions and prospects.

Notes to Chapter 1

[1] The basis of the description in this thesis comes from various strands of linguistic thought. Influential works include, among others, Langacker (1987, 1991), Lakoff (1987), Talmy (2000), a series of works from Givón, Thompson, and Shibatani (cf. Hopper and Thompson 1980, Shibatani 1985, Givón 1990 and 1993 *inter alia*), Konishi ed. (1980, 1989) and Halliday (1994), among others.

[2] The Brown corpus divides written prose into fifteen categories and in total comprises 500 examples, each consisting of 2000+ words. Frown follows the same method. Below are those fifteen categories. By way of reference, when a term such as [Brown D] appears, it means that the data comes from the religious text of the Brown corpus.

i) A: Reportage, B: Editorial, C: Review, D: Religion, E: Skills, trades and hobbies, F: Popular lore, G: Belles lettres, biographies, essays, H: Miscellaneous, J: Science, K: General fiction, L: Mystery and detective fiction, M: Science fiction, N: Adventure and Westerns, P: Romance and love stories, R: Humor

[3] Some researchers interpret the notion of capability narrowly. A typical advocate of the narrow interpretation is Coates (1985). She observes that "ability" is associated with agentivity and "where there is no clear indication ... of inherent properties of the subject, then 'Possibility' is the meaning which applies" (*ibid*.: 93). Although it is seemingly only Coates (1983) who leans toward an explicit narrow interpretation of the notion of capability, those who hold an implicit narrow interpretation include Zandvoort (1975), Alexander (1988), Leech et al. (1989), Lock (1996), and COBUILD Grammar (2011).

[4] Some researchers treat this use as a separate entry. Researchers in this position include, but are not limited to, Quirk et al. (1985), Alexander (1988), and Leech et al. (1989).

[5] For more details, see Biber and Conrad (2009).

Chapter 2

Previous studies on *capability*-constructions

This chapter will review the previous studies on capability *can* and five English *capability*-constructions and identify their problems. The order of presentation is: (i) *can*, (ii) *be able to to do*, (iii) *be capable of doing*, (iv) *S enable O to do*, (v) *it be possible (for N) to do* and *S make it possible (for N) to do*.

2.1 Capability *can* construction

This section will review the previous studies on capability *can* construction and identify their problems. The points to be discussed are the following three aspects: i) the general characteristic of the construction, ii) the position of capability *can* within modality, and iii) the subjects and verbs of capability *can*.

2.1.1 The general characteristics of *can*

The modal auxiliary *can* is polysemous. For example, *Longman Advanced American English Dictionary* has thirteen entries for *can*[1]. Nonetheless, it is generally accepted in the literatures that *can* has at least "three major meanings" (Quirk et al. 1985: 221) as shown in (1): possibility, ability, and permission. (For a similar view, see Yule 1998, Biber et al. 1999, and Leech 2004, among others.)

(1) a. Even experts drivers *can* make mistakes. [possibility]

b. They say Bill *can* cook better than his wife. [ability]

c. *Can* we borrow these books from the library? [permission]

[*ibid*.: 222]

Furthermore, the modal auxiliary *can* is extremely frequent. Its frequency is ranked as 40 (Davies and Gardner 2010). It is the third most frequent among the modal auxiliaries as shown in Figure 2-1 (Biber at al. 1999: 486). Finally, "*can* is extremely common in conversation and academic prose" (*ibid*.: 487).

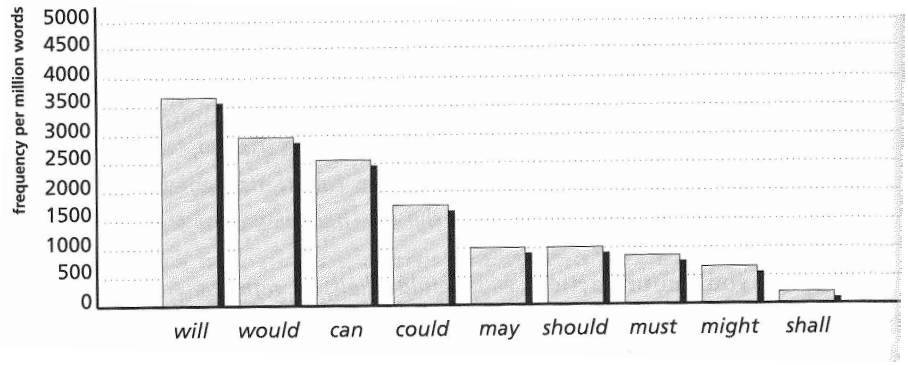

Figure 2-1. Frequency of modal verbs in the LSWE Corpus (Biber et al. 1999: 486)

As explained in Chapter 1, the purpose of this thesis is to provide a data-oriented description of *capability*-constructions in English. The following review will focus on those arguments relevant to capability *can*. Other uses or meanings will not be reviewed.

2.1.2 Capability *can* within modality

The analysis of *can* has been mostly carried out within the context of modality. This section will survey the way in which the capability use of *can* has been classified.

First, Coates (1983) divides modality into Epistemic modality and non-Epistemic modality, which she calls "Root". Epistemic modality involves the Epistemic and the

Alethic categories of modal logic and is "concerned with the speaker's assumptions or assessment of possibilities and, in most cases, it indicates the speaker's confidence (or lack of confidence) in the truth of the proposition expressed" (*ibid*.: 18). Root modality includes the deontic and dynamic categories of modal logic. But Coates does not provide any characterization. As for *can*, she remarks that "CAN is the only modal auxiliary where we do not find the Root-Epistemic distinction" (*ibid*: 85). Accordingly, the classification of the capability use of *can* is not available.

Second, Quirk et al. (1985) classifies modality into two types: intrinsic and extrinsic. The intrinsic modality "involve(s) some kind of intrinsic human control over events" (*ibid*.: 219) such as "permission", "obligation", and "volition." The extrinsic modality does not "primarily involves human control of events, but do typically human judgement of what is or is not likely to happen" (*ibid*.: 219) such as "possibility", "necessity", and "prediction." Concerning the meaning of ability, Quirk et al. consider it as extrinsic, "even though ability typically involves human control over an action" (*ibid*. 220).

Third, Biber et al. (1999: 485) classify modals and semi-modals into three semantic categories as shown in (2).

(2) **permission/possibility/ability**: *can, could, may, might*

obligation/necessity: *must, should, (had) better, have (got) to, need to, ought to, be supposed to*

volition/prediction: *will, would, shall, be going to*

[*ibid.*]

Then, they state that "each modal can have two different types of meaning" (*ibid*.):

intrinsic and extrinsic. The intrinsic modality, which they equate with "deontic" meaning, "refers to actions and events that human (or other agents) directly control: meaning relating to permission, obligation, or volition (or intention)" (*ibid*.). The extrinsic modality, which they equate with "epistemic" meaning, "refers to the logical status of events or states, usually relating to assessments of likelihood: possibility, necessity, or prediction" (*ibid*.: 485). Although their terminology is similar to that of Quirk et al. (1985), they do not mention which category ability belongs to. Consequently, the classification of the ability use of *can* is not available.

Fourth, Palmer (2001), whose classification of modality is considered to be the most detailed one, classifies modality as shown in (3). (3) is supplied with their representative English modals of each sub-category.

(3) **Propositional modality**

Epistemic	Speculative	*may*
	Deductive	*must*
	Assumptive	*will*
Evidential	Reported	NA
	Sensory	NA

Event modality

Deontic	Permissive	*may/can*
	Obligative	*must*
	Commissive	*will* (with the first person subject)
Dynamic	Abilitive	*can*
	Volitive	*will*

Palmer first divides modality into propositional modality and event modality. The former is "concerned with the speaker's attitude to the truth-value or factual status of the proposition" (*ibid*.: 8). The latter "refers to events that are not actualized, events that have not taken place but merely potential" (*ibid*.). He adds that "this contrast is essentially the same as that of Jespersen (1924: 320-21)". Namely, propositional modality contains "an element of will" (*ibid*.)" and event modality includes "no element of will" (*ibid*.). Next, Palmer (2001) divides propositional modality into epistemic modality and evidential modality. With the former "speakers express their judgements about the factual status of the proposition" (*ibid*.: 8), while with the latter "they indicate the evidence they have for its factual status" (*ibid*.)[2]. Furthermore, he also divides event modality into deontic modality and dynamic modality. He characterizes each modality as follows. "(W)ith deontic modality the conditioning factors are external to the relevant individual, whereas with dynamic modality they are internal" (*ibid*.: 9). The dynamic modality is concerned with ability and willingness. Thus, in the system of Palmer (2001) ability belongs to the dynamic modality.

Last, Huddleston and Pullum (2002: 52) divide modality into deontic, epistemic, and dynamic categories. Deontic modality typically involves obligation, permission, and prohibition (in combination with negation). Epistemic modality "qualifies the speaker's commitment to the truth of the modalised proposition" (*ibid*.). Dynamic modality "generally concerns the properties and dispositions of persons, etc., referred to in the clause, especially by the subject" (*ibid*.). They classify the ability use of *can* as dynamic ability (*ibid*.: 178).

Coates (1983)	NA
Quirk et al. (1985)	Extrinsic
Biber et al. (1999)	NA
Palmer (2001)	Dynamic
Huddleston and Pullum (2002)	Dynamic

Table 2-2. Summary of previous classifications on capability *can*

Table 2-2 summarizes the previous classifications on the capability use of *can* in the context of modality. The table clearly shows that there is no consensus on the classifications of the ability use of *can* in modality. This stems from the fact that the classification of the capability use of *can* has been sometimes controversial. In this regard, Huddleston and Pullum (2002: 179) posit that "Dynamic ability is less central to modality than deontic permission in that it does not involve the speaker's attitude to the factuality or actualisation of the situation." In addition, Huddleston (1984) previously cast a strong doubt on the status of the ability use of *can*, as seen below.

(4) ... it is clear that ***can*** at least has certain uses that do not fall under the concepts of epistemic and deontic modality, however broadly they are interpreted. Among the most obvious is that where ***can*** indicates ability of some kind, as in *Sue can speak ten languages*. The modality here is sometimes described as 'dynamic', though this is nothing like so standard a category as the other two.

[Huddleston 1984: 170]

Furthermore, Lock (1996: 211) goes so far as to claim that "Ability and potentiality are not really concerned with judgments and attitudes in the same way as the other areas of modality. However, because they can be expressed by modal auxiliaries, they are usually regarded as a kind of modality."

In sum, there is no general agreement on the classification of capability *can* in modality and some scholars are even skeptical of its inclusion of capability *can* in modality. These points are regarded as an adequate reason for treating capability *can* independently of modality.

2.1.2 Subjects and verbs

The other descriptions center around subjects and verbs. In this regard, Coates (1983) provides the sentences in (5) and posits that the typical use of capability *can* has the three characteristics shown in the sentences in (6).

(5) a. "I <u>can</u> walk far, mister Brook. I <u>can</u> walk all the way to the mine."

b. I sug/gest that we 'ask Mr. !Mŏore# . to /stăte# . as . con/cisely as he cán#- /whàt it is# that he ob/jĕcts 'to# /in fóx 'hunting#

c. I <u>can</u> only type very slowly as I am quite a beginner.

[*ibid*.: 89]

(6) a. subject is animate and has agentive function.

b. verb denotes action/activity.

c. the possibility of the action is determined by inherent properties of the subject.

In a smilar vein, Collins (2009: 103) states that "Ability *can* normally requires an

animate subject with agentive function, as in (47) and (48), but inanimate subjects can also be found, as in (49) and (50)." These sentences can be seen below.

(7) = (47) and uh about the age of four most children *can* actually speak to virtually the same standard uh that a adult *can* speak (ICE-GB S1B-003 54)

(8) = (48) And he *can* play chess and I *can't* (ICE-AUS S1A-076 147)

(9) = (49) The features for feeding paper that are built into a printer depend on the use for which it was designed. The two types of paper these printers *can* handle are cut sheet and/or continuous forms. (ICE-AUS W2B-038 31)

(10) = (50) Modern launch vehicles have more efficient engines and *can* launch a heavier payload: typically as much as two per cent of their launch weight. (ICE-GB W2B-035 71)

[*ibid*.]

Concerning inanimate subjects, Palmer (1990: 85) argues that inanimate subjects are permitted when they indicate "that they have the necessary qualities or 'power'." He cites the example in Ehrman (1966: 13), seen in (11).

(11) *Religion* **can** summate, epitomize, relate, and conserve all highest ideas and values. [Ehrman 1966: 13]

Konishi ed (1989: 202) also comments that the subjects of capability *can* are usually people or living things and that *machines*, such as those as seen in (12) are possible.

(12) *Computers* **can** handle vast quantities of information very quickly. — Doughty

& Doughty, *Language*. [*ibid*.: 204]

In sum, the subjects of capability *can* are usually animate nouns, but inanimate nouns are permitted under certain condition. The verbs are usually action/activity verbs.

The main problem with the previous studies is that seemingly few focus on the description of capability *can* construction. There seem to be at least two reasons for this. One is that even the descriptive studies such as Coates (1983) or Leech (2004) mainly provide a description of capability *can* together with other modal auxiliary verbs. This results in the pages devoted to capability *can* being limited. Another is that many studies dealing with capability *can* revolve around some "theoretical" arguments: the organization of modality, grammaticalization[3], and the polysemy/ monosemy controversy[4] *inter alia*. In this case, capability *can* is used as evidence, but is not the object of description. This leads to the same situation mentioned above.

2.2 *be able to do* construction

This section will review the previous studies on *be able to do* construction and identify their problems. The points to be discussed are the following three major aspects: i) the general characteristic of the construction, ii) the uses in finite clauses such as a) the substitution function of auxiliary verb *can*, b) the alternative use of *could* in the past, and c) the characteristics of uses in present tense, and iii) the uses in non-finite clauses, including a) the uses of *to*-infinitives, b) adverbial verbless clauses, and c) post-nominal modifications.

First, let us look at the general characteristic of *be able to do* construction. This includes the following seven points: i) the special position which this construction

occupies in *capability*-constructions, ii) the formality of the construction, iii) the frequency of uses between British English and American English, iv) the frequency of *able N* vs. *be able to*, v) the property of subjects; vi) the variations in copula *be*, and vii) the property of verbs used in *to do*.

Concerning the first point, this construction is sometimes called "quasi-modals" (Coates 1983: 6 and Collins 2009: 15), "semi-modals" (Leech 2004), or "semi-auxiliaries" (Quirk et al. 1985: 137). This indicates that the construction is considered to be a marginal auxiliary verb system or marginal modal auxiliary system and occupies a special position in predicates compared to other *capability*-constructions[5].

This construction is also formal. Palmer (1988: 122), for example, mentions that "BE ABLE TO is rather more formal than CAN. It is found especially in written texts." He adds, "CAN would be more usual in speech" after providing the sentence seen in (13) (cf. Thompson and Martinet 1986, Eastwood 1994).

(13) You may make arrangements elsewhere if you **are able to**. [Palmer *ibid*.]

Regarding the third point, British English tends to use the construction more, "in the ratio of 3:2 according to the evidence of comparable C20 databases (LOB and Brown)" (Peters 2004: 5). Additionally (examining fourth point), *able N* "appears much less often" than *be able to* "in the ratio of 1:11 in LOB and 1:12 in the Brown corpus" (Peter *ibid*.: 6).

Concerning the fifth point, animate or human subjects are more common (seen in 14a below) than those that are inanimate or nonhuman, as shown in (14b) (cf. Gilman 1989: 3 and Peter 2004: 5).

(14) a. Thompson **was able to** smell a bargain a continent away. [Peter *op cit.*: 6]

b. These small rooms **aren't able to** contain all who wish to come.

[Palmer 1988: 122]

Regarding the sixth point, copula *be* shows some variations including *become* as shown in (15a), *feel* in (15b), and *seem* in (15c).

(15) a. Gradually, he ***became*** **able to** converse easily with his new dependents. — Archer, *Kane*. [Konishi ed. 1989: 2]

b. I didn't ***feel*** **able to** disagree with him. [OALD8]

c. I'd like to do more gardening, but I never ***seem*** **able to** find the time. [LDCE5]

Finally, verbs in *be able to do* are "nearly always in the active voice" (Gilman 1989: 3). (cf. Peter 2004: 5 and Swan 2005: 3). Swan (2005: 3) takes this point further and judges the sentence below to be unacceptable.

(16) ~~He'**s not able to** *be understood*.~~ [Swan *ibid*.]

Gilman (1989: 3), however, gives an occasional example of *able to be p.p.* as seen in (17).

(17) ... so social and religious life would **be able to** *be carried out* on a normal basis — L. S. B. Leakey. *Mau Mau and the Kikuyu*, 1952. [Gilman *ibid*.]

Continuing to the next major aspect presented in this section, we will now consider the uses in finite clauses. It is well-known that *be able to* functions "like modals where the modal auxiliary paradigm is defective" (Quirk et al. 1985: 433) (cf. Eastwood 1994, Palmer 1988 and 1990, and Swan 2005). The following examples show the defective paradigm in which *be able to* fills the "gap", be it the future, seen in (18a), present perfect, seen in (18b), past perfect, seen in (18c), after auxiliary verbs , seen in (18d), after *to*-infinitive, seen in (18e), or *ing*-clauses, seen in (18f)[6].

(18) a. One day scientists *will* **be able to** find a cure for cancer. [Swan *ibid*.: 3]

b. Mr Fry has been ill for years. He **hasn't been able to** work for some time. [Eastwood *ibid*.: 124]

c. We pointed out that Iraq **had been able to** bring its forces into Kuwait in a matter of hours. [Time 031191]

d. I *might* **be able to** help you. [Swan *ibid*.: 3]

e. He *wants to* **be able to** speak French. [Palmer 1988: 121]

f. **Being able to** speak the language is a great advantage. [Eastwood *ibid*.]

In addition, the distinction of uses between *was/were able to* and *could* has also been clearly esablished. *Could* is used for a general ability while *was/ware able to* is used for an action in a particular situation as seen in (19) (Eastwood 1994: 124).

(19) a. The injured man **was able to** walk to a phone box.

b. NOT The injured man could walk to a phone box.

[Eastwood *ibid*.: 125]

In a similar vein, Swan (2005: 105) remarks that *was/were able to* means that "somebody managed to do something on one occasion." Quirk et al. (1985: 231) notes *was/ware able to* "emphasize(s) the fulfillment of an action." Palmer (1988: 121) states that *was/were able to* is used when "actuality is implied." Allen (1974: 44) observes that *was/were able to* "deal(s) with the attainment of something through some capacity" (cf. Thompson and Martinet 1986: §137) Of note, this meaning can also be expressed with *managed to* or *succeeded in* as seen in (20) (cf. Eastwood 1994: 125, Swan 2005:105)

(20) a. How many eggs **were** you **able to** get?

b. I **managed to** find a really nice dress in the sale.

c. After six hours' climbing, we **succeeded in** getting to the top of the mountain.

[Swan *ibid*.:105]

However, this condition of use becomes less strict "in the negative when the action did not take place, and with verbs of sensation" (Thompson and Martinet 1986: §137) as well as in some subordinate clauses (Swan 2005: 105) and in questions (Eastwood 1994: 125) as seen in (21).

(21) a. He read the message but he **couldn't/wasn't able to** understand it.

b. I **could/was able to** see him through the window.

[Thompson and Martinet *ibid*.]

c. I'm so glad that you **could** come. [Swan *ibid*.]

d. **Were** you **able to** get/**Could** you get tickets for the show? [Eastwood *ibid*.]

Lastly, there are three characteristics of the construction in the present tense. First, according to Palmer (1988: 121), *be able to* tends to be used in the present "if there is actuality even in the present." He adds that the sentence (22) "means 'can and do cut their prices'. *Can*, however, is not ruled out here" (Palmer *ibid*.).

(22) By this means they **are able to** cut their prices. [Palmer *ibid*.]

Moreover, *be able to* does not have a tendency to be used in the sense of "know how to," and with the verbs like *see* or *hear*. In these cases, *can* is preferred as seen in (23) (Swan 2005: 3).

(23) a. ***Can*** you knit? (More natural than *Are you able to knit?*)

b. I ***can*** see a ship. (More natural than *I am able to see a ship.*)

[Swan *ibid*.]

Additionally, *be able to* is used more in the past than in the present. Collins (2009: 122) shows the tokens of *be able to* in various tenses seen in Table 2-2. In *be able to*, there are "134 preterite tokens as against 124 present" while in *can* there are "7663 present tokens as against 3557 preterite" (Collins *ibid.*).

	ICE-AUS	ICE-GB	C-US	Total	%
Present	49	67	41(8)	157 (124)	13.5%
Preterite	55	67	61 (12)	183 (134)	15.7%
Non-tensed	283	300	244 (48)	827 (631)	70.9%
Total	387	434	346 (68)	1167 (889)	100%

Table 2-2. Tokens of *be able to* in various tense

The third major topic to cover in this section is the uses of *be able to* in non-finite clauses. Regarding this, Konishi ed. (1989: 2) mentions that "... enough to *be able to* do" or "too ... to *be able to* do" is lengthy. In addition, Quirl et al. (1985: 144) remarks that simple adverbial verbless clauses are "marginal" when preposed as shown in (24).

(24) ?*Able to* resist, Matilda declined to betray her country. [Quirl et al. *ibid*.]

Finally, post-nominal modifications are possible such as those seen in (25), although they are found only in *Webster's Third New International Dictionary of the English Language* (WTNIDEL).

(25) a. owls **able to** see in the dark

b. machines **able to** lift 10 tons

[WTNIDEL: 4]

Three serious problems with the previous studies must be mentioned. First, although they identify three major uses of the construction (the function to fill the gaps

of the verbal paradigm in place of *can*, the distinction of the use between *was/were able to* and *could*, and some characteristics of the use in the present tense), none offers a distribution among the three uses or the substitution uses of *be able to*. Moreover, it is not clear what types of auxiliary verbs tend to co-occur. Finally, the descriptions of non-finite clauses are clearly insufficient.

2.3 *be capable of doing* construction

This section will review the previous studies on *be capable of doing* construction and identify their problems. The points to be discussed are as follows: i) the property of subjects of the construction, ii) the patterns of post-nominal modifications, iii) the unacceptability of "be capable to do", iv) the unacceptability of "be capable doing", and v) the variations of copula *be*.

First, the subjects of *be capable of doing* construction are mostly comprised of *people* or *things*. Konishi ed. (1989: 351) mentions *people* or *things* as the selectional restriction of the subjects of the translation of *capable*. Sentences such as those in (26) are typical examples.

(26) a. *I'***m perfectly capable of** doing it myself, thank you. [OALD[8]]

b. *The kitchen* **is capable of** catering for several hundred people.[COBUILD[3]]

Second, there seems to be only one pattern of post-nominal modifications pointed out in previous studies. Konishi ed. (1989: 352) mentions that the post-nominal modification of the *NP [capable of doing]* pattern is possible as seen in (27).

(27) Mr. Kotowski, the teacher of the village school at Slonim, tells me that Wladek

is *the only boy* **capable of** providing the competition that Leon so badly needs. — Archer *Kane*. [Konishi ed. *ibid*.]

Third, *capable* cannot be followed by *to*-infinitives (Turton and Heaton 1996: 62 and Fitikides 2002: 14). The following contrast of sentences with *to*-infinitives and *of doing* shows this point[7].

(28) a. × She is no longer capable to do her job properly.

b. √ She is no longer capable of doing her job properly.

[Turton and Heaton 1996: 62]

Fourth, "the preposition is obligatory" (Quirk et al. 1985: 1231) in *be capable of doing* construction. As is clear from (29a), *be capable* without *of* is unacceptable.

(29) a. *She's not capable looking after herself. [Konishi ed. 1989: 354]

b. She's not capable of looking after herself. [Quirk et al. *ibid*.]

Fifth, there are some variations in copula *be* of this construction. Konishi ed. (1989: 353) gives an example of *feel capable of* as seen in (30a) and mentions that *become* and *look* are also acceptable as copula without examples. Another variation *appear* is given in COBUILD[3] as seen in (30b).

(30) a. I had originally intended to spend only one year in Japan, but as the end of that year approached, I **felt** less and less **capable of** tearing myself away from Kyoto. — Keene, *Confession*. [Konishi ed. *ibid*.]

b. He **appeared** hardly **capable of** conducting a coherent conversation. [COBUILD[3]]

The main problem with the previous studies is that there appears to be little focus on *be capable of doing* construction. Thus, there are more questions than answers. Problematic issues include: i) the distribution of various tenses, ii) the combinations of auxiliary verbs and the construction, iii) the possibility of the use of adverbial participle clauses, and iv) other patterns of post-nominal modifications. In short, the descriptions provided from previous studies are insufficient. According to Davies and Gardner (2010), the frequency of *capable* is ranked as 2393. Other words within a similar range include, among others, *ring*, *usual*, *constant*, and *total*. In spite of its importance, the word *capable* has not received its due attention.

2.4 *S enable O to do* construction

This section will review the previous studies on *S enable O to do* construction and identify their problems. The following two points will be discussed: i) the characteristics of subjects and objects and ii) the possibility of passivization.

First, the subjects and the objects of *S enable O to do* construction are usually *things* and *people*, respectively. Konishi ed. (1980: 485) mentions that the subjects of the construction are usually *things, events,* and *circumstances* and the objects are usually *people* (*animals*). Sentences like (31) are typical examples.

(31) a. *The software* **enables** *you* **to** create your own DVDs. [OALD8]

b. *The machine* **enables** *us* **to** create copies without losing quality. [MWLD]

However, Konishi ed. (*op. cit.*) remarks that the objects of other types of nouns are possible when the objects are nouns that can be associated with people, as in sentence (32a), or things that can be considered metaphorically to have ability, as seen in (32b).

(32) a. The collapse of the strike **enabled** *the company* **to** resume normal bus services. — OALD

b. To **enable** *the machine [i.e. computer]* **to** do this, the information going in must first be put into a form. — *RD* June 1971

[Konishi ed. *ibid*.]

Second, Quirk et al. (1972: 841) observes that *enable* is typically active. Konishi ed. (1980: 486), however, notes that *enable* can be passivized as seen in (33b), citing the definition and an example from WTNIDEL.

(33) a. "give the opportunity to do; ALLOW"

b. examinations so designed that high-school graduates **are enabled to** pass

[WTNIDEL]

The problem in the case of *S enable O to do* construction is the same as that of the preceding *be capable of doing* construction: there appears to be few studies focusing on this construction. Thus, here as well there are more questions than answers. Issues that need to be addressed include: i) the distribution of various tense, ii) the combinations of auxiliary verbs and the construction, iii) the possibility of the use of adverbial participle clauses, and iv) the patterns of post-nominal modifications.

In short, information from the previous studies is totally inadequate. According to Davies and Gardner (2010), the frequency of *enable* is ranked as 2203, meaning that it is more frequently used than *capable*. Other words within a similar range include *consist*, *transform*, *perceive*, and *inform*. Despite its importance, however, *enable* has garnered insufficient attention.

2.5 *it be possible for N to do* construction and *make it possible to do* construction

This section will review the previous studies on *it be possible (for N) to do* construction and identify their problems. The points to be discussed include: i) the general characteristic of the construction, ii) the non-permissibility of human subjects (i.e. **Tom is possible to come*.), iii) the interpretation of the *it be possible (for N) to do* construction, and iv) the unbalanced distribution of *possible* in different genres.

First, we will look at the general characteristic of *it be possible (for N) to do* construction. The adjective *possible* is often classified as modality member and it is sometimes called, for instance, a "lexical modal" (Huddleston and Pullum 2002: 173). This classification is different from that of *be capable of doing*, which is functionally equivalent to *be able to*, but has never been classified as a member of modality. It is usually analyzed as the adjective which takes *of* as a complement and expresses the notion of ability.

The *capability*-constructions of which *possible* is a part consist of two types of constructions: *it be possible (for N) to do* construction and *make it possible (for N) to do* construction as seen in (34). As seen in (35), each construction has two patterns according to the absence and the presence of *for N*.

(34) a. **It** might **be possible for** the documents **to** be sent over. [LDCE5]

b. Advances in medicine **have made it possible for** people **to** live longer.

[MWLD]

(35) a. **It is possible to** get there by bus. [OALD8]

b. a new technique that **made it possible to** perform this operation [MED2]

Second, we will consider the non-permissibility of human subjects. As is well known, *it be possible to do* construction does not admit human subjects[8] as can be noted in (36).

(36) a. It is {possible/ impossible} to please John.

b. John is {*possible/ impossible} to please[9].

[Akatsuka 1974: 1]

This phenomenon is called *tough*-movement in generative literatures and has been studied vigorously.

Third, let us look at the interpretation of the *it be possible (for N) to do* construction. Huddleston and Pullum (2002: 1253) describe the difference of meaning in sentence (37). The "rough paraphrase" for (37b) would be (37c). What is of concern here is "whether the proposition that he walked to school is true" and as seen in (37c) "says maybe it is." Howecer, in (37a) "the issue is not the truth of proposition, but his abilities" (Huddleston and Pullum *op. cit.*). In short, (37a) expresses the subject's ability and (37b) shows the possibility of proposition.

(37) a. **It was possible for** him **to** walk to school.

b. **It was possible that** he walked to school.

c. Maybe he walked to school.

[Huddleston and Pullum *ibid*.]

However, *it be possible for N to do* construction sometimes expresses possibility. Quirk et al. (1985: 221-222) explains the difference in meaning between (38a) and (38b). (38a) is "generally paraphrasable" by (38a') and the meaning of (38b) is "approximately captured" by (38b'). In short, *it be possible for N to do* construction has two menings: ability and possibility (For more details, see Kashiwano 1993.)

(38) a. Even expert drivers *can* make mistakes.

a' *It is possible for* even expert drivers *to* make mistakes.

b. I *could* swim all the way across the lake.

b' *It {was/would be} possible for* me *to* swim all the way across the lake.

[Quirk et al. *ibid*.]

Fourth, let us consider the unbalanced distribution of *possible* in different genres. The adjective *possible* (not the construction itself) seems to be frequent in academic prose. Biber et al. (1999) set up four registers (conversation, fiction, news, and academic prose) to make it possible to compare the frequency of certain item(s) across registers. Table 2-3 shows the occurrences per million words of *be possible* (subject predicate of copula *be*) in four registers (Biber et al. 1999: 440; Table 5.32). Clearly, the occurrences are most frequent in academic prose.

	CONVERSATION	FICTION	NEWS	ACADEMIC PROSE
possible		over 40	over 20	over 200

Table 2-3. Occurrences per million words of *be possible* in four registers

In addition, Table 2-4 shows the occurrences per million words of *predicate possible* (other predicates including *be*) in four registers (Biber et al. 1999: 516; Table 7.4). In this case too, academic prose shows the most frequent register of *predicate possible*.

	CONVERSATION	FICTION	NEWS	ACADEMIC PROSE
possible		over 50	over 20	over 100

Table 2-4. Occurrences per million words of *predicate possible* in four registers

Finally, Biber et al. (1999: 985) remarks that "academic prose shows a strong preference for extraposed *to*-clauses, especially those controlled by adjectival predicates marking possibility, necessity/importance, or personal evaluations." Examples of this can be seen in (39).

(39) a. It may **be possible to** obtain more reliable breakage figures at a later stage in the selection programme. (ACAD)

b. It **is vitally important to** develop skills at least partially independent of a single notation. (ACAD)

[Biber et al. *ibid*.]

These findings suggest that *it be predicate possible to do* is not distributed evenly across registers. Rather, it is appropriate to conclude that the *it predicate possible to*

do pattern is the most frequent in academic prose of all four registers. The next most frequent register is fiction. Conversation register is the least favored.

Two types of problems with the previous studies are particularly worthy of mention. They do not reveal the distribution of the various uses of tense or the patterns of the combinations of auxiliary verbs with *it be possible (for N) to do* construction, i.e. its preferred tense or auxiliary verbs. Moreover, little work has been done on the description of *make it possible (for N) to do* construction.

2.6 Summary

This chapter has surveyed previous studies of *capability*-constructions and identified their problems. The summary of each construction is as follows.

- **capability *can* construction**

  i) The frequency of the modal auxiliary *can* is ranked as 40. ii) It is the third most frequent among the modal auxiliaries. iii) There is no consensus on the classification of the capability use of *can* in modality. iv) The subjects of capability *can* are usually animate nouns, but inanimate nouns are permitted under certain condition. v) The verbs are normally action/activity verbs.

- ***be able to do* construction**

  i) *be able to do* construction is sometimes treated as a marginal member of modal auxiliary verbs. It is a rather formal expression and tends to be used more in British English. Its subjects are commonly animate or human. It shows some variations in copula *be*: *become*, *feel*, and *seem*. The complement verb of the construction is almost always in the active voice. iia) *Be able to* construction fills the gaps of English verbal paradigm in place of *can* and iib) *was/were able to* is used for an

action in a particular situation. iic) The present tense of the construction is used if there is actuality. iid) It tends not to be used in the sense of "know how to," or with the verbs like *see* or *hear*. iie) It is more frequently used in the past than in the present. iiia) *Be able to* construction is not preferred in "... enough to" or "too ... to." iiib) Simple adverbial verbless clauses are marginal when preposed. iiic) Post-nominal modifications by *to*-infinitives are sole documented cases.

• ***be capable of doing* construction**

i) The subjects of the constructions are *people* or *things*. ii) Only the *NP [capable of doing]* pattern is mentioned as post-nominal modifications. iii) "Be capable to do" is not acceptable. iv) The preposition *of* is obligatory. "Be capable doing" is ungrammatical. v) Other verbs such as *feel*, *become*, *look*, and *appear* can be used instead of *be*.

• ***S enable O to do* construction**

i) The subjects and objects of *S enable O to do* construction are usually *things* and *people*, respectively. ii) The construction can be passivized under certain condition.

• ***it be possible for N to do* construction and *make it possible to do* construction**

i) The adjective *possible* is called the lexical modal and participates in two constructions: *it be possible (for N) to do* and *make it possible (for N) to do*. ii) *It be possible to do* construction does not allow human subjects. iii) *It be possible for N to do* construction sometimes exhibits possibility. iv) The adjective *possible* seems to be distributed unevenly. In particular, the *it predicate possible to do* pattern is the most frequent in academic prose of all four registers and the least frequent in conversation.

The main problem with the previous studies on capability *can* is that there few

focus on the description of the construction. It is surprising that little work has been done that aims at the description of the construction, especially in comparison to the large amount of the books and the articles dealing with the modal auxiliary *can*.

There are three significant problems in previous studies on *be able to do* construction as follows. First, none of these studies considers the distribution among three uses (i.e., the substitution function of auxiliary verb *can,* the alternative use of *could* in the past, and uses in the present tense). Additionally, there is no clear indication of the types of co-occurring auxiliary verbs. Finally, descriptions of non-finite clauses are insufficient.

The main problem with the previous studies on *be capable of doing* construction and *S enable O to do* construction is similar. Namely, they raise more questions than answers. Issues that need to be adressed include the distribution of the uses of various tenses, the combinations of auxiliary verbs and the construction, the possibility of the use of adverbial participle clauses, and other patterns of post-nominal modifications.

Previous studies on *it be possible to do* construction do not account for why the construction is the most frequent in academic prose or note the frequency of the possibility reading of the *it be possible for N to do* pattern. In addition, they do not reveal the distribution of the various uses of tense or the patterns of the combinations of auxiliary verbs with *it be possible (for N) to do* construction.

The problems with the previous studies on *make it possible (for N) to do* construction are considerable. It is unfortunate that little research has been conducted that focuses on the description of the construction.

Notes to Chapter 2

[1] Surveying 25 English-Japanese dictionaries and monolingual English dictionaries results in there being approximately 30 different entries for *can*.

[2] Palmer (1990: 12) posits that English appears not to have evidential uses of its modals. However, this does not mean that English does not have devices expressing the notion of evidential. English expresses evidentiality by various means including adverbs or idiomatic phrases. For further details, see Chafe (1986).

[3] For further details, see Bybee et al. (1994). For the historical development of *can*, see Goossens (1992).

[4] For the polysemy analysis, see Hoffmann 1976, Coates 1983, Quirk et al. 1985, Palmer, 1990, Huddleston and Pullum 2002, and Leech 2004. For the monosemy analysis, see Ehrman 1966, Close 1975, 1977, Klinge 1993, Groefsema 1995, Yule 1998, Parafragou 1998, and Downing and Locke 2006.

[5] However, Huddleston and Pullum (2002: 559) and Biber et al. (1999: 484, 716) regard it as an adjective followed by *to*-infinitives and do not give it a special status.

[6] Quirk et al. (1985: 237) gives an example of three consecutive semi-auxiliaries.

(i) The students *are going to have to* **be able to** play three different instruments.

[7] In former times, *capable* followed by *to*-infinitives was acceptable as shown in (i).

(i) 1737–59 MILLER *Gard. Dict*., The weaker trees being less **capable to** furnish a supply of nourishment. [OED capable *a*. 5]

[8] This pattern was acceptable in the past as shown in (i).

(i) 1667 MILTON *Paradise Lost*. ix. 359 Firm we subsist, yet possible to swerve.

[OED possible *a*. 3]

[9] Incidentally, the antonym *impossible* is acceptable in this case. However, it is not relevant to the present topic and will not be argued further in this thesis.

Chapter 3

Descriptions on capability *can*

As described in Chapter 2, the previous studies on the modal auxiliary verb, *can*, are abundant. However, there is a surprisingly small number of descriptive studies on capability *can*. This chapter provides a detailed description on three topics of capability *can*. Section 3.1 will offer an overview of *can* found in the Brown and Frown corpora. Section 3.2 will describe subjects in the S CAN DO pattern. Section 3.3 will exam the verbs occurring with capability *can*. Section 3.4 will provide a discussion of the relative clauses in which capability *can* occurs. Section 3.5 will summarize the topics covered in Chapter 3.

3.1 Overview of *can*

This section will describe the overall picture of *can* found in the Brown and Frown corpora. *Can* has at least six grammatical patterns in the corpora. The major division is between the active and passive voice. The active voice has three patterns as shown in (1) below.

(1) a. I also hope that we **can** *do* something about reducing the infant mortality rate of ideas — an affliction of all bureaucracies. [Brown H]

b. If one part functions in isolation and displaces the ego's program to integrate other, counterbalancing modules, the resulting 'impulsive' behavior **can** *be catastrophic and/or psychotic*. [Frown G]

c. While one element is announcing progress, another is delineating its

problems. The result **can** only *be confusion* in the public mind. [Brown J]

(1a) is a normal pattern in the active voice, in which *can* is followed by a verb; it will be simply represented as S CAN DO. (1b) and (1c) are patterns, in which *can* is followed by adjectives and noun phrases, respectively. (1b) will be schematically represented as S CAN BE ADJ and (1c) as S CAN BE NP. Other patterns in the active voice include, for example, (2).

(2) A tour of several of them is possible in a two-week vacation while a stay at just one of these natural beauty spots **can** be *of equal reward*. [Brown E]

Generally, the italicized part of (2) is difficult to categorize into traditional classifications. These are grouped as "other patterns" of the active voice in this thesis. Remaining patterns are in the passive voice as shown in (3a) or a pattern such as (3b) in which there is no predicate after *can*.

(3) a. No such view of solemn public treaties between the great nations of the earth **can** *be sustained* by a tribunal called upon to give judicial construction to them. [Frown H]

b But even if we cannot see the repulsive characteristics in this new image of America, foreigners **can**; and our loss of "prestige" abroad is the direct result. [Brown G]

The passive pattern is simply represented as S CAN BE DONE and (3b) S CAN Φ.

The overall distribution of these six patterns is given in Table 3-1. *Can* occurs

a total of 3,899 times in the Brown and Frown corpora.

	Patterns	Tokens	%
Active	S CAN DO	2,622	67.2%
	S CAN BE ADJ	125	3.2%
	S CAN BE NP	74	1.9%
	OTHERS	56	1.4%
Passive	S CAN BE DONE	908	23.3%
Others	S CAN Φ	114	2.9%
Total		3,899	100%

Table 3-1. Distribution of each pattern

The most frequent pattern is S CAN DO and it occupies approximately 67% of total occurrences while the passive pattern constitutes about 23%. The ratio of the S CAN DO pattern and the S CAN BE DONE pattern is approximately 3: 1. Biber et al. (1999: 476) comments that passive patterns make up c. 25% of all finite verbs in academic prose, c. 15% in news, and c. 5% in fiction. On average, passives account for 15% in the written corpus used by Biber et al. Compared to these data, *can* seems to have more passives than is expected. As the purpose of this thesis is to provide a description of the capability use of *can* in the active voice, the reason for this slightly high frequency of passive *can* will not be explored further.

Figure 3-1 shows the occurrences of each use of *can* in the S CAN DO pattern. Out of "three major meanings," i.e., ability, possibility, and permission (Quirk et al. 1985: 221), ability use as shown in (4a) is by far the most frequent, and occurs approximately six times more than possibility use shown in (4b).

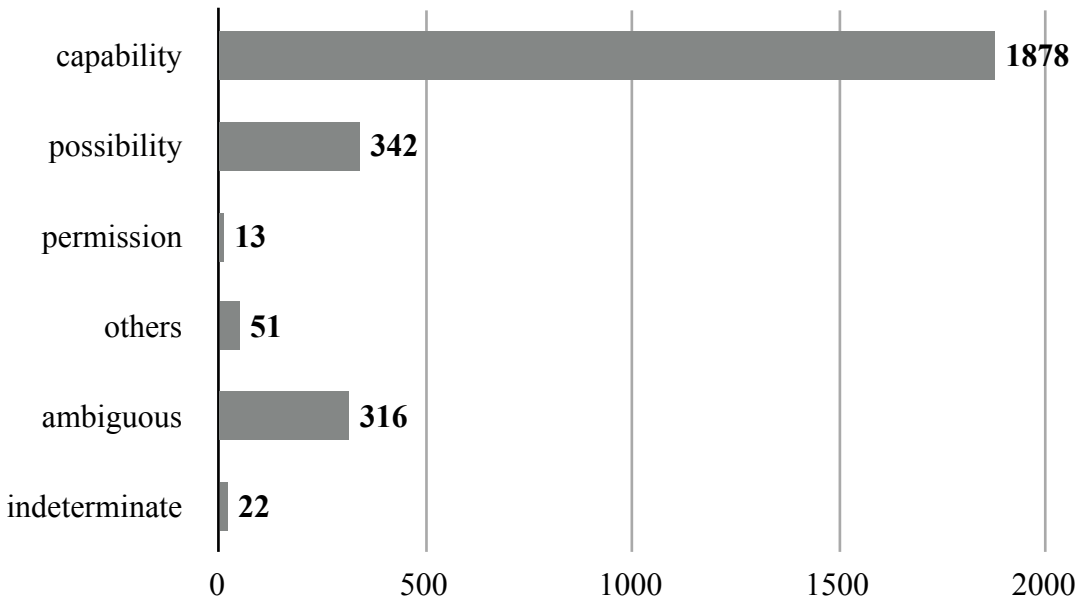

Figure 3-1. Distribution of the use of S CAN DO pattern

Reflecting the written nature of the Brown and Frown corpora, there are only thirteen instances of permission use, one of which is shown in (4c).

(4) a. [*ability/capability*] When I talked to Ching about it, he said, Everyone **can** learn, if he is not a Reactionary or lazy. No one is stupid. That's what he said. [Brown K]

b. [*possibility*] For example, we can hypothesize that aerobic conditioning **can** reduce premenstrual distress (Gannon, 1985), hypertension (Danforth, et al., 1990), depression (Doyne, Chambless, & Beutler, 1983), heart attacks (Dubbert, Rappaport, & Martin, 1987), and obesity (Brownell & Foreyt, 1985). [Frown L]

c. [*permission*] "I gotta go. Even though this is my rock, you **can** use it sometimes. I come early in the morning." [Brown P]

Other uses include, for example, tendency, seen in (5a) and mild request, seen in (5b).

(5) a. [*tendency*] We have to assume (be complicit with) both sects of operations. Men are carriers of the patriarchal mode, of masculinity, and the masculine point of view. They **can**, also, sometimes engage in a practice of deconstruction. [Frown G]

b. [*mild request*] "O.K. I can use this blanket. And when you get off this job tonight, well, you **can** gimme something to eat." [Brown N]

Of particular note is that the instances of ambiguous cases are more or less equal with those of possibility use. There are various patterns of ambiguous cases. The most frequent case is one that can be interpreted as both capability and possibility as shown in (6).

(6) a. Children, particularly younger children, **can** soften the public image of the president. Even animals, when presidential offspring are adults, can serve a similar role, as evidenced by the attention to Millie, the Bush's pregnant spaniel who was featured on the cover of *Life* magazine. [Frown F]

b. He will want to discuss the reform process with President Walesa and explore some new ways that Poland and the international community **can** work together to advance these courageous reforms. [Frown H]

c. Dualism assumes that one **can** paraphrase the Sense of a text.

[Biber et al. 1999: 491]

On this point, Biber et al. (1999: 491) notes that "*Can* is especially ambiguous in

academic prose, since it can often be interpreted as marking either ability or logical possibility," citing an example such as that in (6c). This thesis excludes these kinds of ambiguous cases from consideration and will focus on clear capability use in the active voice. The capability use is made up of 1,878 instances in the Brown and Frown corpora.

3.2 Subjects in S CAN DO pattern

This section will discuss three topics concerning the subjects of the S CAN DO pattern: i) the distribution of full NPs, ii) the distribution of personal pronouns, and iii) the specificity of the subjects. Before doing so, however, it is first important to examine the overall frequency of the subjects in the S CAN DO pattern, as seen in Figure 3-2.

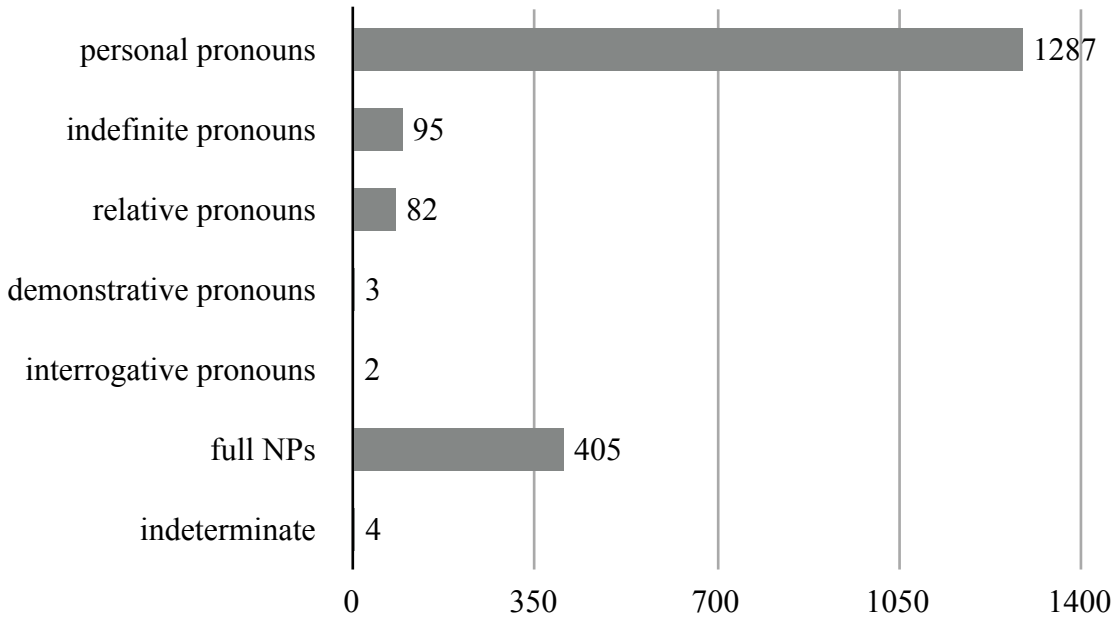

Figure 3-2. Frequency of the subjects in S CAN DO pattern

In Figure 3-2, pronouns are classified into five types. It is evident that personal

pronouns are by far the most frequent of all subjects (69%). Next in frequency of appearance is full NPs. Other pronouns are relatively infrequent.

3.2.1 The distribution of NPs

This section will examine the subjects that consist of full noun phrases. First, however, it may be useful to provide a brief review of the points raised in Chapter 2. The subjects of the S CAN DO pattern are mostly animate nouns but inanimate nouns also occur under a certain condition. According to Palmer (1990: 85), the condition in which inanimate subjects are possible is when they indicate "that they have the necessary qualities or 'power'." Palmer cites an example in Ehrman (1966: 13), shown in (7).

(7) Religion **can** *summate, epitomize, relate*, and *conserve* all highest ideas and values. [Ehrman 1966: 13]

The noun "religion" is inanimate but at the same time it is an abstract noun. A simple dichotomy of nouns into animate and inanimate does not appear appropriate. More consideration is needed concerning the semantic classifications of the subjects of the S CAN DO pattern.

There are 405 instances of subjects made up of noun phrases in the Brown and Frown corpora. Their frequency is summarized in Table 3-2. The NP subjects of the S CAN DO pattern can be grouped into at least three types: i) animate nouns, ii) collective nouns, and iii) inanimate nouns. The animate nouns are further classified as animals and insects, people, proper nouns, and others. There are only few animals and insects subjects in the Brown and Frown corpora, an example of which is given in (8).

(8) Honeybees are skilled in astronomy and long anticipated Copernicus's diagrams in the patterns of their dances. Honeybees can predict rain. *Honeybees* **can** even suck their young, completely formed, from flowers. [Frown N]

animate nouns		**collective nouns**		**inanimate nouns**		
animals and insects	5	listed	54	things	42	
PEOPLE		unlisted	14	abstract nouns	46	
people	206					
proper nouns	28					
others	10					
	249		68		88	subtotal
					405	Total

Table 3-2. Frequency of full NPs in the subject position

The most typical animate nouns are those denoting people, which include common nouns referring to human beings as in (9a) and proper nouns as in (9b).

(9) a. If, for example USAir and British Airways are permitted to merge their routes as planned, *an American traveler* **can** soon check her bags in Champaign, Ill., and fly a single air system through to, say, Rome, or even Lilongwe in Malawi, in southern Africa. [Frown A]

b. With an art that almost conceals art, *J. D. Salinger* **can** create a fictional world so authentic that it hurts. [Brown A]

The second type of subject nouns is a collective noun, which is "a noun that

refers to a group of individuals of people or animals and, which in the singular can take either a singular or plural verb" (Aarts et al. 2014: 70). An example of this can be seen in (10).

(10) *No group* **can** contribute more to the success of the program than the editors and publishers of the Inter-American Press Association. [Brown B]

"Listed" means that the nouns, for example, *team*, *company*, and *government*, are listed as collective nouns in Quirk et al 1985, *COBUILD English Grammar*[3] (2011), and several other books on English grammar. Listed collective nouns are typical members of this class as seen in (11).

(11) a. However, this difficulty is not too serious if it is realized that *a surveying team* **can** establish a true north base line with a few days' work. [Brown J]

b. Because historical cost is the basis used for valuation in company accounting records in the United States, it is the only basis on which *companies* **can** report data in BEA's direct investment surveys. [Frown H]

c. The colonial period has generally left people believing that *government* **can**, if it wishes, provide all manner of services for them — and that with independence free men do not have to work to realize the benefits of modern life. [Brown J]

"Loose" means that the nouns are not listed in the books mentioned above, but they are semantically similar to collective nouns in that they refer to a group of people[1]. Example of such are demonstrated in (12).

(12) a. If you are unsure of how to sample correctly, *independent testing labs* **can** explain the correct technique. [Frown E]

b. Says senior editor Charles Alexander, who edited the stories: "*The summit* itself **can't** save the earth, but it can put the nations of the world on the right path." [Frown B]

The third type of subject nouns is inanimate nouns[2]. They are further divided into things and abstract nouns. Among the former, there are more nouns semantically grouped as *machine* than other nouns denoting things: the MACHINE-type nouns number 24 cases, example of which can be seen in (13) whereas others such as those shown in (14) comprise of 18 instances.

(13) a. We must determine whether *missiles* **can** win a war all by themselves. [Brown E]

b. Now *computers* **can** do the same work with less error in a matter of minutes or even seconds. [Frown F]

(14) Specifically, I asked whether *the SAT-M* **can** detect individual differences in the top 1% of the ability continuum that bear on subsequent academic achievement in mathematics and science. [Frown J]

There are 46 cases of abstract nouns in the subject position, examples of which are shown in (15).

(15) a. *Full knowledge of the science of oceanography* **can** bring the environment to our side, resulting in an increase in effectiveness of equipment and

tactics, a decrease in enemy capabilities, and the development of methods of capitalizing on the environment. [Brown J]

b. And they raise serious questions about church-state separation: How **can** *a secular democracy* order its relations with an entity that is both a sovereign foreign power and a religious community? [Frown G]

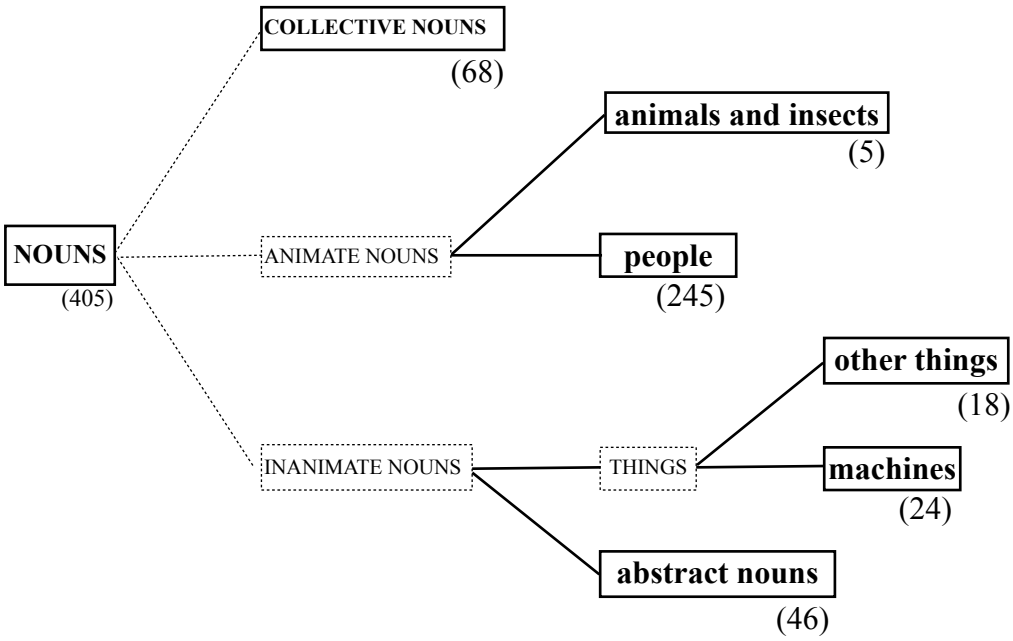

Figure 3-3. Semantic network of full NPs

The full NPs in the subject position can be summarized as a semantic network as is shown in Figure 3-3. Labels enclosed with bold-lines are attested types of nouns. The number under each label indicates the tokens of the labeled nouns. Labels enclosed with dotted-lines are intermediate categories and there are no actual instances. The most typical NPs in the subject position are animate nouns (60%) while collective nouns occupy 17% and inanimate nouns such as machines and abstract nouns consist of 17%. This result suggests that the previous remarks on the nature of subjects are

insufficient in that their descriptions focus mainly on animate nouns.

3.2.2 The distribution of personal pronouns in the subject position

In this section, the distribution of personal pronouns in the subject position will be discussed. Figure 3-2 showed that personal pronouns occur most frequently in the subjects in the S CAN DO pattern. Figure 3-4 provides a more detailed distribution of personal pronouns.

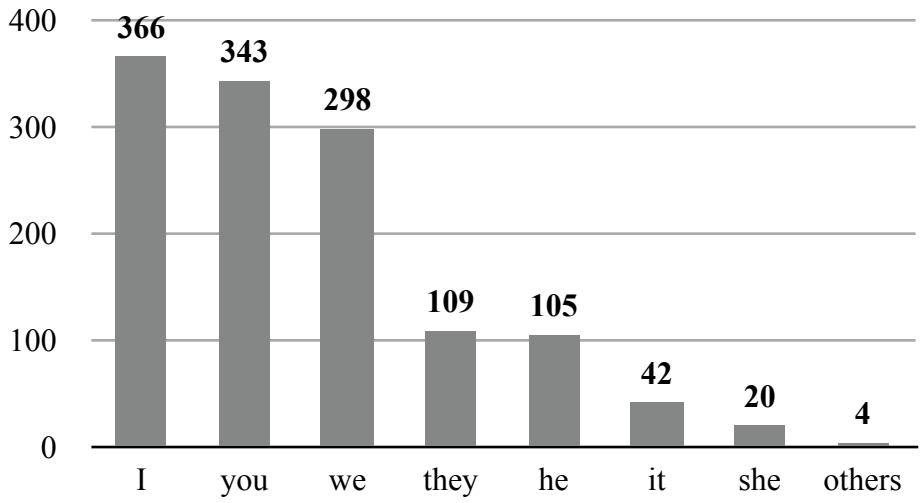

Figure 3-4. Frequency of personal pronouns in the subject position

In Figure 3-4, two distinct groups are clearly recognizable: Group A consists of *I*, *you*, and *we* and Group B consists of other personal pronouns. The motivation for this grouping is nicely captured by Whaley's Animacy Hierarchy, seen below.

1 & 2 person > 3 person pronoun > proper name/kin term > human NP
> animate NP > inanimate NP

Figure 3-5. The Animacy Hierarchy (Whaley 1997: 173)

This hierarchy captures one's intuition that "speakers and writers tend to place most importance on themselves and those listening to them" (*ibid*.: 172). Namely, the hierarchy states explicitly that there is an asymmetry between the first and second person (singular or plural) on the one hand, and third person (singular or plural) on the other. In the case of capability, this asymmetry is considered to be due to the degree of the accessibility of subjects to the information concerning the status of capability. The term "the information concerning the status of capability" (or "the capability information" or "the information on capability" for short) is meant to express the evidence or knowledge with which speakers or writers judge themselves or others to have the ability to do what a sentence conveys. For example, in the case of the first person singular pronoun *I* as seen in (16a), speakers or writers have full access to this information. In the case of second person pronoun singular *you* as seen in (16b), speakers assume that they have access to the information concerning hearers' or readers' capability. This is because when they utter a sentence regarding the capability of hearers' or readers', they tend to identify with these hearers or readers. In the case of the first person plural *we* as seen in (16c), speakers assume that they share the information on capability with their hearers or readers.

(16) a. Their voices are sweet, and far away, beneath my chamber, *I* **can** make out the restful undertone of the prisoners' cries. [Frown K]

b. There are many varieties of coolers and they serve many purposes. With them, *you* **can** carry steaks and hamburgers at refrigerator temperatures, and also get your frozen food for stews and chowders, to the marina or picnic, in A-1 condition. [Brown E]

c. Only by changing it **can** *we* protect America's general interest against

selfish, special interests. [Frown H]

Furthermore, the asymmetry between the first and second person (singular or plural) and the third person (singular or plural) is nicely captured by the notion of SAP (cf. Andrews 1985), which is an acronym for Speech Act Participant (i.e., *I*, *you*, and *we*). In addition, non-SAP represents third person (pro)nouns (singular or plural). SAP shares the capability information while non-SAP does not. Hence, non-SAP exists in the external world from the point of view of speakers and hearers (i.e., SAP). Sentences normally describe their contents through the eyes of the subjects. Sentences with non-SAP in the subject position, then, tend to describe the external world from the point of view of speakers and hearers. They also tend to have an impersonal nuance. The word "impersonal" means to be "having no personal feeling or reference" (COD[8]). Specifically, sentences with non-SAP in the subject position have somewhat a detached and objective shade of meaning to them. Therefore, the higher ratio of non-SAP suggests that the content of a sentence has a tendency to be oriented toward the external world and be more or less objective. Conversely, the higher ratio of SAP implies that what is described in a sentence tends to be oriented toward speakers and hearers. In short, SAP (*I*, *you*, and *we*) usage is extremely frequent compared to other personal pronouns (78%).

3.2.2.1 The asymmetrical distribution of pronouns and NPs and their corollary

As noted earlier and expressed in Figure 3-2, the distribution of subjects is uneven. Namely, one can discern the asymmetrical distribution of pronouns and NPs. This asymmetry has one corollary (i.e., natural result): the average length of subjects.

Figure 3-6 shows the distribution of these pronouns and full NPs. Pronouns

include personal pronouns, indefinite pronouns, and demonstrative pronouns.

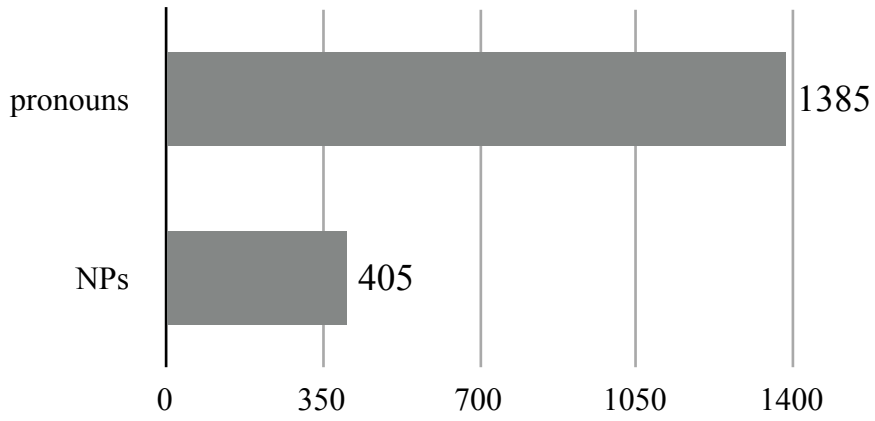

Figure 3-6. Frequency of pronouns and NPs in the subject position in the Brown and Frown corpora

Among a total of 1,790 tokens, pronouns cover approximately 80% and NPs occupy around 20%. The ratio of pronouns to NPs is 4:1, which shows clearly that pronouns and NPs in the subject position are asymmetrically distributed.

This breakdown becomes more intriguing when compared to that of Biber et al. (1999: 223), which examines the frequency of pronouns and NPs in the subject position in three written registers (fiction, news, and academic prose). The comparison is shown in Figure 3-7.

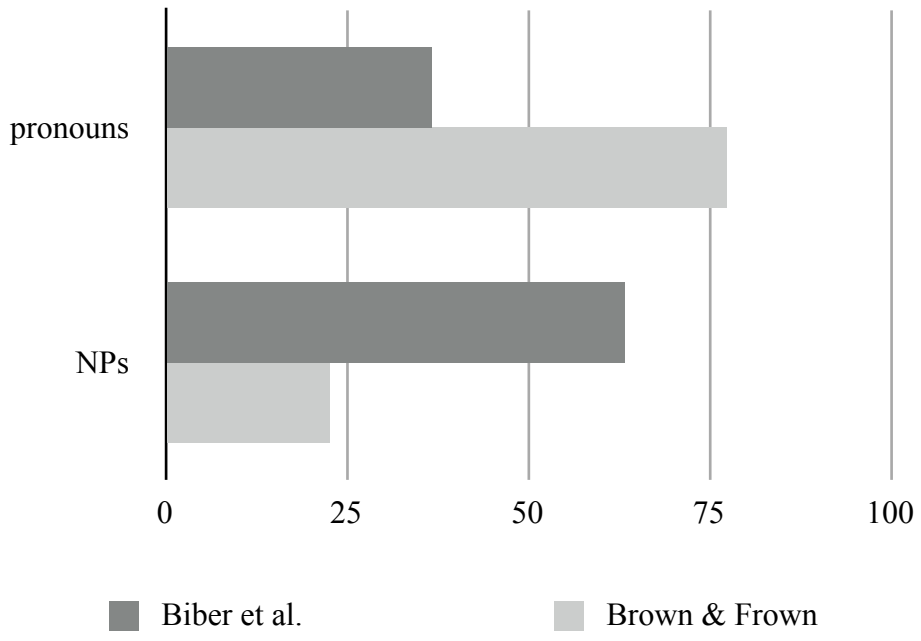

Figure 3-7. Comparison of the frequency of pronouns and NPs in the subject position between the Brown and Frown corpora and Biber et al. (1999: 236)

It is of interest to note that the pattern of distribution of pronouns and NPs is in direct opposition to each other despite the fact that both the data of this thesis and Biber et al. (1999: 236) are related to written registers. Nevertheless, NPs in the subject position are more frequent than pronouns in Biber et al. (1999: 236). This raises a question as to why the comparison of two sets of data yields a conflicting result. This question will be answered in conjunction with the consideration of the average length of subjects in the next section.

3.2.2.2 The average length of subjects in S CAN DO pattern

The corollary of the uneven distribution of syntactic subjects in the S CAN DO pattern concerns the average length of the subjects. Their distribution in word length is given in Figure 3-8.

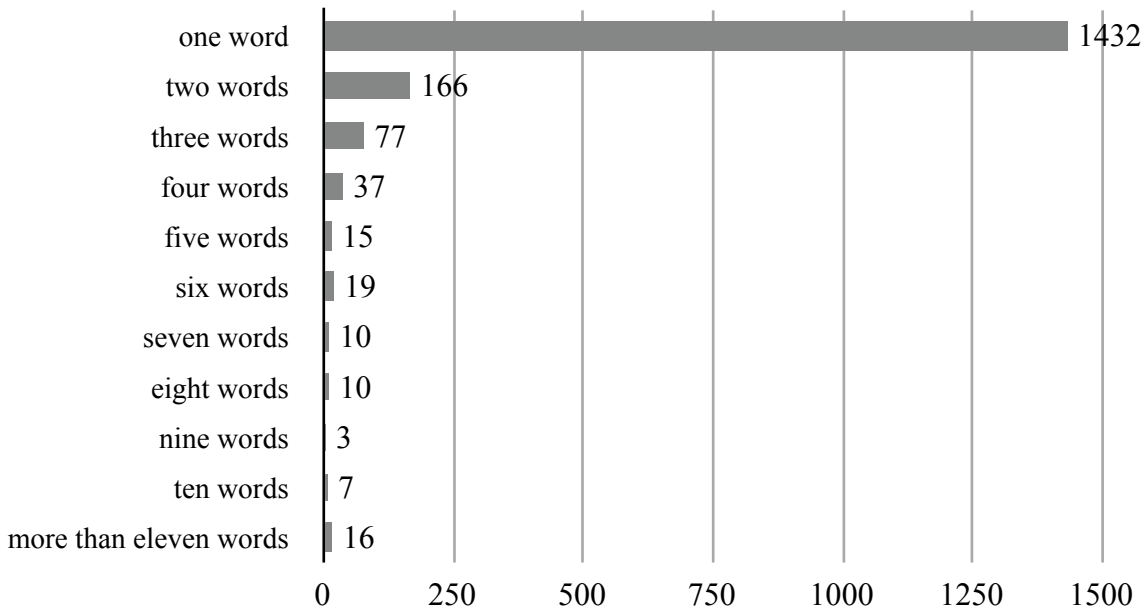

Figure 3-8. Word length and frequency

Out of 1,432 one-word subjects, 1,283 cases are personal pronouns. The one-word subjects occupy approximately 80% of all subjects. The subjects in both one-word and two-word lengths alone cover almost 90%. It is calculated that the average length of subjects in the S CAN DO pattern is 1.58 words. (17) is an example of a sentence with one of the longest subjects in the pattern.

(17) *The professional organizations such as American Institute of Interior Designers, National Society of Interior Designers, Home Fashions League and various trade associations,* **can** and do aid greatly in this work. [Brown E]

Out of 1,766 instances, 1,387 cases are pronouns, which covers 77% of all subjects. Biber et al. (1999: 236) analyzes three written registers (fiction, news, and academic prose) and illustrates the distribution of each register in terms of the uses of nouns and pronouns in the subject position, with results shown in Figure 3-9.

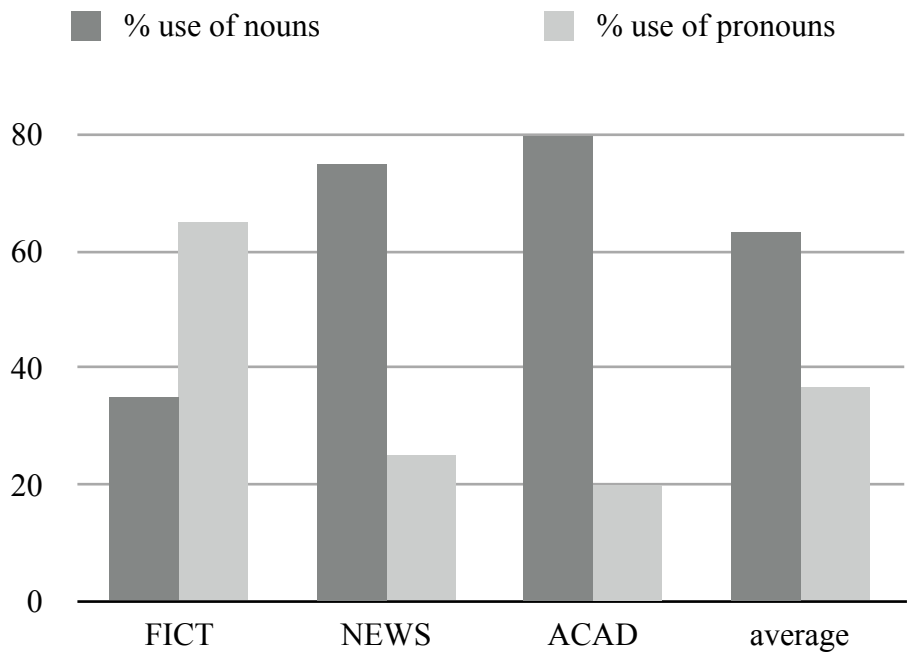

Figure 3-9. Proportional use of nouns v. pronouns in the subject position based on Biber et al. (1999: 236)

On average, three written registers have more nouns than pronouns in subjects. This result is considered to be the normal tendency of written registers. However, out of these registers, only the FICT genre has more pronouns than nouns in subjects. The percentage of the use of pronouns in the S CAN DO pattern comes close to that of the FICT genre. This suggests, then, that the pattern of distribution of pronouns vs. nouns in the S CAN DO pattern might be, in fact, similar to that of spoken language. On this point, Chafe (1994: 84) analyzes subjects in conversational language and reports that 79% of subjects are pronouns. This percentage approximates that of pronouns in subjects in the S CAN DO pattern (c. 80%) more closely than that of FICT (c. 60%). Consequently, it would be safe to assume that the behavior of the subjects in the S CAN DO pattern resembles that of spoken language. This is considered to be one of the unique characteristics of capability *can*.

3.2.4 The specificity of the subjects of S CAN DO pattern

This section comprises a discussion on the specificity of the subjects. The classification of nouns according to specificity is based on Halliday (1994). His system is shown in Table 3-3a and 3-3b.

	Determinative		
Demonstrative	this these	that those	the
Possessive	my his their one's	your her John's etc	our its

Table 3-3a. Specific categories based on Halliday (1994: 181)

Among specifics, *the* means "the subset in question is identifiable; but this will not tell you how to identify it — the information somewhere around, where you can recover it (Halliday 1994: 181)." Conversely, non-specific nouns are considered to be those whose subset in question is not identifiable. Consequently, they represent non-identifiable or non-recoverable information from context.

singular	non-singular	
	mass	plural
a train	(some) electricity	(some) trains

Table 3-3b. Non-specific categories based on Halliday (1994: 183)

Table 3-4 shows the distribution of the non-specific and specific subjects of capability *can* in the S CAN DO pattern.

non-specific		specific	
pattern	tokens	pattern	tokens
a N	46	the N	91
N	39	the Ns	16
Ns	90	dem/poss N(s)	24
Total	175	Total	131

Table 3-4. Distribution of the non-specific and specific subjects

It is noteworthy that non-specific subjects are more frequent than specific ones. Specifically, the percentage of non-specific nouns is approximately 57%. Most of the sentences with non-specific subjects are generic. Langacker (1997) characterizes generic sentences as those "that ascribe(s) a general property to all members of a class" (Langacker 1997: 191). A typical example can be seen in (18).

(18) *A corporation* **can** terminate a plan that happens to have more assets than legal liabilities, pay the liabilities, and use the extra cash. [Frown J]

Additionally, most sentences with indefinite pronouns in the subject position are also generic sentences as shown in (19).

(19) Some of the poetic cadence of the older version certainly is lost in the newer one, but *almost anyone*, with a fair knowledge of the English language, **can** understand the meaning, without the necessity of interpretation by a Biblical scholar. [Brown B]

Generic sentences are in harmony with capability *can* in that the notion of capability has some aspect of potentiality. Yule (1998: 92) considers the core meaning of *can* to be "potential." Earlier, Curme (1931: 409) posits that "*Can* ... has potential force. It is much used to express ability to perform an act: 'Mary *can* walk, *can* write'." (cf. Sweetser 1990 for a similar remark from a force dynamic point of view.) Potentiality implies inherent qualities that exist within subjects. This aspect is semantically compatible with "a general property" of generic sentences. Thus, capability sentences with *can* have a close affinity to generic sentences. This is another unique character of the sentences with capability *can*.

3.3 Verbs

3.3.1 Frequency

This section will examine the frequent verbs in the S CAN DO pattern and related topics. In total, there are 541 verbs (1,943 tokens) in the Brown and Frown corpora.

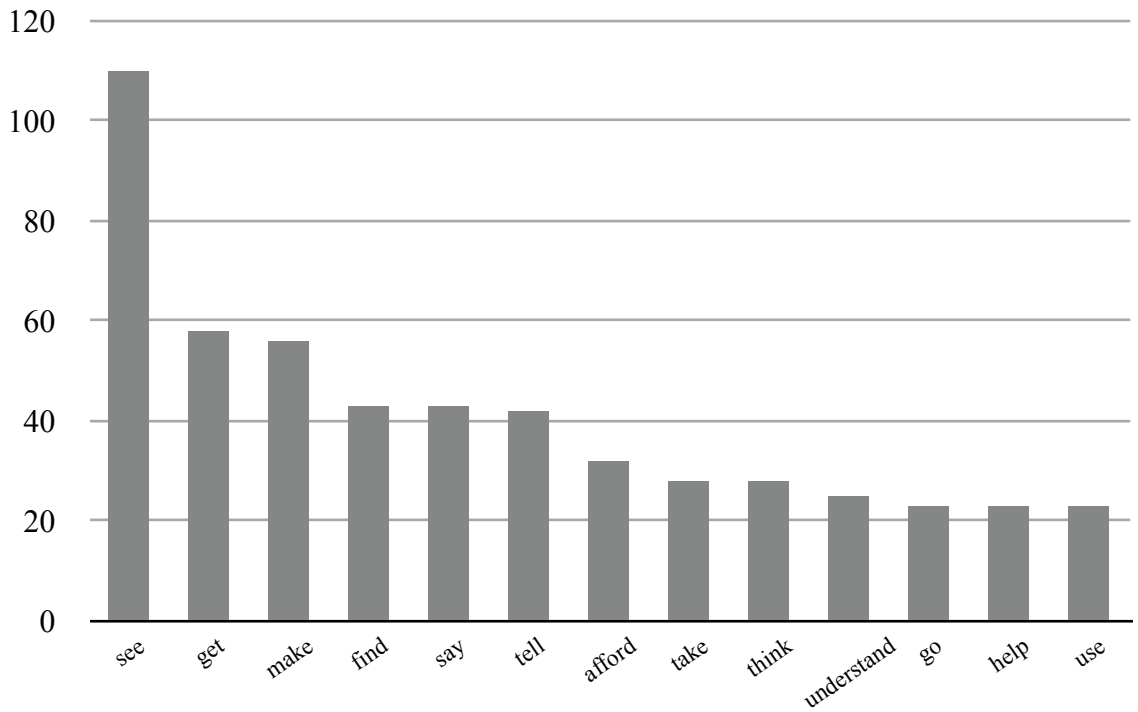

Figure 3-10. Top 13 verbs occurring in S CAN DO pattern

First, the frequent verbs in the capability use of the S CAN DO pattern will be considered. Figure 3-10 shows the most frequent 13 verbs in the Brown and Frown corpora[3]. There are 534 tokens, which cover c. 27% of all occurrence of the verbs[4]. At first glance, except for the notable frequency of *see*, there is not a great difference in the frequency of other verbs, with occurrences raging between 20 and 60 times. However, a comparison of Figure 3-10 with Biber et al. (1999: 373) reveals the characteristics of the frequent verbs of the capability use in the S CAN DO pattern. Their most frequent 12 verbs are seen in (20), and are ranked according to frequency.

(20) say, get, go, know, think, see, make, come, take, want, give, mean [*ibid*.]

By comparison, there are three types of verbs. The first type of verbs are those that are listed in both corpora. They are considered to be common frequent verbs: *see*, *get*, *make*, *say*, *take*, *think*, and *go*. The second type of verbs are those which are frequent in general but infrequent in the S CAN DO pattern: *know*, *come*, *want*, *give*, and *mean*. Of these, *know*, *come*, and *give* are attested as seen in (21).

(21) a. On the basis of what they give us we **can know** how the young Caruso sang, appreciate the distinctive qualities of <Parsifal> under Karl Muck's baton, or sense the type of ensemble Toscanini created in his years with the New York Philharmonic. [Brown E]

b. If she doesn't, the ice cream and the TV dinners will defrost. So he'll just have to wait it out at the supermarket until she **can come** for him. He has no choice. [Frown P]

c. I feel so deeply blessed by God when I **can give** a message of love and

comfort to other men, and I would have it no other way: and it is unworthy to think of self. [Brown B]

Give and *come* occur nine and thirteen times, respectively. These two verbs are regarded to be moderately but not highly frequent. It is interesting to note that *know* is very infrequent, occurring only three times in the Brown and Frown corpora. The verb *want* is not attested in the corpora. This might be due to the semantic incompatibility of the notion of wanting with capability. Although the verb *mean* is attested as in (22) and occurs nine times, each example refers to possibility, not capability.

(22) The selection of the wrong tools **can** *mean* waste, at best, and at worst an unwanted inflammation of the problem itself. [Brown H]

The third type of verbs are those that are not included in the list of Biber et al. (1999) but which are frequent in the S CAN DO pattern. This is considered to be the distinctive characteristic of these verbs in that they have noticeable features separating themselves from other verbs. They are called "distinctive" verbs and include:

(23) find, tell, afford, understand, help, use

Other examples include:

(24) a. But if some people **can afford** the best of all these goods, while many others who are working or have worked hard or are willing to work can barely afford a decent minimum of them or cannot afford them at all — this

violates most Americans' sense of fairness. [Frown C]

b. The entire concept of cerebral imagery as the physical basis of a mental image **can find** no logical support. [Brown F]

c. The United States **can use** its aid as an incentive to self-help by responding with aid on a sustained basis, tailored to priority needs, to those countries making serious efforts in self-help. [Brown H]

To elaborate on the distinctive verbs in the S CAN DO pattern, let us look at Table 3-5 below. This table shows the verbs that also occur more than ten times in the Brown and Frown corpora, in addition to the thirteen verbs mentioned above. The numbers in upper script in each verb represents rank frequency in the COCA corpus (Davies and Gardner 2010)[5].

frequency	verbs
21	imagine^{922}
18	expect^{409}, hear^{198}
17	keep^{161}, remember^{378}
16	put^{153}
13	believe^{215}, give^{98}, handle^{1250}, live^{219}
12	play^{209}, stand^{285}
11	look^{87}, talk^{169}
10	achieve^{1157}, feel^{136}, hold^{217}, manage^{965}, read^{346}

Table 3-5. Verbs occurring more than ten times in S CAN DO pattern

It is reasonable to assume that the verbs whose rank frequency is lower than 400 are

also regarded as distinctive verbs in the S CAN DO pattern because although they are frequent in the S CAN DO pattern, they do not appear frequently in the general LGSW corpus. These verbs include: *achieve*, *expect*, *handle*, *imagine*, and *manage*. The combination of both results will yield the distinctive verbs in the S CAN DO pattern. They are:

(25) find, tell, afford, understand, help, use, imagine, expect, handle, achieve, manage

Semantically, the verbs in (25) can be classified into four groups: activity verbs (*achieve*, *handle*, *manage*, and *use*), mental verbs (*expect*, *find*, *imagine*, and *understand*), communication verbs (*tell*), and effective verbs (*afford* and *help*). The verbs occurring in capability use are somewhat tacitly assumed to be action/activity verbs and their subjects have agentive functions (cf. Coates 1983). However, the eleven verbs in (25) alone clearly show that this assumption or characterization is not sufficient. Mental verbs are not action/activity verbs and their subjects are not agentive functions. For example, Dixon (2005) oulines the following semantic frames for *find*, *understand*, and *expect*.

(26)	[PERCEIVER]	**find**	[IMPRESSION]	[*ibid*.: 133]
	[COGITATOR]	**understand**	[THOUGHT]	[*ibid*.: 140]
	[PRINCIPAL]	**expect**	[EVENT/STATE]	[*ibid*.: 188]

None of the semantic role of the subjects is agentive. In sum, there are eleven distinctive verbs in the S CAN DO pattern as seen in (25). Semantically, they include

not only activity verbs, but also mental verbs.

3.3.2 Semantic domains

3.3.2.1 Overview

In this section, frequent semantic domains will be addressed. First, from the broadest point of view, Apresjan (2000: 107) discusses "a naïve picture of the world" which is "reconstructed exclusively on the basis of linguistic data." Namely, his picture is a "specifically 'linguistic' picture of man" (*ibid*.). Table 3-6 shows his main systems. On the right column, the approximate number of tokens of each system found in the Brown and Frown corpora is shown.

	Apresjan 2000	Brown & Frown
(1)	Physical perception (sight, hearing, sense of smell, taste, touch).	c. 130
(2)	Physiological states (hunger, thirst, desire—in the sense of 'carnal longing' —calls of nature, pain, etc.).	NA
(3)	Physiological reactions to various external and internal stimuli (pallor, cold, shivering, colour, fever, perspiration, heartbeat, grimaces, etc.).	NA
(4)	Physical actions (to work, rest, go, stand up, lie down, throw, draw, weave, chop, cut, hew, break, etc.).	c. 900
(5)	Desires (to want, to strive, to feel an urge, to be impatient, to refrain, to compel, to tempt, to entice, to prefer, etc.).	NA
(6)	Thought, intellectual activity (to imagine, picture; to think, suppose; to understand, realize; intuition, illumination; to get through to, to dawn on; to know; to believe; to guess, suspect; to remember, to commit to memory, to recollect, to forget; etc.).	c. 350
(7)	The emotions (to fear, rejoice, be angry, love, hate, hope, despair, etc.).	c. 20
(8)	Speech (to tell, promise, ask, demand, order, forbid, warn, advise, declare, curse, praise, boast, complain, etc.).	c. 230

Table 3-6. Main systems of Apresjan (2000: 107-8) and respective tokens in Brown and Frown corpora[6]

As is clear from Table 3-6, the capability use of *can* does not agree entirely with Apresjan's system. Specifically, only a part of "a naïve picture of the world" will correlate with the capability use of *can*. This is mostly to be expected, considering the meaning of capability. It is, for example, considered to be rather difficult to ascribe some kind of capability to the internal state that one cannot control. Capability assumes controllability. However, what is worth mentioning at this point is that the verbs of emotions sometimes combine with *can* and mean capability under an appropriate context as seen in (27).

(27) a. Some interfaith tensions are not occasioned by theological differences at all, but by the need of men to have persons they **can** blame, distrust, denounce, and even **hate**. [Brown D]

b. Sunday he had added, "We **can love** Eisenhower the man, even if we considered him a mediocre president ... but there is nothing left of the Republican Party without his leadership". [Brown A]

Next, a comparison of the frequent semantic domains of the LGSW corpus and Brown and Frown corpora is presented in Figure 3-11.

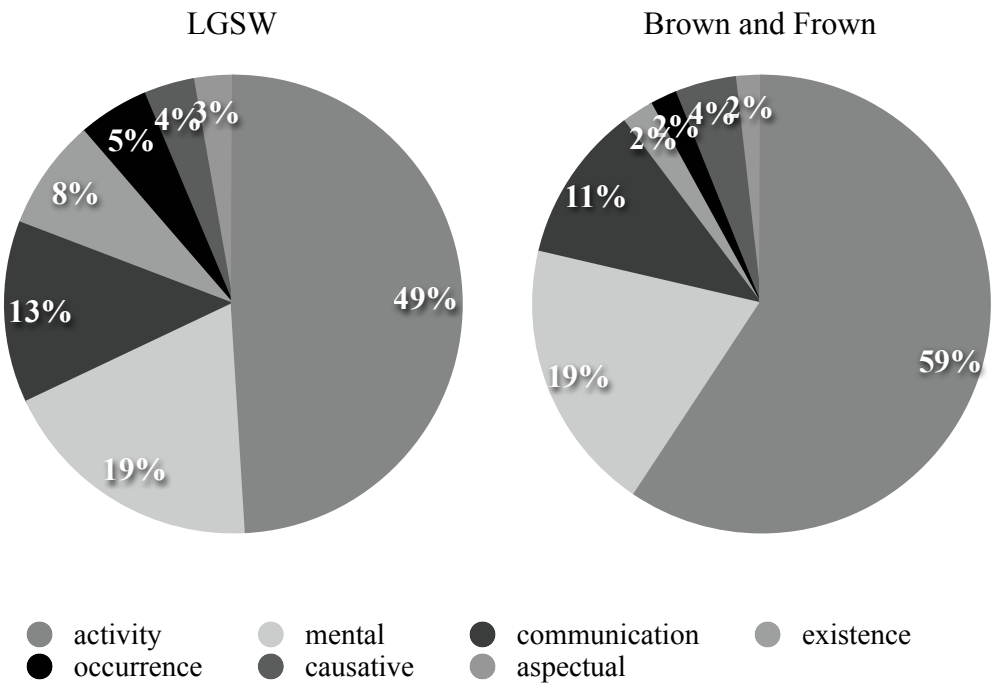

Figure 3-11. Comparison of frequent semantic domains between two corpora

The former corpus represents the general frequent semantic domains while the latter expresses the semantic domains compatible with the notion of capability. The result of LGSW is shown on the left and that of Brown and Frown corpora on the right. Surprisingly, although the distribution of capability in Apresjan's system is restricted to four systems, the results of the two corpora are mostly similar, except for the fact that activity verbs are slightly more frequent in the Brown and Frown corpora than in the LGSW corpus.

Concerning the compatibility of modal verbs with semantic verb types, Biber et al. (2000: 491) observes that "The verbs that show the strongest association with modal verbs (rather than tense) are mostly mental verbs." However, as is clear from Figure 3-11, the most frequent verbal semantic domain is activity verbs. In contrast, Coates (1983: 89) notes that in the typical capability use of *can*, "verb denotes action/ activity." Although active verbs are typically associated with the capability use of *can*

as in Figure 3-11, the ratio of mental verbs is notable. As a result, the reality of the frequent semantic domains in the capability use of *can* lies between these two scholars: capability *can* for the most part co-occur with activity verbs and mental verbs. These two semantic domains alone cover approximately 80% of all verbs.

Finally, Table 3-7 shows the verbs that occur more than ten times according to semantic domains. Except for occurrence verbs, each semantic domain has at least one member that is considered to be frequent. Apart from activity verbs, cognition verbs are moderately frequent, which might be due to the written nature of the Brown and Frown corpora. Of note, communication verbs are unexpectedly small in number while causative verbs are surprisingly high in frequency.

semantic domains		**verbs**
activity		do, get, make, take, go, use, put, give, handle, play, achieve, hold, manage
mental	perception	see, look
	cognition	find, think, understand, imagine, expect, remember, believe
	receptive	hear, read
	attitude	stand, feel
communication		say, tell, talk
causative		make, afford
existence		have, live
aspectual		keep
occurrence		NA

Table 3-7. Verbs occurring more than ten times according to semantic domains

3.3.2.2 Distinctive semantic domains

This section provides a discussion on the distinctive semantic domains of verbs occurring with capability *can*. There are at least eighty semantic subdomains among a total of 541 verbs. The major focus of this section will be on four of the seven major semantic types first introduced in Chapter 1: activity verbs, communication verbs, mental verbs, and causative verbs. The other three semantic types do not yield interesting results.

It should first be noted that a semantic subdomain is regarded to be frequent if the verbs compatible semantically with that subdomain occur more than fifteen times in the case of activity verbs (920 token) and more than ten times in the case of mental verbs (534 tokens), communication verbs (232 tokens), and causative verbs (107 tokens). This is due to the difference in the numbers of tokens of each verb group. There are two conditions in which a semantic subdomain is regarded to be distinctive. First, a semantic subdomain is considered to be distinctive if the subdomain satisfies the frequency condition above and contains the distinctive verbs that are discussed in section 3.3.1 (listed again below for ease of reference).

(25) find, tell, afford, understand, help, use, imagine, expect, handle, achieve, manage

Second, a semantic subdomain is regarded to be distinctive if it satisfies the frequency condition above and represents a non-basic semantic concept.

• Activity verbs

Table 3-8 shows the frequent semantic subdomains of activity verbs. There are

eighteen frequent semantic subdomains. Bold-faced verbs represent the distinctive verbs discussed in section 3.3.1. Frequent verbs are ordered according to frequency. Based on the distinctive verbs, the distinctive semantic subdomains of capability *can* include the GET-domain, MANIPULATION-domain, and AVOIDANCE-domain. On the basis of the non-basic semantic concept, the distinctive subdomains are the AMOUNT-domain, MONEY-domain, and, AMELIORATION-domain. In sum, there are six distinctive semantic subdomains in activity verbs.

GET-verbs are those describing the action of coming into the possession of something. The most frequent verb in this semantic domain is *get*. Other verbs include *acquire*, *gain*, *obtain*, *score*, and *win*. A few examples of these verbs in use can be seen below.

(28) a. By breaking a stick, taking a segment of it, and dragging it on its side, I **can achieve** very broad marks... [Frown E]

b. No one believes, anymore, that a professional manager **can manage** any kind of business. [Frown B]

c. Any needy family living in San Francisco **can obtain** toys by writing to Christmas Toys, 676 Howard Street, San Francisco 5, and listing the parent's name and address and the age and sex of each child in the family between the ages of 1 and 12. [Brown A]

semantic domains	tokens	frequent verbs
do	128	do
motion	101	go, come, run, walk
get	82	get, **achieve**, **manage**
manipulation	70	**use**, **handle**, hold
create	63	make, build, produce
action	60	play, sit, save
take/carry	45	take, carry
give	38	give, provide
put	30	put
amount	28	count, add
daily activities	25	
money	21	buy, sell
avoidance	21	**help**, escape
amelioration	18	
work	14	work
competition	13	compete
follow	12	
change	10	

Table 3-8. Frequent semantic domains of activity verbs

MANIPULATION-verbs are those typically denoting the activity of having something in a person's hand and the metaphorical use of this action. The most frequent verb in this semantic domain is *use*. Other verbs include *cope with*, *deal with*, *retain*, *cash in on*, *manipulate*, and *accommodate*. Examples of these verbs in use are shown below.

(29) a. The company now has a policy that whenever possible it purchases office paper with recycled content and it replaces photocopiers with new ones which **can use** recycled paper. [Frown H]

b "I don't do somersaults all day, but I **can handle** things better," says Millie G., who has been taking Prozac for several months. [Frown F]

c. An upstairs master suite includes a huge bathroom that is as big as the bedroom and comes complete with a cylindrical, neon-lit shower nook that **can hold** the whole clan. [Frown E]

AVOIDANCE-verbs are those expressing the action to "keep away or refrain from a thing/person, or action" (COD[11]). Typical verbs are *help* in *cannot help* and *escape*. Other verbs include *avoid*, *defy*, and *resist*. Examples can be seen below.

(30) a. Like every Southerner I **can't escape** the romantic tradition of brave defeats, forlorn lost causes. [Brown G]

b. *Nor* **can** he **avoid** the comparison that voters will make between men who went in opposite directions during the wars of their generations. [Frown A]

AMOUNT-verbs are those primarily concerning the increase of the size, length, and quantity of something. Typical verbs are *add* and *count*. Additionally. AMOUNT-verbs also include those describing the decrease of the size, length, and quantity of something. Examples of both types can be seen in (31).

(31) a. We **can extend** this result to show that the cluster densities {n<sb_c<sb/(k)} for random continuum percolation obey an exact equation of

Smoluchowski type. [Frown J]

b. There's a chance that they **can reduce** the amount of insulin they need to keep their blood-sugar levels stable - and that may mean fewer daily injections. [Frown F]

MONEY-verbs are those describing typical actions involved in buying and selling (cf. "commercial transaction frame" by Fillmore 1982). Typical verbs are *buy* and *sell*. Other verbs include *exchange*, *pay*, *spend*, and *subscribe*. Examples of these verbs are shown below.

(32) a. The reasons are that America generally believes that she **can buy** anything with dollars, and that she compulsively strives to be liked. [Brown C]

b. Instead, he said, "Know where I **can sell** a good horse? I don't care to ride back over those mountains." [Frown N]

AMELIORATION-verbs are those denoting the improvement or clarification of the condition or quality of something. There is no typical AMELIORATION-verb. Almost all verbs occur only once. Consequently, this verb class involves various verbs: *clarify*, *sanitize*, *smooth out*, *better*, *bolster*, *innovate*, *correct*, and *fix*. Two examples of such verbs are shown below.

(33) a. Japanese companies now endow twenty-five professorships at M.I.T., far more than any other nation. Because they know — after all the bullshit stops — that they **can't innovate** as well as we can. [Frown L]

b. "If you **can fix** it **up** with the undertaker", returned the politician, "it's all

right with me". [Brown R]

Of note, in this connection there are many CREATION-verbs (those making something exist that did not exist before) while there are only a few verbs expressing affective meaning such as *touch*, *pierce*, *strike*, *crush*, and *break*. Dixon (2005: 110-119) divides AFFECT-verbs[7] into eight subtypes. However, there are no attested verbs in three subtypes (**stab**-subtype, **rub**-subtype, and **wrap**-subtype) and there is only one attested instance in three subtypes (**touch**-subtype, **hit**-subtype, and **stretch**-subtype). The **build**-subtype (equal to CREATION-verb above) and **break**-subtype have a few attested cases. This suggests that capability *can* tends to collocate with verbs with positive meanings. By "positive" it means to be either "hopeful and confident, and think about what is good in a situation rather than what is bad" (LDOCE[5]) or "directed at ... producing a successful result" (OALD[8]).

• Communication verbs

Table 3-9 shows the frequent semantic subdomains of communication verbs. There are eight frequent semantic subdomains. Based on the distinctive verbs, the distinctive semantic subdomain of capability *can* is the TELL-domain. On the basis of the non-basic semantic concept, the distinctive subdomain is the BLAME-domain. Namely, there are two distinctive semantic subdomains in communication verbs.

semantic domains	tokens	frequent verbs
say	58	say
tell	49	**tell**
talk	21	talk, speak
ask	13	ask
write	11	write
claim	11	claim
blame	10	blame
argue	10	argue

Table 3-9. Frequent semantic domains of communication verbs

TELL-verbs are those giving information to somebody primarily by speaking. A typical verb is *tell*. Other verbs include *express*, *inform*, and *report*. The verb *tell* tends to be used as a fixed pattern: *I (can't) tell you ...* . Example of this can be seen in (34).

(34) a. Does it surprise you that ***I can tell you*** these things so well in your own tongue? [Frown N]

b. We have learned much about interstellar drives since a hundred years ago; that is all ***I can tell you*** about them. [Brown M]

BLAME-verbs are those assigning fault or responsibility to somebody. A typical verb is *blame*. Other verbs include *charge* and *fault*. These verbs tend to be used in a negative context, such as a negative sentence as shown in (35a) or a rhetorical question expressing "a strong negative statement" (Leech and Svartvik 2002: 163) as shown in

(35b).

(35) a. But you **can't blame** me for wanting you to understand that there were two sides in the feud between your father and the rest of us. [Brown L]

b. "*How* ***can*** a man with any degree of common decency **charge** this"? he asked. [Brown A]

• Mental verbs

Table 3-10 shows the frequent semantic subdomains of mental verbs. There are twelve frequent semantic subdomains. Based on the distinctive verbs, the distinctive semantic subdomains of capability *can* are the FIND-domain, EXPECT-domain, and IMAGINE-domain. Based on the non-basic semantic concept, the distinctive subdomains are the ENDURANCE-domain and TRUST-domain. In total, there are five distinctive semantic subdomains in mental verbs.

FIND-verbs are those describing "the process of thinking about things in a logical way or opinions and ideas that are based on logical thinking" (OALD[8]). Typical verbs are *find*, *determine*, *distinguish*, *identify* and *prove*. Other verbs include *conclude*, *deduce*, *entail*, *hypothesize*, *detect*, *examine*, and *validate*. As is readiy apparent, most of the verbs in this semantic domain are Academic Words (Coxhead 2000). The reason why this subdomain is distinctive might be due to the written nature of the Brown and Frown corpora. Examples of these verbs in use are shown below.

semantic domains		tokens	frequent verbs
perception	perception	127	see
cognitive	reasoning	105	**find**, determine, identify
cognitive	believe	58	think, believe
cognitive	understand	32	understand
cognitive	expect	31	**expect**, hope
receptive	receptive	29	hear, read
attitude	endurance	24	cannot stand
cognitive	memory	24	remember
cognitive	imagine	23	**imagine**
cognitive	notice	19	
cognitive	learning	14	learn
cognitive	trust	13	trust

Table 3-10. Frequent semantic domains of mental verbs

(36) a. Like Lincoln, he **can distinguish** his relation to God from the constitutional responsibilities a questionable decision exacts of him. [Frown G]

b. But she'll go to prison next month unless we **can prove** that someone else did kill him. [Frown L]

EXPECT-verbs are those meaning "to think that something will happen or will be true" (LAAD[2]). They also imply the idea of anticipation on the part of speakers. In particular, *hope* suggests the expectation that one's desires or longings will be realized. Examples of this can be seen below.

(37) a. Given the pattern of the past 100 years, we **can expect** to reach the 600 ppm equivalent CO_2 value (often used as the value for a doubling of CO_2) between 2035 and 2040. [Frown F]

b. Only by resorting to molding techniques **can** the cushion manufacturer **hope** to compete satisfactorily in the established cushion market. [Brown J]

IMAGINE-verbs are those meaning "to form a mental image or concept of" (COD[11]). This semantic domain is primarily made up of *imagine* as seen in (38). Two other verbs (*bet* and *cast back*) occur only once as shown in (39).

(38) If you've never eaten fruit that has been tree ripened, or cooked vegetables at their peak of maturity, you **can't imagine** what you've been missing. [Frown E]

(39) a. But if life and art forge some kind of fidgety truce on his pages, you **can bet** that somewhere under the engaging, clownish exterior, Ellroy's more profligate, dangerous instincts lie in wait. [Frown C]

b. By an effort of historical sympathy we **can cast** our minds **back** into the art of a remote past or an alien present, and enjoy the carvings of cavemen and Japanese colour-prints... [Brown G]

TRUST-verbs are those meaning "to believe that someone is honest or will not do anything bad or wrong" (LDOCE[5]). A typical verb is *trust*. Other verbs include *depend on*, *fall back on*, and *rely on*. Examples of such verbs in use are shown below.

(40) a. We **can** no longer **rely on** interdepartmental machinery "somewhere

upstairs" to resolve differences between this and other departments.

[Brown H]

b. They **can** always blind sources, as in 'sources close to the president said.'

[Frown F]

ENDURANCE-verbs are those meaning "to suffer something difficult or unpleasant in a patient way over a long period" (MED[2]). A typical verb is *cannot stand*. Other verbs include *endure*, *cannot bear*, and *tolerate*. These verbs tend to be used in negative sentences, examples of which are shown in (41).

(41) a. "I **can't bear** the thought of violating the norms of etiquette," Piper has said. [Frown J]

b. We simply **can't tolerate** further Russian weapons, including the possibility of long-range nuclear missiles, being located in Cuba.

[Brown H]

3.3.3 Verbs in harmony with negation

This section provides a brief discussion on the verbs frequently occurring in a negative sentence. Biber et al. (1999: 491) comment that "The modal verbs *can* and *could*, often combined with negation, are particularly common." Examining the data derived from the Brown and Frown corpora, there are certain groups of verbs that tend to occur in a negative sentence. They include ENDURANCE-verbs, BLAME-verbs, DISTURBANCE-verbs, DISAGREEMENT-verbs, and DISHONEST-verbs among others. (42) shows the typical verbs in each group.

(42) ENDURANCE-verbs: abide, contain oneself, restrain, stand, tolerate

BLAME-verbs: blame, fault, charge

DISTURBANCE-verbs: bother, bring harm, disturb

DISAGREEMENT-verbs: deny, dispute, object, refuse

DISHONEST-verbs: buy off (bribe), deceive, cash in on

What seems to be shared meaning is negative activity or attitude. "Negative" is meant to be the opposite of "positive," defined earlier as meaning either "hopeful and confident, and think[ing] about what is good in a situation rather than what is bad" (LDOCE[5]) or "directed at ... producing a successful result" (OALD[8]). In contrast, "negative" can refer to a situation or someone's attitude that is "harmful, unpleasant, or not wanted" (LDOCE[5]). Verbs implying the negative aspect of something tend to collocate with negation. This, in turn, suggests that capability *can* prefers a positive context.

3.4 Relative clauses

This section provides an analysis of the relative clauses in which the capability use of *can* appears. In this analysis, first, the overall distribution of the relative clauses according to gaps is provided. This will be followed by a discussion on each gap. Finally, characteristics of head nouns will be discussed.

3.4.1 Overall distribution

This section deals with the overall distribution of the gaps made by relativizers, which are shown in Figure 3-12. They are ordered according to the following Keenan and Comrie's Accessibility Hierarchy.

(43) SU > DO >IO > OBL > GEN > OCOMP

[Keenan and Comrie][8]

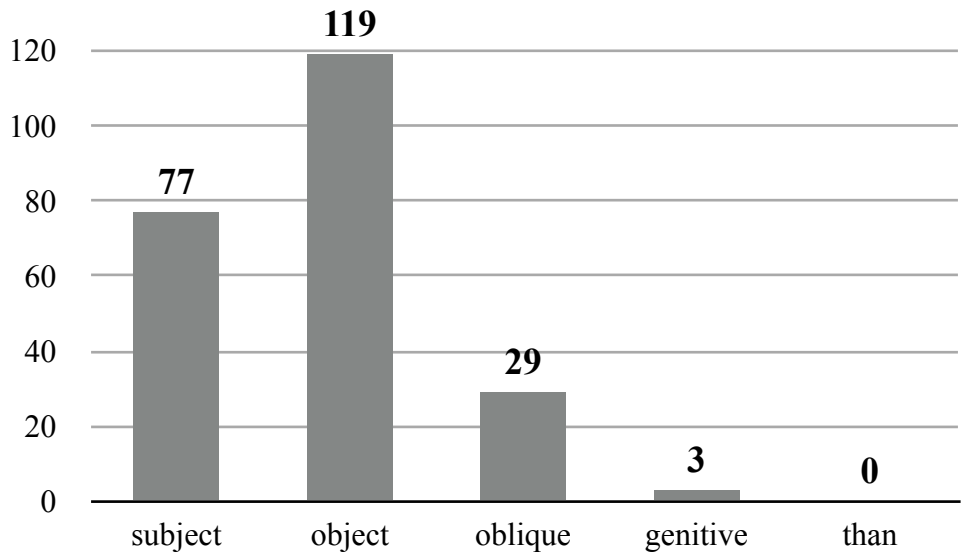

Figure 3-12. Distribution of gaps

According to Biber et al. (1999: 608), relative clauses have three major components: the head noun or the antecedent, the relativizer, and the gap. Moreover, "The relativizer anaphorically refers to the same person or thing as the head noun" (*ibid.*) or the antecedent. They are "always a missing a constituent, which corresponds in meaning to the head noun. The structural location of this missing constituent is referred to as 'gap'" (*ibid.*). In the relative clause shown in (44), the antecedent is *a language*. The relative pronoun *that* anaphorically refers to the language and the missing element (gap) occurs after the verb *understand*, i.e., in the object position. This will be called "object gap".

(44) Until we translate this gospel into *a language* [**that** *enlightened men today* can understand], we are depriving ourselves of the very resources on which the

continued success of our witness most certainly depends. [Brown D]

The following sentences illustrate the subject gap, the oblique gap, and the genitive gap, respectively.

(45) a. [*subject gap*] If the recession is as deep and intractable as now seems the case, *the candidate* [**who** can give voice to suffering citizens and provide clear plans for action at least stands a chance against the expected Bush blitzkrieg]. [Frown A]

b. [*oblique gap*] The round minarets, tall and graceful, rise from rectangular bases and have *three platforms* [**from which** the muezzin can chant his call to prayer]. [Brown E]

c. [*genitive gap*] His first inaugural address speaks of "*my country* [**whose** voice I can never hear but with veneration and love]." [Brown G]

Wiechmann (2015: 104) presents the results of his calculations of the gaps of relative clauses in a written register as shown in Table 3-11. This shows that subject gaps are overwhelmingly dominant in the written register. The ratio of the subject gap and the object gap is approximately 9:1.

Written register				
	subject	object	oblique	genitive
tokens	393	44	61	2

Table 3-11. Frequency of each gap type in written register based on Wiechmann (2015: 104)

Contrary to this, Figure 3-12 shows that the object gap is more dominant than the subject gap in relative clauses in which capability *can* appears. The ratio of the latter gap and the former gap is, conversely, approximately 2:3. Table 3-12 shows the result of the same analysis in spoken register (*ibid.*). The ratio of the subject gap and the object gap is almost 1:1.

Spoken register				
	subject	object	oblique	genitive
tokens	212	211	68	4

Table 3-12. Frequency of each gaps in spoken register based on Wiechmann (2015: 104)

The comparison of the two tables (one on written register and the other on spoken register) suggests that the distribution of the gaps in the S CAN DO pattern appears to be more similar to that of spoken register than that of written register.

Other studies corroborate this and suggest that the speculation above does not seem to be accidental. Biber et al. (1999: 621), for example, show the percentage of the subject gaps in relative clauses in four registers as seen in (46).

(46) conversation and fiction: c. 55%
news and academic prose: c. 75%

[*ibid.*]

Biber et al. (*ibid.*) posit that "subject gaps in the relative clause occur more commonly than non-subject gaps" (*ibid.*). The comparison of Figure 3-12 with these two studies seems to point in the same direction. Namely, the behavior of gaps (especially the

relation between subject gaps and object gaps) in the relative clauses in which capability *can* appears resembles that in spoken register rather than written register. This is the first unique character of capability *can* in relative clauses.

3.4.2 Subject gaps

This section exams the role of subject gaps in the relative clauses in which capability *can* occurs. Table 3-13 shows the tokens of each attested subject-relativizer based on animacy (*who*, *which*, *that*, and zero). (47a-d) show the sentences with each relativizer.

(47) a. It's true that mainly the money and political elites — not the masses — are giving him initial momentum, and that leaves an opening for a candidate [*who* **can** rouse the common man somewhere down the line]. [Frown A]

b. Why should Congress even consider allowing such a sum for that [*which* **can** give no protection]? [Brown B]

c. It is time to create a genuine multilateral mechanism [*that* **can** deal not only with these crises but also those that inevitably lie ahead. [Frown B]

d. "Three shots in that fella 'fore he hit the ground! You reckon there's two men in this state [**can** shoot like that]"? [Brown N]

Animate head nouns such as seen in (48a) are more frequent than non-animate ones seen in (48b). The ratio is almost 2:1.

(48) a. *Those children* [who **can** chin themselves] should be told to do <one> chin up each time they pass under it. [Brown E]

b. A watch and a compass are *two other pieces of optional equipment* [that **can** assist in following a mileage log]. [Frown F]

What is of interest to note is that this frequency is not overwhelming. Namely, since capability *can* is usually considered to be predicated of animate subjects and the antecedents are semantically the subject of *can*, it is natural to expect the dominant frequency of animate head nouns. Nevertheless, the actual situation can betray this expectation and non-animate antecedents might be more frequent than expected. In root clauses the percentage of the non-animate subjects is 13% while that of the animate antecedents is 34% in relative clauses. This unexpected frequency of non-animate head nouns is also considered to be another unique character of capability *can* in relative clauses.

subject gap						
	who	which	that	φ	SUM	PERCENTAGE
animate	49	0	1	1	51	**66%**
non-animate	1	9	16	0	26	**34%**
				TOTAL	77	

Table 3-13. Distribution of subject-relitivizers

Table 3-13 also shows that *that* is more preferred to *which* in subject gaps. Concerning this, Biber et al. (1999: 616) posit that "*which* has more conservative academic associations and is thus preferred in academic prose" while "*that* has more informal, colloquial associations and thus is preferred in conversation and most contemporary fiction." To confirm this point, Table 3-14 shows the tokens of *that* and

which in four genres.

GENRE	*that*	*which*
Fiction	3	0
Learned	0	1
Press	3	3
Prose	11	5

Table 3-14. Frequency of *that* and *which* in four genres

It is expected that *that* occurs more in the Fiction genre than others while *which* appears more in the Learned genre than others. However, *that* occurs most often in Prose while *which* actually appears more often in Prose than in Learned. Specifically, *that* prefers a normal written register to Fiction. This contradiction of the two results suggests further that capability *can* has a colloquial "flavor" as mentioned earlier.

Finally, Figure 3-13 provides a frequent pattern of relative clauses with subject gaps in which capability *can* appears. The most frequent combination is animate antecedents and the relativizer *who*. The second most frequent combination is non-animate antecedents and the relativizer *that*.

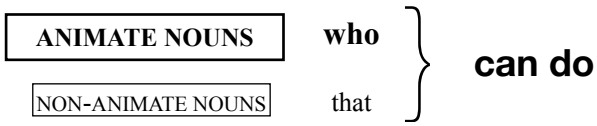

Figure 3-13. Frequent pattern of relative clauses with subject gaps

3.4.3 Object gaps

This section examines the object gaps in the relative clauses in which capability *can* occurs. Figure 3-14 shows the distribution of four object-gap relativizers (*whom*, *which*, *that*, and zero). (49a-d) show the sentences with each relativizer except *whom*.

(49) a. The professed mission of this disaffiliated generation is to find a new way of life [*which* they **can** express in poetry and fiction], but what they produce is unfortunately disordered, nourished solely on the hysteria of negation. [Brown G]

b. She's missed your point entirely, how you've so shamelessly acted out a fantasy [*that* **can't** possibly continue]. [Frown P]

c. Will your trade customers settle for less attention and fewer frills in return for some benefit [they **can** share]? [Brown E]

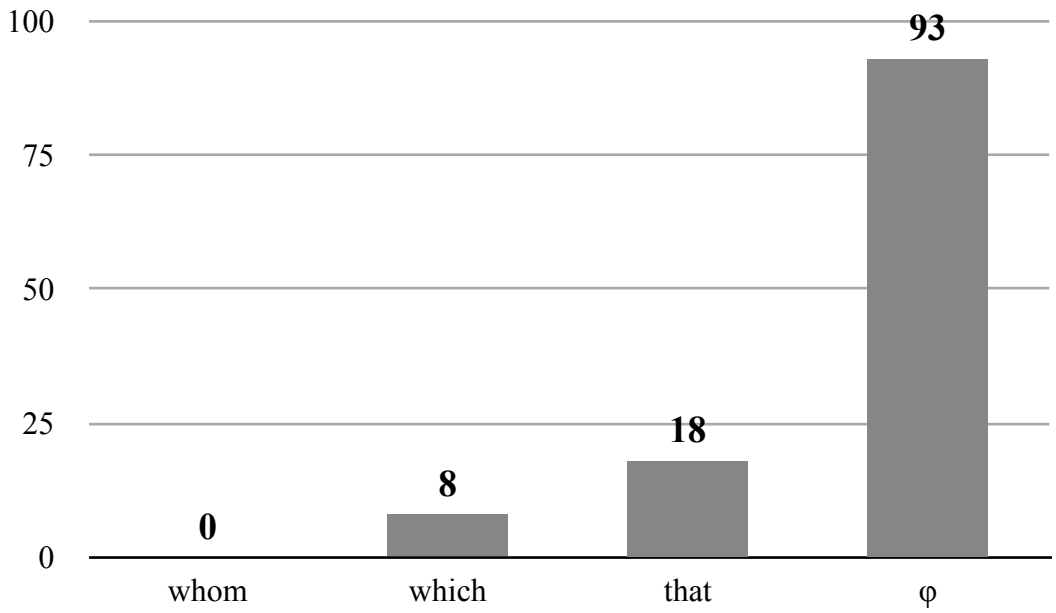

Figure 3-14. Frequency of four object-gap relativizers

The distribution differs remarkably depending on relativizers. The zero-relativizer is overwhelmingly frequent while *whom* is not attested despite the fact that the Brown corpus was compiled based on data written in 1961. There is also a difference in preferred patterns between *that* and *which*, and zero. In the case of *which*, six antecedents out of eight tokens are abstract nouns (75%). Similarly, in the case of *that*, 13 antecedents out of 18 tokens are abstract nouns (72%). There are only two cases, such as those portrayed in (50), that have animate head nouns.

(50) "I have not seen *anyone* out there [that I **can** trust]," they're saying. [Frown F]

In total, 19 antecedents out of 26 tokens are abstract nouns (73%). Furthermore, subjects in these relative clauses are predominantly human nouns. In the case of *which*, seven out of eight cases are human subjects (88%) while in the case of *that*, all 18 cases are human subjects (100%). These data suggest that there is a pattern as demonstrated in Figure 3-15.

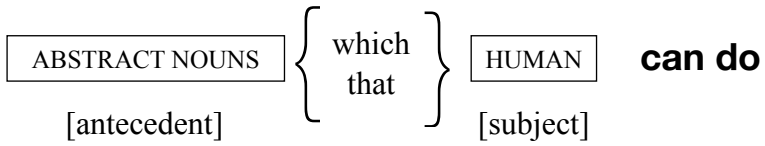

Figure 3-15. Frequent pattern of *which* and *that* with object gaps

This pattern also suggests that there is an underlying meaning relation as shown in Figure 3-16.

HUMAN **can do** ABSTRACT THING

Figure 3-16. Typical underlying meaning relation in object gaps

As mentioned in section 3.2.1, the subjects of capability *can* are not restricted to human nouns. Abstract nouns may also occur. Thus, the semantic pattern in Figure 3-16 is also considered to be a unique feature of capability *can* in relative clauses. In short, an underlying meaning relation as shown in Figure 3-17 is dispreferred even if it is possible in root clauses.

ABSTRACT THINGS **can do** ABSTRACT THINGS

Figure 3-17. Dispreferred underlying meaning relation in object gaps

In the case of zero, there are three points worth discussing. First, Figure 3-18 shows the distribution of the types of the head nouns of zero.

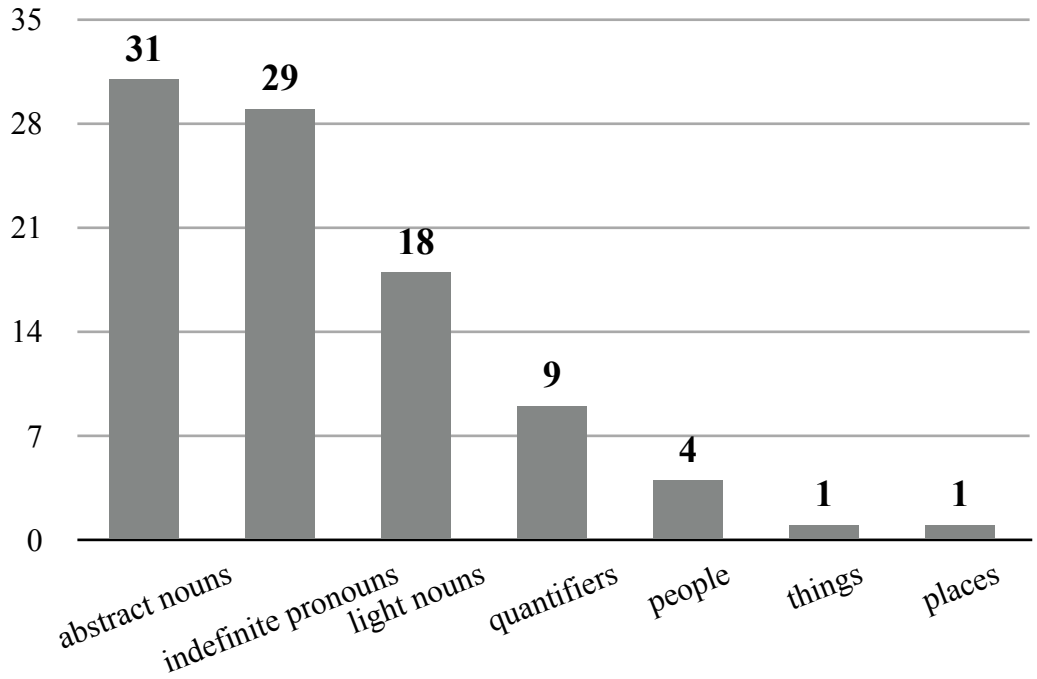

Figure 3-18. Distribution of the types of the antecedents of zero

Abstract nouns are the most frequent. Their frequency, however, is only 33%, a low percentage when compared to the relative clauses with *that* or *which* (73%). Indefinite pronouns, quantifiers, and light nouns as seen in (51) are more noteworthy. In particular, there are no attested cases of quantifiers or light nouns as head nouns in the relative clauses with *that* or *which.* "Light nouns" refer to those nouns that denote a very general concept and carry little information content such as *thing* and *way*.

(51) a. So much has already been written about *everything* [that you **can't** find out anything about it]. [Brown C]

b. I'm afraid there's not *much* [we **can** do], anyway. [Frown L]

c. *One thing* [you **can** say about Mr. Lyford] is that he does not suffer from any insecurity as an American. [Brown G]

Both indefinite nouns and quantifiers can also be regarded as light nouns in that they provide little concrete information. Hence, 60% of the antecedents of zero are considered to be "light nouns". This is the first unique feature of the antecedents of zero.

Second, the modifiers of the head nouns of zero show another three unique characteristics. The antecedents are often modified with *only* as shown in (52a) (14 tokens). They are also quantified as shown in (52b) (12 tokens). Finally, they are accompanied with superlative adjectives as shown in (52c) (7 tokens).

(52) a. He decides *the **only** way* [he **can** marry her] is to take her to Las Vegas and get it over with fast. [Frown C]

b. In later collages of both masters, a variety of extraneous materials are used, sometimes in the same work, and almost always in conjunction with ***every** other eye-deceiving and eye-undeceiving device* [they **can** think of]. [Brown J]

c. Planting fungus-resistant heritage rose varieties is ***the biggest** step* [you **can** take toward disease-free organic rose-growing]. [Frown E]

Only means that there is no other thing or person besides the particular thing or person modified by *only*. Superlatives describes the modified nouns as having "more of a quality than anything of its kind" (*COBUILD English Grammar*[3] 2011: 96). Namely, the nouns modified by *only* or superlatives function in a similar way in that in both cases there is no other entity besides that to which the modified nouns refer. This means that the antecedents with *only* or superlatives are semantically specific. In contrast, quantified nouns are non-specific. It is therefore worth noting that two

different types of head nouns having exact opposite characteristics are frequent in the antecedents of zero. In sum, the second unique feature of the head nouns of zero is the way they denote a highly specific notion (*only* and superlative) and general (non-specific) notion (quantifiers).

Finally, the semantic lightness of the head nouns and the nouns modified with *only* and quantifiers interact with *there*-construction to yield a network of patterns. There are two types of structures in this network: independent NPs and *there*-construction. "Independent NPs" are meant to be nouns used not only in the subject position of *there*-construction but also in other contexts of their own as shown in (53).

(53) a. [*The only experiences* [we **can** affect]] are those of people living now and those who will live in the future. [Frown G]

b. Will your trade customers settle for less attention and fewer frills in return for [*some benefit* [they **can** share]]? [Brown E]

The types of the head nouns occurring in both contexts are indefinite pronouns, quantifiers, and normal noun phrases with quantifiers. Examples of such are shown in (54) and (55). (54a) and (55a) are the examples of the independent NPs and (54b) and (55b) are those of *there*-constructions.

(54) a. This means the aircraft companies are going to tear into the government market, looking for [*anything* [they **can** get]] and making the competition tough. [Brown P]

b. ***Is there*** [*anything* [a frustrated individual **can** do about Communism's growing threat on our doorstep and around the world]]?

(55) a. Will your trade customers settle for less attention and fewer frills in return for [*some benefit* [they can share]]? [Brown E]

b. We've covered the basics. ***There are*** [*some gaps* [we **can** fill in the morning]]. [Frown L]

These patterns are made into a network as in Figure 3-19.

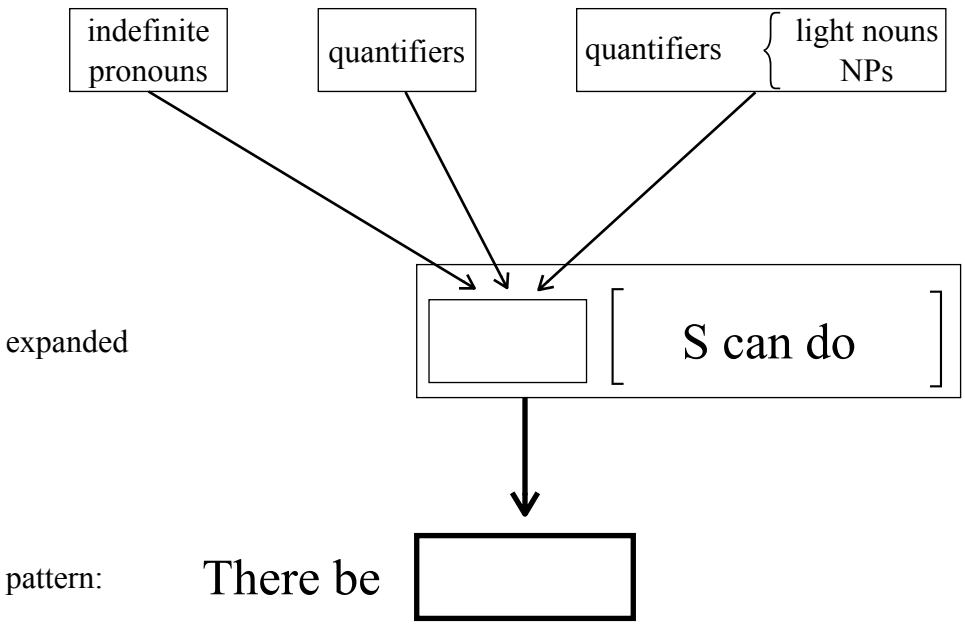

Figure 3-19. Network of patterns with *there*-construction

3.4.4 Oblique gaps

This section provides a discussion on the oblique gaps in the relative clauses in which capability *can* occurs. Oblique gaps are structurally missing elements after prepositions (the object of prepositions in traditional grammar). It is generally possible to strand the object of prepositions at the end of relative clauses as seen in (56).

(56) *the one* [that old James used to live **in**] [Biber et al. 1999: 624]

There is, however, no attested "stranded" type of relative clauses in the Brown and Frown corpora. Thus, all attested oblique gaps are pied-piped (cf. Ross 1966). That is, head nouns and their associated prepositions are placed at the beginning of relative clauses as shown in (57).

(57) Negro-appeal radio is more important to the Negro today, because it provides *a direct and powerful mirror* [***in which*** the Negro **can** hear and see his ambitions, achievements and desires]. [Brown C]

Oblique gaps are divided into two types: obligatory and optional (or complements and adjuncts). Obligatory oblique gaps are those "licensed by a head, e.g. a verb" (Aarts et al. 2014: 78), as seen in (58).

(58) It requires an omniscient eye to select *those* if any [***on whom*** we **can** now *rely*]. [Brown P]

Optional oblique gaps are those forming "grammatically optional material" (*ibid*.: 12). as in (59).

(59) The request for lower rates originated with the Southern railway, which has spent a good deal of time and money developing *a 100-ton hopper car* [**with *which*** it says it **can** move grain at about half what it costs in the conventional, smaller car]. [Brown B]

Table 3-15 shows the distribution of oblique gaps in the Brown and Frown corpora.

	animate		non-animate	
obligatory	on whom	1	from which	3
	with whom	1	to which	2
optional			along which	1
			by which	1
			for which	1
			from which	2
			in which	8
			through which	1
			to which	2
			with which	3
TOTAL				26

Table 3-15. Distribution of obligatory and optional oblique gaps

There are 26 cases of oblique gaps in total: seven tokens are obligatory oblique gaps (27%) and 19 instances are optional (73%). There are more non-animate antecedents than animate and the gaps of all the attested animate head nouns are obligatory. Consequently, optional oblique gaps with non-animate heads will be the object of focus in the following discussion.

There are at least three distinctive semantic areas associated with the antecedents: METHOD-type, OPINION-type, and SITUATION-type. First, the head nouns of the METHOD-type denote the means, by the use of which the subjects of relative clauses are able to do an activity expressed by the verb. A typical example is given in

(60).

(60) In the rather primitive eyes of the adolescent male, sexual and violent acts are *the two main means* [through which they **can** prove their male commitment].

[Frown J]

Next, the antecedents of the OPINION-type represent the standpoint from which the opinions of the subjects are expressed, as seen in (61).

(61) Places with prospect and refuge offer *an observation point* [from which humans **can** see, react, and if necessary, defend themselves, as well as a protective space to keep them from harm]. [Frown J]

Finally, the head nouns of the SITUATION-type build a framework for the basis of the judgement or decision of the subjects, as seen seen in (62).

(62) When the historian encounters *a situation* [in which he **can** perceive no visible cause and effect sequence], he should be alert to intuition and unconscious instinct as possible guides. [Brown G]

In addition to these three types, other antecedents are also abstract in meaning, e.g. *extent*, as shown in (63), *sense*, and *desire*.

(63) *The extent* [to which participating bodies such as U.S. voluntary agencies, universities, international organizations, and the host country or institutions in

the host country can and should share the cost of the Peace Corps programs] must be fully explored. [Brown H]

Namely, there are no concrete nouns "denoting a physical object: a person, an animal, or an observable, touchable thing" (Aarts et al. 2014: 57). Consequently, the head nouns of optional oblique gaps denote a generally abstract meaning. These data lead to the following frequent pattern of the relative clauses with oblique gaps.

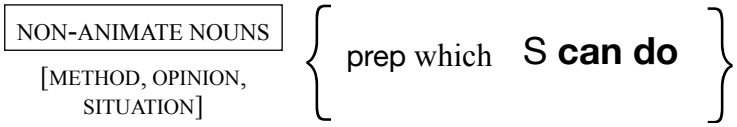

Figure 3-20. Frequent pattern of the relative clauses with oblique gaps

3.4.5 Characteristics of head nouns

This section will focus on three major characteristics of antecedents: i) animacy, ii) the semantic types of head nouns, and iii) specificity. First, Figure 3-21 shows the distribution of head nouns on the whole according to animacy.

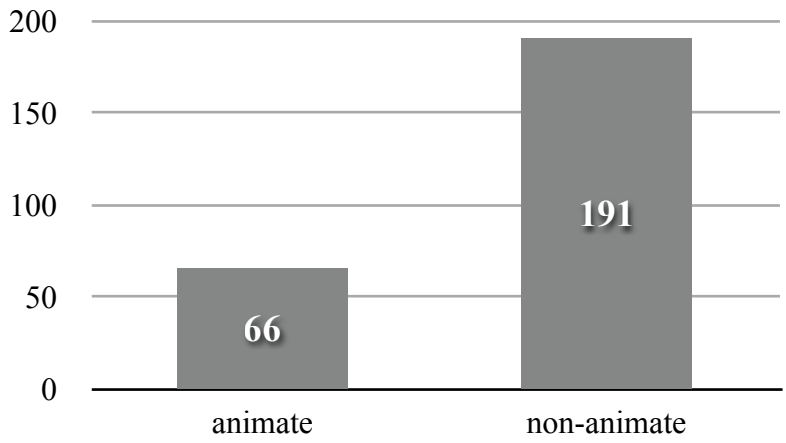

Figure 3-21. Distribution of head nouns based on animacy

There are overwhelmingly more non-animate head nouns than animate. The ratio of these antecedents is approximately 3:1. Typical examples with both an animate and non-animate antecedent are shown in (64).

(64) a. "You know", the lawyer said, "it's difficult to talk like this about *a man* [who **can't** answer back]". [Brown G]

b. Light-filtering solar shades create *a crisp canopy* [that **can** roll up to reveal the sky]. [Frown E]

To examine this distribution more closely, let us look at Table 3-16, which shows the percentage of each type of head nouns in relation to four gaps (subject, object, oblique, and adverbial).

gap	animate	non-animate
subject	65%	35%
object	4%	96%
oblique	8%	92%
adverbial	0%	100%
	20%	80%

Table 3-16. Percentage of each type of head nouns according to four gaps

This table clearly shows that other than subject gaps, non-animate head nouns are extremely frequent in other gaps. This result suggests, further, that the most typical underlying semantic relation of capability *can* would be represented as shown in Figure 3-20. Namely, subjects are mostly animate nouns while objects and oblique

elements are predominantly non-animate nouns. Adverbial elements are, by default, non-animate nouns. Thus, they are not included in Figure 3-22.

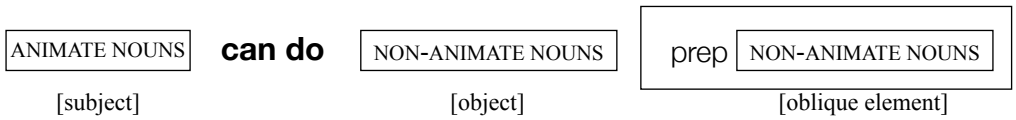

Figure 3-22. Most typical underlying semantic relation of capability *can* when embedded in relative clauses

Second, Figure 3-23 shows the distribution of head nouns in relation to their meaning.

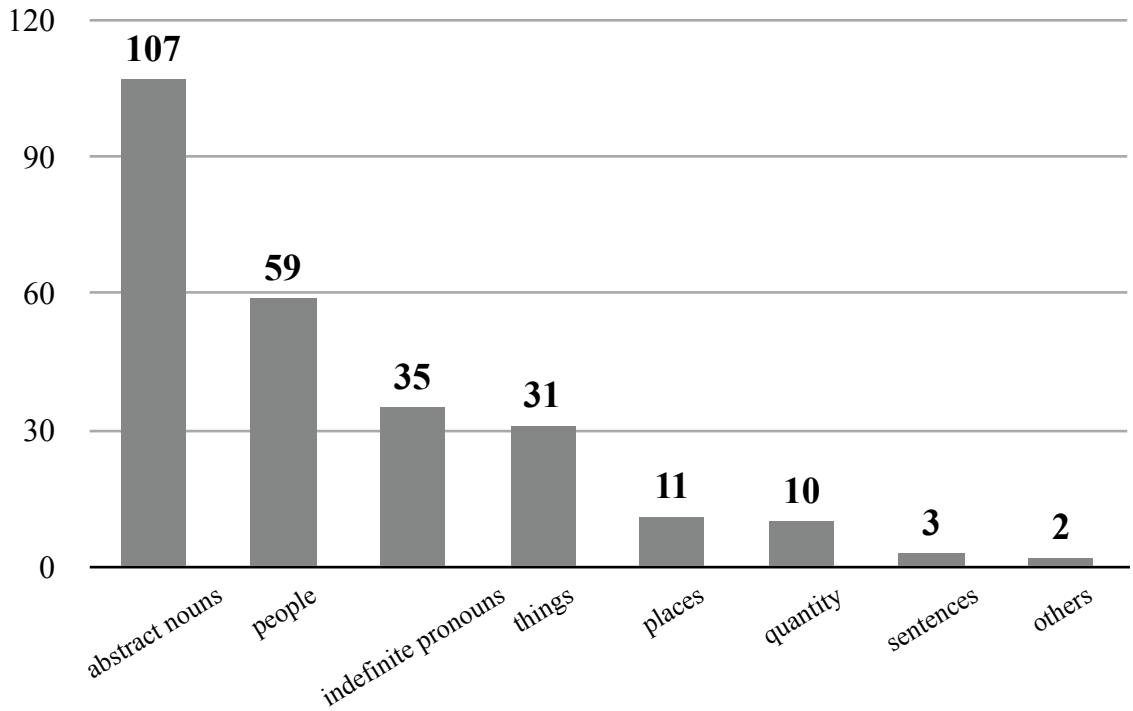

Figure 3-23. Semantic types of antecedents

There are at least two noteworthy aspects. One is that the predominance of non-

animate nouns in head nouns is mostly due to the considerable number of abstract nouns in addition to other non-animate nouns such as things and places. THING-type head nouns include, for example, "auditorium" as seen in (65a) or "machine" as seen in (65b).

(65) a. Back inside the center, there are executive conference rooms, *an auditorium* [that **can** accommodate up to 125 people], and a full complement of core facilities, including a library, audio-visual equipment, host telephones and computers, food service areas, and an administrative area providing telephone, reproduction, and fax equipment. [Frown E]

b. *Profile cutting machines* are available [which **can** split foam to any desired thickness and produce sine, triangle, trapezoid, and other profiles in variable heights, dimensions, etc.]. [Brown J]

PLACE-type head nouns, occurring typically with *where*, include place names as shown in (66a) or "place" as in (66b).

(66) a. Another spot with an image-provoking name is *the Black Hills* [where you **can** visit the old frontier mining town of Deadwood]. [Brown E]

b. There are many *places* [where we **can** use their vigor and new ideas]. [Brown A]

The second point is that there are numerous instances of indefinite pronouns that function as heads. As mentioned in section 3.4.3, they are especially frequent in head nouns with object gaps that have no relativizers as shown in (67a). (67b) is an

example with relativizer *who*.

(67) a. Don't start anything [you **can't** finish]. [Brown N]

b. Competent advice from *someone* who **can** examine the bike and the rider at the same time is advised. [Frown F]

According to Biber et al. (1999: 617), indefinite pronouns have "colloquial associations." Namely, indefinite pronouns occur very frequently in conversation and fiction (*ibid*.: 353). This point corroborates an earlier observation that capability *can* has a colloquial "flavor."

3.5 Genre analysis

This section provides a brief discussion on genre analysis. Table 3-17 shows the number of actual tokens and that of normalized tokens per million words. Figure 3-24 represents the data (concerning the normalized tokens) in Table 3-17 in the form of a bar graph.

GENRE	actual tokens	normalized tokens
Fiction	578	2,294
Press	367	2,085
Prose	802	1,947
Learned	196	1,225

Table 3-17. Frequency of capability *can* in four genres

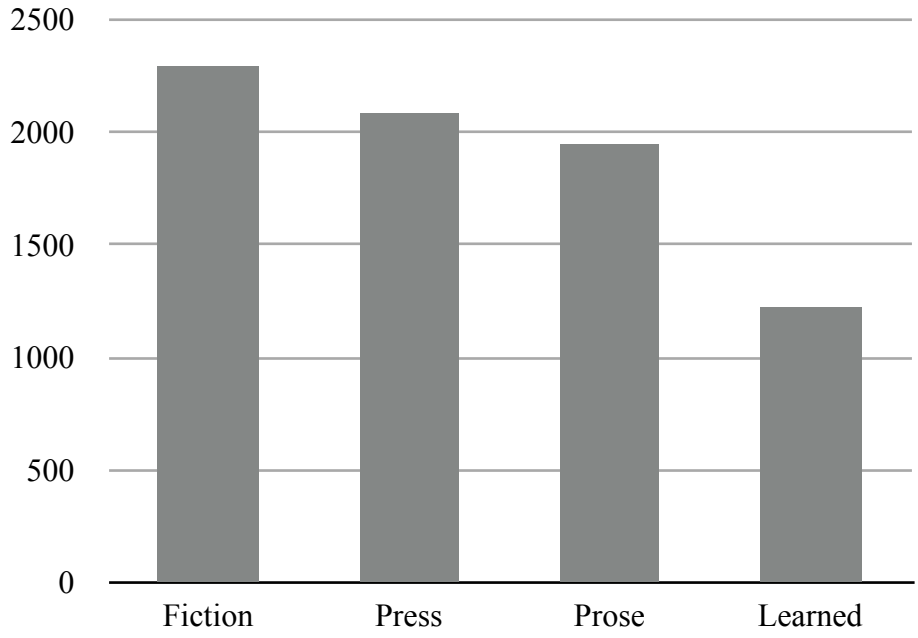

Figure 3-24. Frequency of capability *can* in four genres

This graph clearly shows that capability *can* is the most frequent in Fiction, suggesting that capability *can* is preferred in a genre similar to spoken language. Conversely, it is not preferred in the most formal register (Learned).

3.6 Summary

This chapter has provided a data-oriented description of the S CAN DO pattern, focusing on three topics: subjects, verbs, and relative clauses. First, the overview of the use of *can* in the Brown and Frown corpora has been presented. It has been shown that *can* has at least six grammatical patterns in the corpora. The most frequent pattern is S CAN DO (67.2%). The second most frequent pattern is S CAN BE DONE (23.3%). It has been also shown that capability use is the most frequent in the S CAN DO pattern (71.6%).

Next, the analysis of the subjects of capability *can* has been offered. First, personal pronouns are the most frequent of all subjects (69%). Second, contrary to the previous studies that center around animate nouns, the subjects consisting of full NPs

can be classified into at least three major types: animate nouns, collective nouns, and non-animate nouns. Third, regarding the distribution of personal pronouns in the subject position, *I*, *you*, and *we* (i.e., SAP) are extremely frequent compared to other personal pronouns (78%), suggesting that the difference in their behavior is based on that of the accessibility to the information on capability. Fourth, due to the highly asymmetrical distribution of pronouns and full NPs in the subject position (c. 80% vs. c. 20%), the average length of subjects becomes shorter than is expected: 1.58 words on average. Fifth, it has been shown that, due to the predominance of personal pronouns in the subject position, the behavior of the subjects in the S CAN DO pattern resembles that of spoken language. Sixth, it has been shown that because non-specific subjects outnumber specific subjects, capability sentences with *can* have a close affinity to generic sentences.

Furthermore, analysis of the verbs co-occurring with capability *can* has been provided. First, "distinctive" verbs have been examined. It has been shown that *find, tell, afford, understand, help, use, imagine, expect, handle, achieve,* and *manage* are considered to be the "distinctive" verbs in the S CAN DO pattern. Second, the frequent semantic domains have been discussed. It has been shown that cognition verbs are moderately frequent and that communication verbs are unexpectedly small in number while causative verbs are rather unexpectedly high in frequency. Third, the distinctive semantic subdomains in three major semantic domains (activity verbs, communication verbs, and mental verbs) have been examined. Results indicate that the following subdomains are the "distinctive" semantic subdomains. (Verbs in bold-face are the typical ones in each subdomain.)

• **Activity verbs**

GET-subdomain: ***get****, acquire, gain, obtain, score, win*

MANIPULATION-subdomain: ***use****, cope with, deal with, retain, cash in on, manipulate, accommodate*

AVOIDANCE-subdomain: ***cannot help, escape***, *avoid*, *defy*, *resist*

AMOUNT-subdomain: *add, count*

MONEY-subdomain: ***buy****,* ***sell****, exchange*, *pay*, *spend*, *subscribe*

AMELIORATION-subdomain: *clarify*, *sanitize*, *smooth out*, *better*, *bolster*, *innovate*, *correct*, *fix*

• **Communication verbs**

TELL-subdomain: ***tell****, express, inform, report*

BLAME-subdomain: *blame, charge, fault*

• **Mental verbs**

FIND-subdomain: *find, determine, distinguish, identify, prove, conclude, deduce, entail, hypothesize, detect, examine, validate*

EXPECT-subdomain: *expect, hope*

IMAGINE-subdomain: *imagine*

TRUST-subdomain: *trust*, *depend on*, *fall back on*, *rely on*

ENDURANCE-subdomain: *cannot stand*, *endure*, *cannot bear*, *tolerate*

Fourth, the verbs in harmony with negation have been indicated. They are:

ENDURANCE-verbs: *abide, contain oneself, restrain, stand, tolerate*

BLAME-verbs: *blame, fault, charge*

DISTURBANCE-verbs: *bother, bring harm, disturb*

DISAGREEMENT-verbs: *deny, dispute, object, refuse*

DISHONEST-verbs: *buy off* (= bribe), *deceive, cash in on*

It has been suggested that verbs implying the negative aspect of something tend to collocate with negation.

Finally, analysis of the relative clauses in which capability *can* appears has been offered. First, the figures below (repeated for ease of reference) represent the frequent pattern of the relative clauses with subject gap, object gap, and oblique gap, respectively.

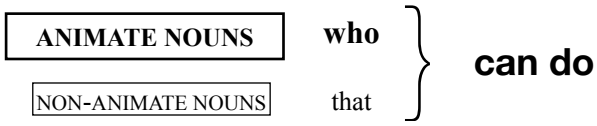

Figure 3-25 (= 3-13). Frequent pattern of relative clauses with subject gaps

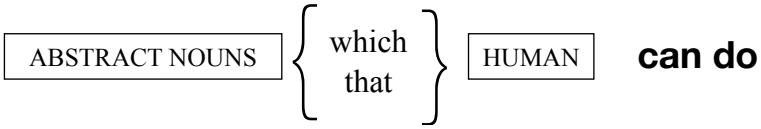

Figure 3-26 (= 3-15). Frequent pattern of relative clauses with object gaps

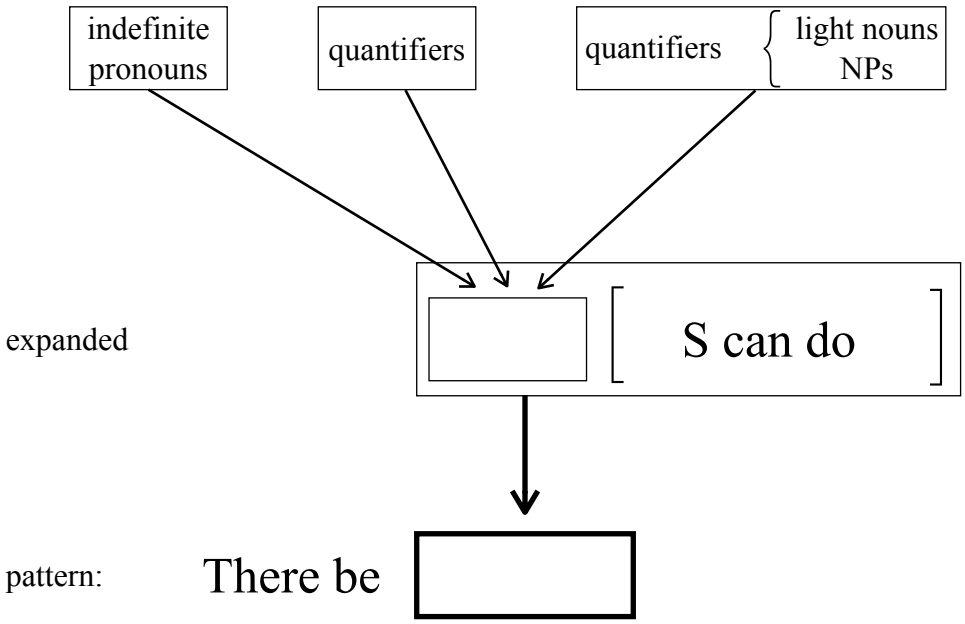

Figure 3-27 (= 3-19). Frequent pattern of relative clauses with zero-relativizer

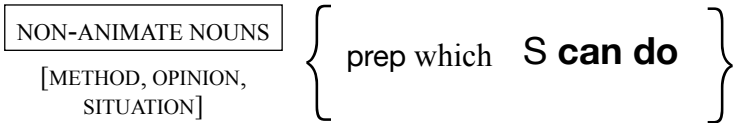

Figure 3-28 (= 3-20). Frequent pattern of relative clauses with oblique gaps

Second, it has been shown that there are more non-animate antecedents than animate ones except for subject gaps, suggesting that the most typical underlying semantic relation is as shown in Figure 3-22 (repeated for ease of reference as Figure 3-29 below). This also suggests that the underlying meaning relation of the relative clauses in which capability *can* appears is restricted compared to root clauses.

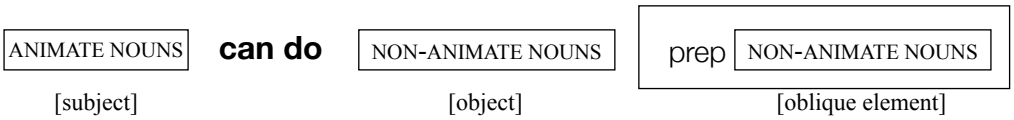

Figure 3-29 (= 3-22). Most typical underlying semantic relation of capability *can* when embedded in relative clauses

Third, two additional observations have been made: i) the behavior of gaps in the relative clauses is similar to that in spoken register rather than that in written register and ii) there are a fair number of indefinite pronouns in antecedents. These observations, in conjunction with the predominance of personal pronouns in the subject position and the preference for Fiction, point in the same direction. Namely, capability *can* has a colloquial "flavor."

Notes to Chapter 3

[1] "Loose" is adapted from Aarts et al. (2004: 71), which mentions "Loosely (notionally defined), any noun referring to a group."

[2] In this point, the problem of inanimate subjects is concerned. For further details, see Nishimura (1999) and Halliday (1994), for example.

[3] Biber et al. (1998) shows the most frequent twelve verbs except *do* and *have*. For the sake of the comparison of the data in this thesis and their data, the same practice is adopted. Davies, M. and D. Gardner (2010) report that *have* is the second most frequent verb after *be* and *do* is the third most frequent. In the Brown and Frown corpora, *do* is the most frequent verb in the capability use of the S CAN DO pattern and *have* is the eighth most frequent. These verbs come between *tell* and *take* in Figure 3-10.

[4] When *do* and *have* are added, there are 685 tokens in total, which consists of 35% of all verbs.

[5] This procedure is due to the unavailability of the exact rank frequency in the LGSW corpus.

[6] In (5), the verb *compel* is shown as one of the examples. It is actually attested in the Brown and Frown corpora, but its meaning is causative.

[7] Dixon (2005: 110) mentions as follows: "AFFECT items are prototypical transitive verbs (according to the criteria set out by Hoper and Thompson 1980). They involve three semantic roles—an Agent moves or manipulates something (referred to as the Manip role) so that it comes into contact with some thing or person (the Target role). Either the Manip or the Target (or, occasionally, both) will be physically affected by the activity."

[8] Each abbreviation represents the following grammatical relations: SU = subject, DO = direct object, IO = indirect object, OBL = oblique, GEN = genitive, and OCOMP = object of comparison. In Figure 3-12, DO and IO are combined and represented as "objects."

Chapter 4

Descriptions on five *capability*-constructions

As noted in Chapter 2, there are few studies that focus on the description of English *capability*-constructions other than *be able to*. Therefore, the aim of this chapter is to offer data-oriented descriptions of the constructions. Five constructions will be examined in this chapter. The order of presentation is: i) *be able to to do*, ii) *be capable of doing*, iii) *S enable O to do*, iv) *it be possible (for N) to do*, and v) *S make it possible (for N) to do*.

4.1 *be able to do* construction

This section will examine *be able to do* construction. The discussion will focus primarily on finite clauses, non-finite clauses, and the use of the construction in the present tense. In total, there are 419 occurrences in the Brown and Frown corpora.

4.1.1 Finite clauses

This section examines three points: i) the distribution of three major uses of the construction (the substitution function of auxiliary verb *can*, the alternative use of *could* in the past, and uses in the present), ii) the distribution of uses in the substitution function of auxiliary verb *can*, and iii) the patterns of the combinations of auxiliary verbs and *be able to*.

First, the distribution of three major uses of *be able to do* construction will be considered. Figure 4-1 shows this distribution in the Brown and Frown corpora. In total, there are 347 occurrences.

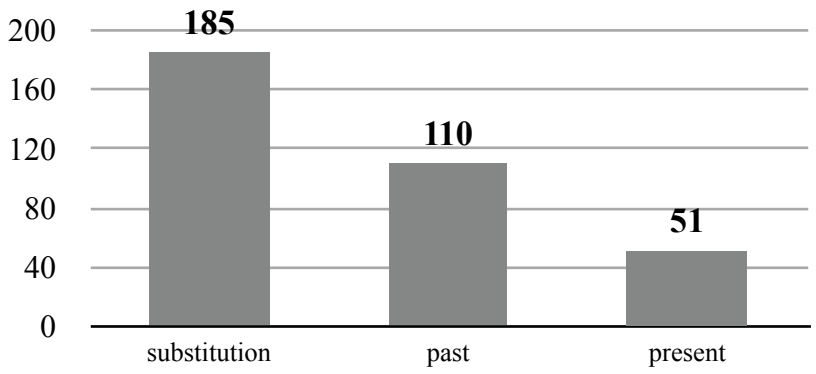

Figure 4-1. Distribution of three major uses of *be able to do* construction

As is clear, the use of the substitution of *can* is the most frequent and the rate of the use adds up to 53% of all uses in finite clauses. Namely, over half of the uses in finite clauses are occupied with the substitution use. The alternative use of *could* in the past tense comes next (32%). The rate of use in the present tense is more frequent than expected (15%). Nevertheless, it is rarely the focus of study. (Section 4.1.2 will deal with the description of the use in the present tense.) In sum, the frequency hierarchy of three major uses is as follows.

(1) substitution use > the alternative use of *could* > use in the present

Second, the distribution of uses in the substitution function of auxiliary verb *can* will be examined. Figure 4-2 shows each number of the instances in four environments (future, present perfect, past perfect, and auxiliary verbs) in the Brown and Frown corpora. In total, there are 185 occurrences.

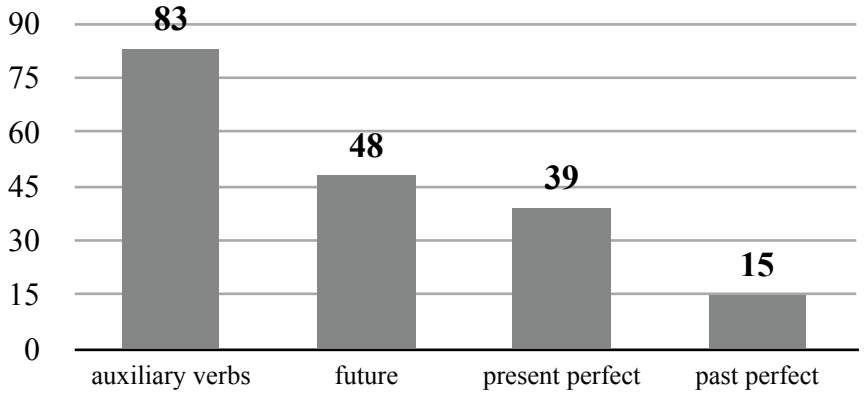

Figure 4-2. Distribution of uses in the substitution function of auxiliary verb *can*

It is evident that the most frequent use is that of the substitution of auxiliary verbs. The rate of the use amounts to 45%. That is, the substitution use of auxiliary verbs occupies almost half of its cases. The ratios of the future and present perfect are next at 26% and 21%, respectively. The past perfect is the least frequent (8%) as is expected, considering the fact that the past perfect is not often used even without *be able to*. In summary, the frequency hierarchy of the substitution function of auxiliary verb *can* is as follows:

(2) auxiliary verbs > future and present perfect > past perfect

The high frequency of the uses of the substitution of auxiliary verbs suggests that the motivation to use "double modals" is sufficiently strong. It is widely known that present-day English does not allow sentences such as (3). Almost all grammar books mention the use of *be able to* in this case[1].

(3) *We should can stay here. [Siemund 2013: 156]

The prohibition of "double modals" is the (perhaps peculiar) syntactic constraint of English, but the need to express modal "concepts" doubly or tripartitely is sufficiently strong. The high frequency of the substitution use of auxiliary verbs might reflect this demand.

Third, the patterns of the combinations of auxiliary verbs and *be able to* will be discussed. Table 4-1 shows each number of the instances in the Brown and Frown corpora. In total, there are 83 occurrences[2].

OBLIGATION		CERTAINTY	
should	13	might	11
ought to	1	might have	1
oughta	1	may	13
need to	2	would	23
have to	1	would have	1
had to	2		
must	14		
Total	34	Total	49

Table 4-1. Patterns of the combinations of auxiliary verbs and *be able to*

It is clear that *be able to* combines with various modal auxiliary verbs. The construction co-occurs especially with modals of obligation and certainty. The frequent modals are *would*, *may*/*might*, *should*, and *must*[3].

4.1.2 Non-finite clauses and post-nominal modifications

This section will discuss three points: i) the occurrence patterns of *ing*-form, ii)

those of *to*-infinitives, and iii) post-nominal modifications.

Concerning *ing*-form occurrence patterns, there are three environments in which the *being able to do* pattern occurs: i) the objects of prepositions, ii) the complements of verbs, and iii) adverbial verbless clauses. Figure 4-3 shows each number of the instances in three grammatical contexts in the Brown and Frown corpora. In total, there are 23 occurrences.

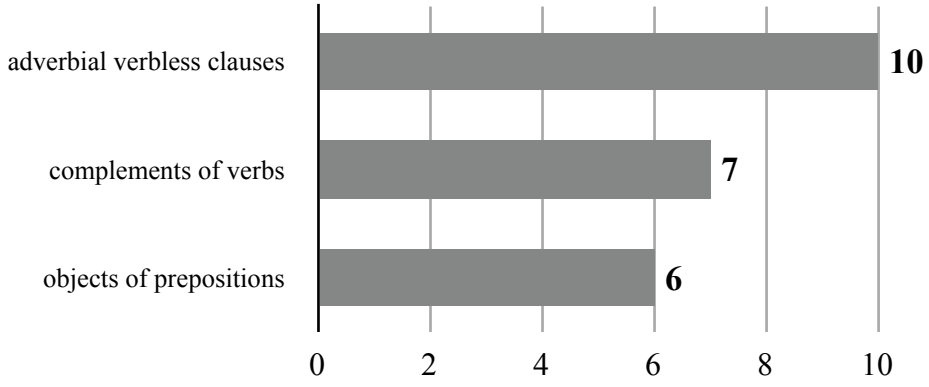

Figure 4-3. Number of the instances in three grammatical contexts

Compared to the uses in finite clauses, the ratio of the uses of *ing*-clauses is very infrequent (5%). First, there are two patterns used in the objects of prepositions in the corpora. One consists of the objects of prepositions that are subcategorized by preceding nouns as seen in (4a). The other has prepositions functioning as adjuncts to sentences as seen in (4b). Other prepositions include *by* and *to*.

(4) a. Spiritual life is cultivated, but students do not need to be Christian. They have <u>an enviable record</u> *of* **being able to place** in employment 100% of their graduates. [Brown F]

b. "We are tired of seeing these people coming in after killing other people, *without* **being able to do** anything about it," Fantus said. [Frown A]

In addition, there are two patterns in the cases used in the complements of verbs. One is the complements of transitive verbs as seen in (5a). The other is those of phrasal verbs in a broad sense as seen in (5b). Other (phrasal) verbs are *lie in*, *account for*, *imagine*, *love*, and *blame A for B*.

(5) a. Madden *regretted* **not being able to** find fault with so true a statement. [Brown L]

b. As we know, the Soviet peasant today still very largely *thrives on* **being able to** sell the produce grown on his private plot .... [Brown B]

Of note, there is a fairly formal instance in the Brown and Frown corpora as can be seen in (6). This suggests that the *being able to do* pattern has the potential to occur in more complex syntactic environments than previously expected.

(6) a. Again, I at first misconstrued this disconcertingly intense communication, and I quickly cast through my mind to *account for* **her being able to** speak, with such utter conviction, of an opinion held by my father, now several years deceased. [Brown J]

b. Waters insists, but "if it thwarts the process or throws up *obstacles to* **your being able to** represent your district, I'm not going to go along with it." [Frown F]

Finally, adverbial verbless clauses are found in three patterns: complex preposing as appears in (7a), simple postposing as seen in (7b), and complex postposing, expressed in (7c).

(7) a. *Though* no longer **able to** turn out his protoplasmic pen-and-ink sketches (several old favorites are scattered through the present volume) Thurber has retained unimpaired his vision of humor as a thing of simple, unaffected humanness. [Brown C]

b. All season this team has been remarkably resourceful, **able to** capitalize on a Jerry Browne double as much as a shot into the seats by McGwire. [Frown A]

c. The ending is fairly easy to anticipate (that the sea has been a metaphor for the bed hardly surprises us), yet this unsurprising closure, or the sorrowful ease of it, strikes a common nerve with the stunned awareness that the speaker is unfathomably alone, *yet ever just* **able to** say so. [Frown G]

Quirk et al. (1985: 144) points out that the simple preposed adverbial verbless clauses, such as that in (8), are "marginal."

(8) ?*Able to* resist, Matilda declined to betray her country. [Quirl et al. *ibid*.]

Reflecting upon this observation, there is no instance of a simple preposing type. Furthermore, there are more complex patterns than simple ones[4]. The situation is summarized in Table 4-2.

	preposing	postposing
simple	NA	2
complex	4	4

Table 4-2. Patterns of adverbial verbless clauses

There is a gap in a simple preposing pattern. The gap and the fact that the majority of cases are complex types (80%) suggests that the adverbial verbless clauses of *be able to* are semantically "light" and require more information in order to function as adverbial verbless clauses. The beginning of sentences tends to be a starting point of a proposition or topic (cf. MacWhinney 1977). Unmodified *able to* in an initial position has difficulty fulfilling this function. As such, complex types are more common and simple preposing types are not attested in the corpora.

Next, shifting the focus to to-infinitives pattern, there are four environments in which the *to be able to do* pattern occurs: i) the complements of verbs, ii) adverbial *to*-infinitive clauses, iii) nominal *to*-infinitive clauses, and iv) others. Figure 4-4 shows each number of the instances in the four grammatical contexts in the Brown and Frown corpora. In total, there are 33 occurrences. Compared to the uses in finite clauses, the ratio of the uses of *to*-infinitives is also very low.

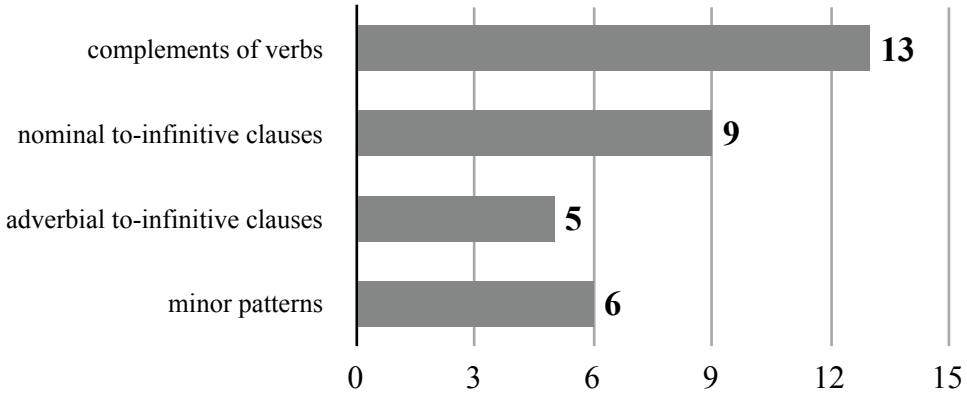

Figure 4-4. Number of the instances in four grammatical contexts

First, the predicates that take *to be able to* as their complements are shown in (9). Other predicates include *be likely*, *hope*, *seem*, *want*, and *would like to*.

(9) Barnett *is not expected to* **be able to** withstand the pressure. [Brown A]

In addition, adverbial *to*-infinitive clauses occur with and without *in order* as shown in (10a) and (10b), respectively. One can note that there is a quite formal instance in (11).

(10) a. *In order to* **be able to** properly relate the data for a single company each of the three cards comprising the set for each firm was identified with the appropriate serial number of the respondent. [Brown J]

b. Consider what you have to earn *to* **be able to** spend the $3,000 and your building time is well worth it. [Brown E]

(11) "I can imagine"! Susan was an active character; *for* Mother *to* **be able to** call, Susan must be napping now, surrounded by her multitude of dolls. [Brown P]

Moreover, out of ten nominal *to*-infinitive clauses, nine cases are used in preparatory *it* patterns as seen in (12).

(12) a. There was a time when, if a man wanted to purchase a boat, *it* was necessary *for* him *to* **be able to** produce a sizeable amount of cash before he could touch the tiller or wheel. [Brown E]

b. "*It's nice to* **be able to** go to rushes of a picture or a rough cut and be very thrilled with what you're seeing," ... [Frown A]

Finally, there are three other patterns of *to*-infinitives. One is the complements of copula *be* as shown in (13). Another is the *enough/sufficient to be able to do* pattern,

as seen in (14). The other is the *too adj. to be able to do* pattern seen in (15).

(13) That the point of having a car at all *is* just *to* **be able to** get from one place to another. [Frown P]

(14) As I see it, if war starts and we survive the initial attack *enough to* **be able to** fight back, the nuclear weapons we now have — at least the bombs — can inflict all the damage that is necessary. [Brown B]

(15) They strained forward. They had not heard what had been said. They had been sitting *too* long *to* **be able to** stand up easily. [Brown K]

Third, there are two patterns in the post-nominal modifications of *be able to do* construction. One consists of four examples of the *NP [able to do]* pattern in the Brown and Frown corpora, one of which is shown in (16).

(16) Perhaps both motives were at work, a youthful author's passionate quest for originality tempered by conscientious self-disclosure and a willingness to reveal his philosophical legerdemain to *those* [**able to** appreciate it]. [Frown J]

The other consists of 32 instances of the *NP [REL ... be able to do ...]* pattern in the Brown and Frown corpora as expressed in (17).

(17) Mosher also said that it is difficult to find workers [*who* **are able to** deal with the problems of a person who has one disability], let alone handle the problems of people with two disabilities. [Frown A]

Figure 4-5 shows the distribution of the gaps made by relativizers. The figure indicates that the occurrences of subject gaps are equal to those of object gaps while other gaps are very infrequent.

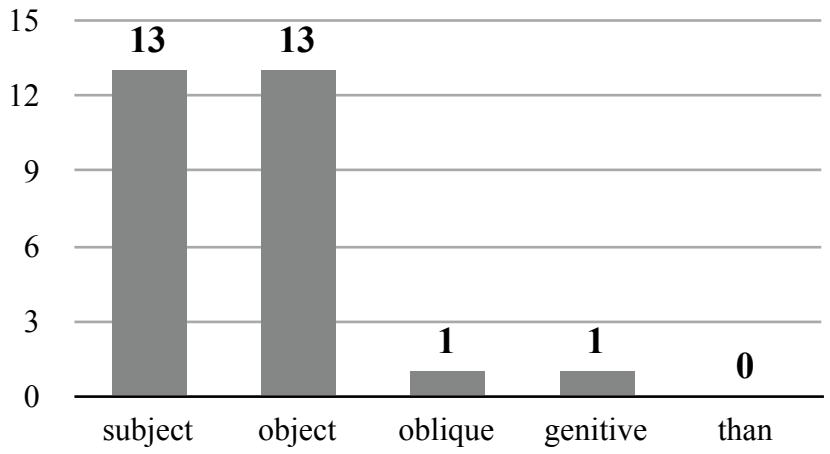

Figure 4-5. Distribution of gaps

Among the 419 cases, 60 instances are those of non-finite clauses and post-nominal modifications. The ratio of the uses amounts to merely 14%. The low frequency of non-finite uses suggests that *be able to* avoids becoming functionally overloaded. The main function of *be able to* is, undoubtedly, its uses in finite-clauses, especially the substitution use of *can*. To compensate for this heavy functional load, *be able to* arguably keeps a balance by reducing the uses of non-finite clauses. If one domain of use has a large load, the other domain(s) tend to have a lesser load.

4.1.3 A description of use in the present tense

This section will provide a brief description on the use of *be able to* construction in the present tense. Five topics will be discussed: i) the semantic properties of subjects, ii) the frequency of the use of pronouns in the subject position, iii) the ratio

of SAP and non-SAP in the subject position, iv) the specificity of subjects, and v) the frequent semantic subdomains of verbs.

First, Figure 4-6 shows the distribution of the subjects of *be able to* construction in the present tense (including pronouns) based on semantic properties.

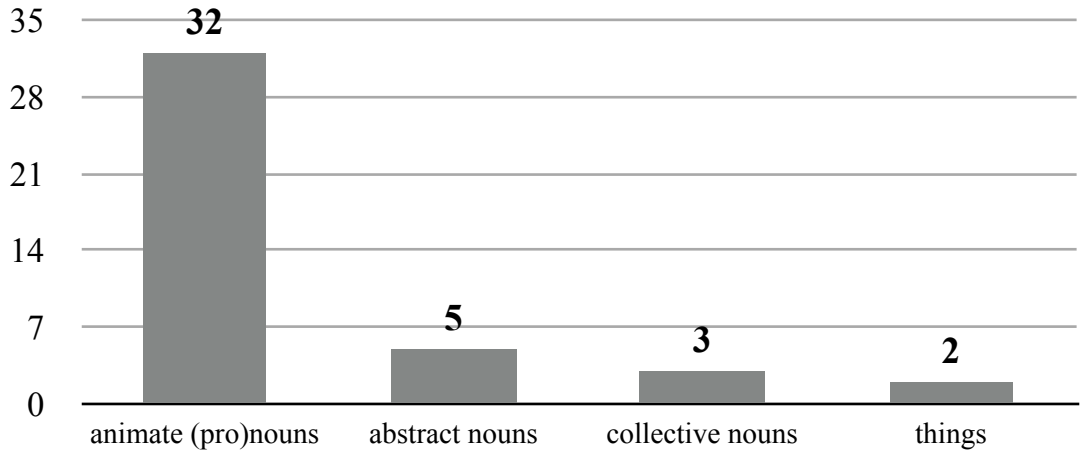

Figure 4-6. Distribution of the subjects (including pronouns) based on semantic properties

The figure clearly shows that animate (pro)nouns are overwhelmingly dominant (76%) while abstract nouns as seen in (18a) are low in frequency (12%). In particular, collective nouns such as those in (18b) and the nouns denoting things such as in (18c) are very infrequent (7% and 5%, respectively). Thus, the most typical subjects of *be able to* construction in the present tense are animate (pro)nouns.

(18) a. Clearly, *art* **is able to** communicate a wide variety of nonverbal meanings that become intersubjectively 'interpretable' in virtue of the shared associations of a knowledgeable art community. [Frown G]

b. *State and local governments* **are able to** provide an interest subsidy to

local firms or individuals by issuing a tax-free municipal bond and loaning the proceeds to the firm or individuals. [Frown H]

c. Further, *the gland* **is able to** re-use a larger fraction of the thyroid hormone de-iodinated peripherally. [Brown J]

Figure 4-6 demonstrates the second point: the frequency of pronouns in the subject position. As mentioned in Chapter 3, this type of frequency implies the degree to which a construction is colloquial. Pronouns in the subject position of *be able to* construction in the present tense amount to 17 instances out of a total of 42 cases (40%). The low rate suggests that *be able to* in the present tense is less colloquial or more formal than capability *can*.

Third, Figure 4-7 shows the ratio of SAP and non-SAP. As is mentioned in the previous chapter, SAP means Speech Act Participant (i.e., *I*, *you*, and *we*) and non-SAP represents third person (pro)nouns (singular or plural). The higher ratio of SAP implies that what is described in a sentence is oriented toward speakers and hearers while the higher ratio of non-SAP suggests that the content of a sentence is oriented toward the outer world.

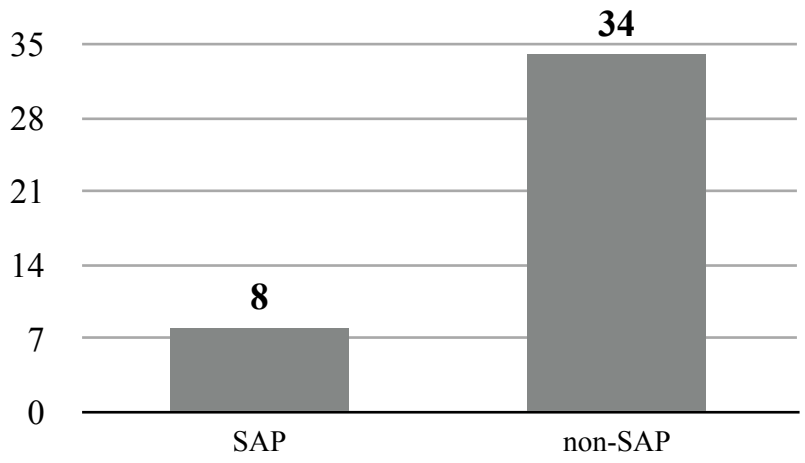

Figure 4-7. Ratio of SAP and non-SAP subjects

As is clear from the figure, the ratio of non-SAP is predominant. In particular, *I* and *you* in the subject position are attested in only two instances, respectively, each example of which is shown in (19).

(19) a. Since *I*'**m able to** draw with pastel, I think about the structure of the picture while I'm working, making decisions as the composition evolves. [Frown E]

b. I know you are very busy now, you are writing a great deal and your book is coming out, isn't it? But if *you* **are able to** come, you know how glad I shall be. [Brown G]

In short, *be able to* construction in the present tense tends to describe the outer world rather than the inner thoughts and feelings of a speaker or a hearer.

Fourth, Figure 4-8 shows the distribution of the specificity of the subjects of *be able to* construction in the present tense. As is clear from the figure, specific subjects are extremely frequent (76%).

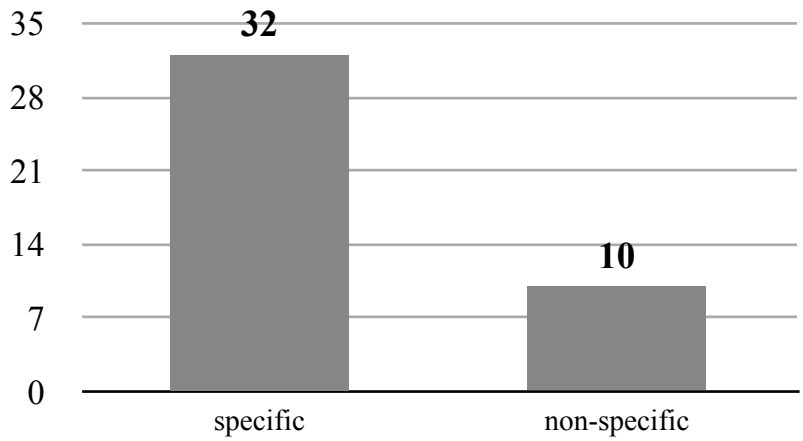

Figure 4-8. Distribution of specific and non-specific subjects

Notably, the subjects with indefinite articles, typical non-specific subjects, occur only once out of 42 tokens. An example can be seen in (20).

(20) The basic reproductive rate, *Ro*, of a microparasite may be formally defined as the number of new infections that *a solitary infected individual* **is able to** produce in a population of susceptible hosts (Anderson and May 1979).

[Frown J]

Thus, *be able to* construction in the present tense has a tendency to be used with specific subjects: its subjects are considered to be identifiable (cf. Halliday 1994: 181).

Finally, Figure 4-9 shows the frequent semantic domains of the verbs in *be able to* construction in the present tense. The figure clearly shows that activity verbs are extremely frequent. Of interest to note is that the verbs of other types, i.e., those of existence, occurrence, causation, and aspect, are not attested in the Brown and Frown corpora.

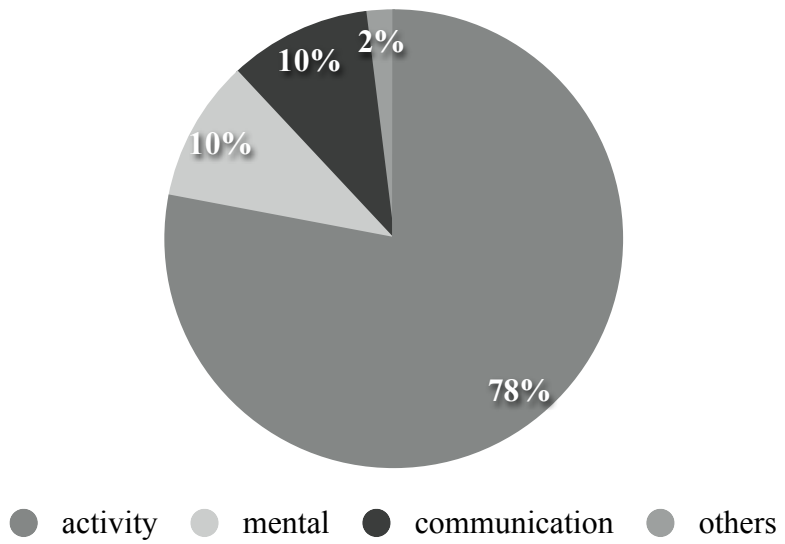

Figure 4-9. Frequent semantic domains of verbs

Regarding semantic subdomains, the verbs of motion as shown in (21a) and those of creation as in (21b) are more frequent than other subdomains.

(21) a. "He's looking a lot better, and he's **able to** *run*", Meek explained. [Brown A]

b. The proprietor **is able to** *create* a leadership impossible in the corporate structure with its board of directors and stockholders. [Brown G]

These five points lead to the frequent pattern of *be able to* construction in the present tense as demonstrated in Figure 4-10

Figure 4-10. Frequent pattern of *be able to* construction in the present tense

4.1.4 Genre analysis

This section provides a brief discussion on genre analysis. Table 4-3 shows the number of actual tokens and that of normalized tokens per million words. Figure 4-11 represents the data (concerning normalized tokens) in Table 4-3 in the form of a bar graph.

GENRE	actual tokens	normalized tokens
Fiction	2	8
Press	9	51
Prose	19	46
Learned	12	75

Table 4-3. Frequency of *be able to* in four genres

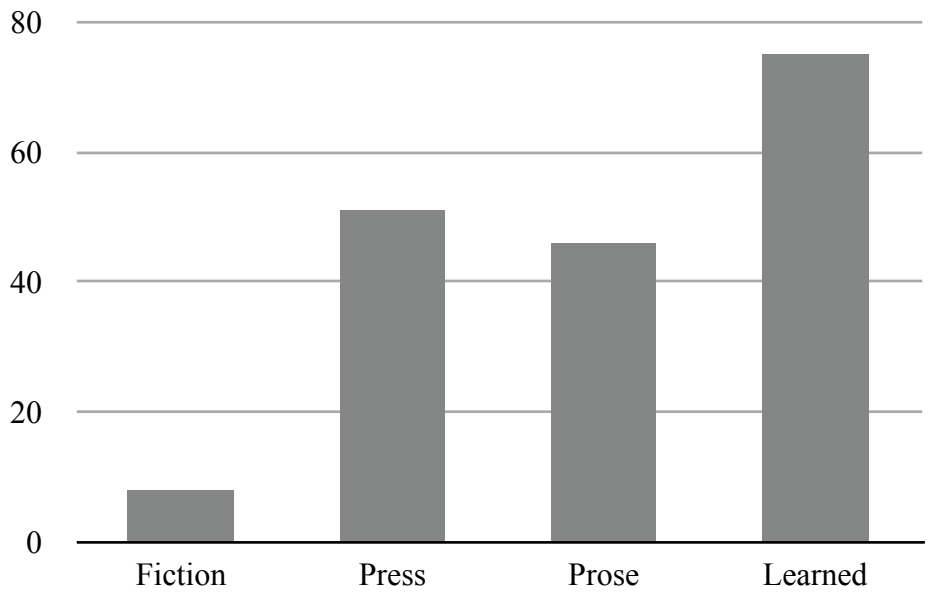

Figure 4-11. Frequency of *be able to* in four genres

The graph clearly shows that *be able to* is the most frequent in Learned (academic prose). Prose and Press are almost the second most frequent while Fiction is mostly not preferred. These observations suggest that *be able to* is preferred in formal written registers.

4.2 *be capable of doing* construction

This section will describe *be capable of doing* construction. Finite clauses will

be examined first, followed by non-finite clauses. In the Brown and Frown corpora, there are 49 occurrences of *be capable of doing* construction.

4.2.1 Finite clauses

This section will cover eight points: i) the distribution of the uses in various tenses, ii) the patterns of the combinations of auxiliary verbs and their construction, iii) the properties of subjects, iv) the frequency of the use of pronouns in the subject position, v) the ratio of SAP and non-SAP in the subject postion, vi) the specificity of subjects, vii) the variations of copula *be*, and viii) the frequent semantic subdomains of verbs.

First, let us consider the frequency of tenses used by *be capable of doing*, including co-occurring auxiliary verbs. Figure 4-12 shows the results obtained from the Brown and Frown corpora.

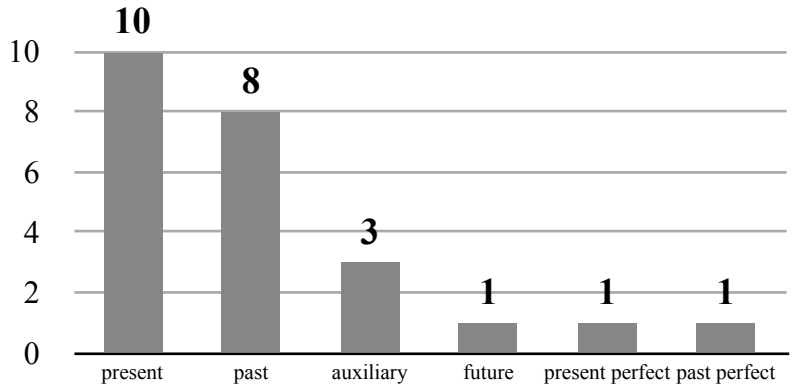

Figure 4-12. Frequency of tense

As is clear from Figure 4-12, the ratio of uses is, in descending order, present (42%), past (33%), auxiliary verbs (13%) and everything else (future, present perfect, and past perfect each occurring only once in the corpora[5]). The great majority of instances are used in the present and past. These two tenses account for 75% of all uses. Therefore,

be capable of doing construction is considered to be prototypically used in the present and past.

Second, let us look at the combinations of auxiliary verbs and *be capable of doing* construction. In the Brown and Frown corpora, there are three types of combinations: *will have to* as seen in (22a) and two cases of *must* as seen in (22b). All are auxiliary verbs of obligation[6].

(22) a. It follows that any 'male spectator' that I discuss here **will have to be capable of** dealing with conflicting cultural messages, with contradictory subject positions within 'masculinity,' and with competitive cultural interpellations. [Frown G]

b. He *must* **be capable of** designing for and supervising the manufacture E29 0540 of any craft materials needed in the furnishings [Brown E]

That a majority of cases are used in the present and past tense, as well as the fact that the construction does not tend to co-occur with auxiliary verbs, suggests that unlike *be able to, be capable of doing* construction is considered to be strongly fact-oriented. This means that it has a propensity to state facts without adding the semantic nuances such as speakers' attitudes to propositions usually expressed by modal auxiliary verbs.

Third, let us consider the properties of the subjects of *be capable of doing* construction. Previous studies note that the subjects of *be capable of* are mostly *people* or *things*. The result of the Brown and Frown corpora can be seen in Figure 4-13.

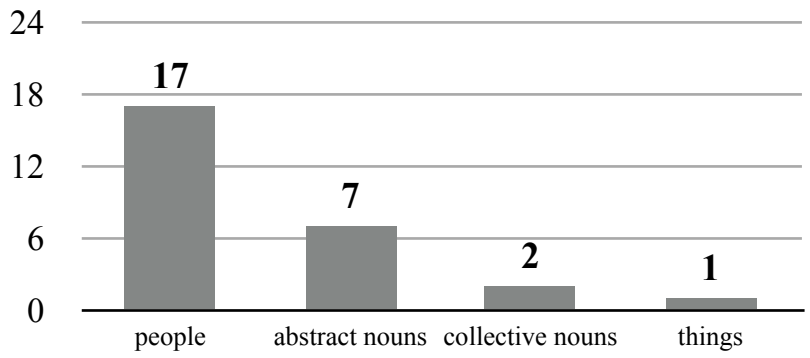

Figure 4-13. Properties of the subjects of *be capable of doing* construction

The figure clearly shows that things as seen in (23), which are in fact the lowest in frequency in the Brown and Frown corpora.

(23) If *our ~SAC bombers* **were**, today, **capable of** surviving a surprise missile attack and <because of infinite dispersion or long endurance had the capability to strike at Russia again, and again, and again>, those bombers would unquestionably assure our military dominance. [Brown E]

Contrarily, abstract nouns, which no previous studies mentioned, have more instances than expected. The examples of abstract noun subjects are "proper ritual observance" as seen in (24a) and "a certain kind of detached understanding," seen in (24b).

(24) a. *Proper ritual observance* at any level of society **was capable of** generating power for use in the spirit world; but naturally, the royal ritual, which provided unusual control over already supremely powerful divine spirits, was held responsible for regulating the universe and insuring the welfare of the kingdom. [Brown D]

b. Presupposed in Plato's system is a doctrine of levels of insight, in which *a*

certain kind of detached understanding **is** alone **capable of** penetrating to the most sublime wisdom. [Brown G]

Contrary to expectations, *be capable of doing* construction permits subjects of a highly abstract nature. This is one of the characteristics of the construction and stands in stark contrast to *be able to do* construction.

Fourth, let us consider the frequency of pronouns in the subject position. Pronouns in the subject postion of *be capable of* construction amount to eight instances out of a total of 27 cases (30%). It is noteworthy that *you* in the subject position is not attested in the Brown and Frown corpora. Since this type of frequency implies the degree to which a construction is colloquial (cf. Chapter 3), this percentage suggests that *be capable of* is less colloquial or more formal than capability *can*.

Fifth, Figure 4-14 shows the ratio of SAP and non-SAP in *be capable of doing* construction.

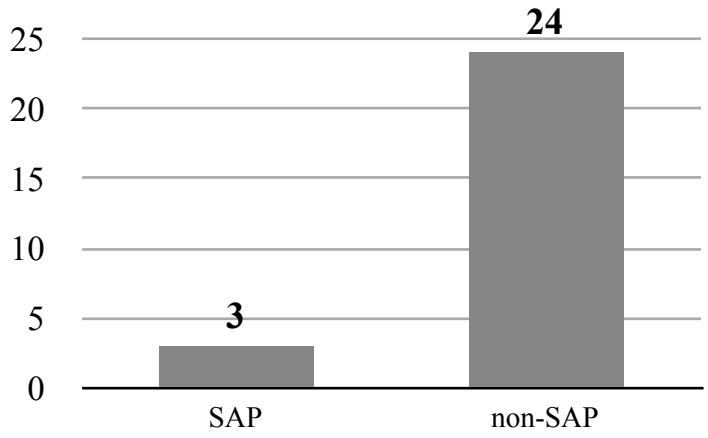

Figure 4-14. Ratio of SAP and non-SAP subjects

As is clear from the figure, the ratio of non-SAP is predominant (88%). Since the higher ratio of non-SAP suggests that the content of a sentence is oriented toward the

outer world, *be capable of* construction tends to describe the outer world, not the inner world of a speaker or a hearer.

Sixth, Figure 4-15 shows the distribution of the specificity of the subjects of *be capable of* construction. As is clear from the figure, specific subjects are relatively frequent (59%). In the case of *be able to*, the ratio of specific subjects is 76% while that of capability *can* is 57%. *Be capable of* is analogous to capability *can* in this regard.

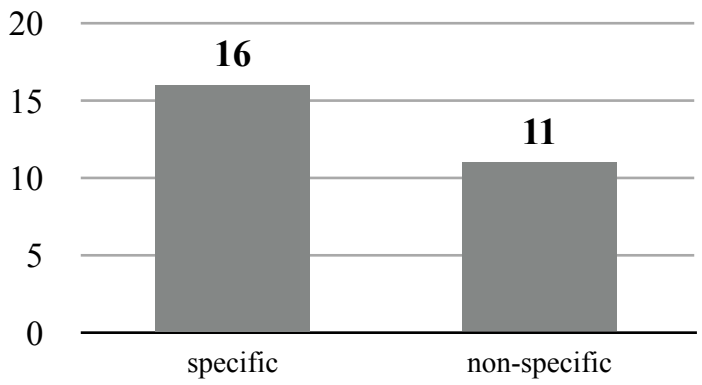

Figure 4-15. Distribution of specific and non-specific subjects of *be capable of* construction

Seventh, let us look at the variations of the copula *be*. Previous studies have disclosed how *be capable of doing* construction admits predicates other than *be*. In the Brown and Frown corpora, there is one instance of *seem capable of*, shown below in (25a)[7].

(25) So far the platoons on left and right fielders don't **seem capable of** carrying the load. [Brown B]

It is interesting to note that verbs like *feel*, *become*, *look*, and *appear*, which have been

discussed in previous studies, have no occurrence in the Brown and Frown or *Time* 93 corpora, which consist of roughly 3.8 million words. This suggests that these four verbs are relatively infrequent.

Finally, Figure 4-16 shows the frequent semantic domains of the verbs in *be capable of* construction. The figure clearly shows that activity verbs are extremely frequent. Compared to *be able to*, the verbs co-occurring with *be capable of* show more variation. Verbs of existence as in (26a) and those of occurrence as in (26b) are attested in the Brown and Frown corpora. No verbs of aspect, however, are found in the corpora.

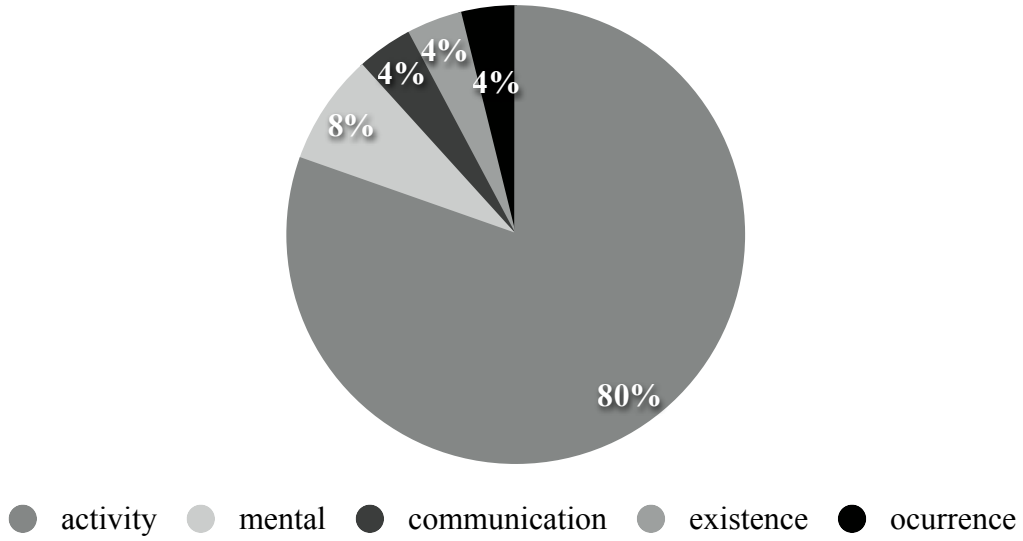

Figure 4-16. Frequent semantic domains of verbs

(26) a. "These visual arts ... are ... historical emergents within a structure of common sense, and being thus relative to a cultural tradition cannot function as universals **capable of** *constituting* a fusion of all cultural horizons into a single integrated whole". [Frown D]

b. Rising unemployment, especially on the neighbor islands, means that there is a labor pool **capable of** *becoming* the next generation of Hawaii's

farmers. [Frown H]

Concerning semantic subdomains, the verbs of creation as in (27) are more frequent than other subdomains.

(27) Though the slightest yank **was** frequently **capable of** *producin*' results, many men assured success through a turn of the tail 'bout the saddle horn, supplemented sometimes, in the case of cattle, by a downward heave of the rider's leg upon the strainin' tail. [Brown F]

These observations attest to the frequent pattern of *be capable of* construction shown in Figure 4-17.

Figure 4-17. Frequent pattern of *be capable of* construction

4.2.2 Non-finite clauses and post-nominal modifications

This section will focus on adverbial verbless clauses and the patterns of the post-nominal modifications by *be capable of doing* construction.

First, there are two types of adverbial verbless clauses of *be capable of doing* construction in the Brown and Frown corpora. Four instances of adverbial verbless clauses are attested in the corpora: three examples of simple postposed adverbial verbless clauses as seen in (28a), and one case of complex preposing clauses involving conjunction *though* as shown in (28b)[8].

(28) a. From this action sprang the idea of somehow uniting Greek and Shakespearean drama into a new total form, **capable of** restoring to life the ancient moral and poetic responses. [Brown G]

b. **Though** versatile and **capable of** turning out a ballad lyric with the best of them, Mercer's forte is a highly polished quasi-folk wit. [Brown G]

Second, there are broadly two patterns in the post-nominal modifications of *be capable of doing* construction. One is the *NP [capable of doing]* pattern, of which there are 12 examples in the Brown and Frown corpora. An example of such is shown in (29).

(29) All such imitations of negative quality have given rise to a compensatory response in the form of a heroic and highly individualistic humanism: if man can neither know nor love reality as it is, he can at least invent an artistic "reality" which is its own world and which can speak to *man of purely personal and subjective qualities* [**capable of** being known and worthy of being loved]. [Brown G]

The other is *NP [REL ... be capable of doing...]* pattern, of which eight instances are found in the Brown and Frown corpora. An example of this pattern can be seen in (30).

(30) According to the Toxic Chemical Release Inventory of the 1986 Emergency Planning and Community Right to Know Act, this chemical is one of many [*which* is considered as "acutely toxic, possible carcinogenic, or **capable of**

having a significant adverse effect on the environment]." [Frown H]

Of note, there are two distinct characteristics of the relative clauses of the construction. Among eight instances of relative clauses, five are the *NP [that be capable of doing]* pattern, an example of which can be seen in (31). Although small in number, this seems to be the most basic pattern involving relativizers.

(31) This magnificent but greatly underestimated book, which bodies forth the very form and pressure of its time as no other comparable creation, has suffered severely from having been written about an historical event—the Spanish Civil War—[*that* **is** still **capable of** fanning the smoldering fires of old political feuds]. [Brown G]

Additionally, there are notable examples of non-restrictive relative clauses, one of which can be seen in (32a) and even complex cases, in which the object of complement verb *make* is relativized as seen in (32b). These patterns are not found in *enable O to do* construction or *make it (for N) to do*, both of which will be discussed later. Thus, the existence of these somewhat complicated patterns is another characteristic of *be capable of doing* construction. In sum, the construction exhibits the various and complex types of relative clauses, which are not available to other *capability*-constructions.

(32) a. One doctor made a careful survey of his patients and the reasons for their troubles, and he reported that 40% of them worried about things that never happened; 30% of them worried about past happenings which were

completely beyond their control; 12% of them worried about their health, although their ailments were imaginary; 10% of them worried about their friends, neighbors, and relatives, [*most of whom* **were quite capable of** taking care of themselves]. [Brown D]

b. Apart from the categorical imperative they derive from the metaphysics of the orgasm, the only affirmation [they **are capable of** making] is that art is their only refuge. [Brown G]

4.2.3 Genre analysis

This section provides a brief analysis of genre analysis. Table 4-4 shows the number of actual tokens and that of normalized tokens per million words. Figure 4-18 represents the data (concerning normalized tokens) in Table 4-4 in the form of a bar graph.

GENRE	actual tokens	normalized tokens
Fiction	0	0
Press	6	34
Prose	39	95
Learned	3	19

Table 4-4. Frequency of *be capable of* in four genres

The graph clearly shows that *be capable of* is the most frequent in Prose. Press and Learned are the second and third most frequent, respectively, albeit the frequency is low in both. No instance in Fiction is attested. These observations suggest that *be capable of* is preferred in prose.

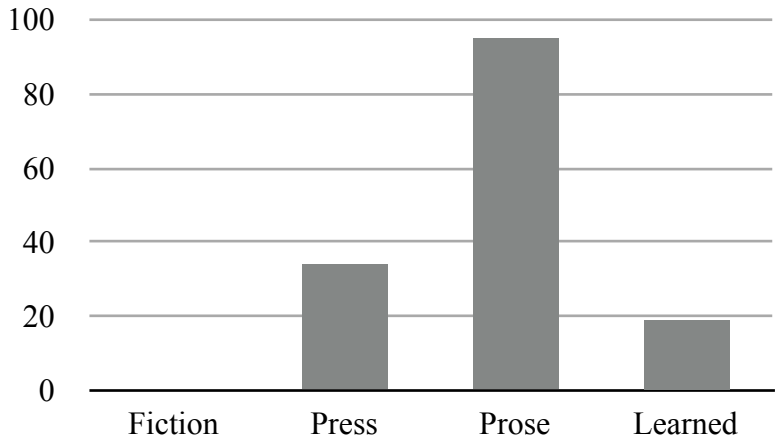

Figure 4-18. Frequency of *be capable of* in four genres

4.3 *S enable O to do* construction

This section will discuss *S enable O to do* construction. The points of discussion comprise i) finite clauses, ii) post-nominal modifications, iii) *ing*-clauses and *to*-infinitive clauses, and iv) other miscellaneous points. In total, there are 93 occurrences of *enable* in the Brown and Frown corpora.

4.3.1 Finite clauses

This section on finite clauses will focus on two major points: i) the properties of subjects and objects and ii) verbs and related topics.

4.3.1.1 The properties of subjects and objects

This section will consider the semantic properties of subjects and four properties of objects. First, examining the semantic properties of the subjects of *S enable O to do* construction, Figure 4-19 shows the number of occurrences in the Brown and Frown corpora.

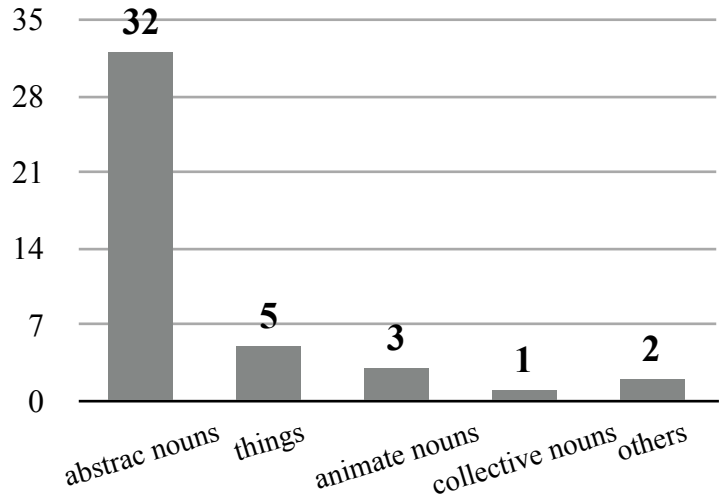

Figure 4-9. Distribution of subjects based on semantic properties

The figure clearly shows that the overwhelming cases of subjects are abstract nouns (74%), an example of which is shown in (33a). Next is *things* (12%) as seen in (33b). There are also some cases with *people* (i.e., animate nouns), shown in (33c) or *money* subjects, as seen in (33d).

(33) a. *An alphabetical list of chemical and mineralogical names with reference numbers* **enables** one **to** find a particular crystal description. [Brown J]

b. In addition to automating the drawing process, *CAD* **enables** the architect **to** build computer models of the building, rotate the design to view the building from various angles, allow the client to take a simulated walkthrough of the building, simulate its heating and cooling sub-system performance under various climatic conditions, and create blueprints and specifications for the building. [Frown F]

c. But in *The Transfiguration of the Commonplace* he tells us that by means of artistic theory *the artist* **enables** us "**to** see his way of seeing the world." [Frown G]

d. *Another grant* will **enable** Skidmore College **to** plan a series of multidisciplinary capstone courses which will enrich general education courses. [Frown H]

Next, the properties of the objects of *S enable O to do* construction will be considered. The objects of this construction are the semantic subjects of the verbs appearing in the *to do* part of the construction (cf. the Jespersen's *nexus*). Here, there are four points to be mentioned: i) the semantic properties of objects, ii) the frequency of the use of pronouns in the object position, iii) the ratio of SAP and non-SAP in the object postion, and iv) the specificity of objects.

Figure 4-20 shows the distribution of objects (including pronouns) based on semantic properties. The figure clearly shows that animate (pro)nouns are extremely frequent (78%). The distribution stands in stark contrast to that of the subjects in that abstract nouns are the most frequent in subjects (74%) while animate nouns are the least frequent in the subject position (7%)[9].

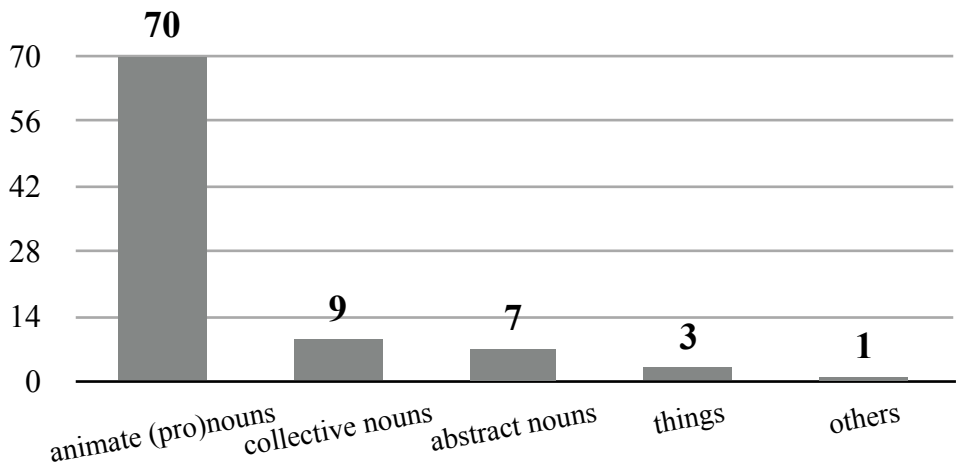

Figure 4-20. Distribution of objects (including pronouns) based on semantic properties

Furthermore, let us consider the frequency of pronouns in the object position. Pronouns in the object postion of *S enable O to do* construction amount to 38 instances out of total 90 cases (42%). This percentage is similar to that of *be able to*. Since this type of frequency implies the degree to which a construction is colloquial (cf. Chapter 3), this percentage suggests that like *be able to* and *be capable of*, *S enable O to do* is less colloquial or more formal than capability *can*.

In addition, Figure 4-21 shows the ratio of SAP and non-SAP in *S enable O to do* construction.

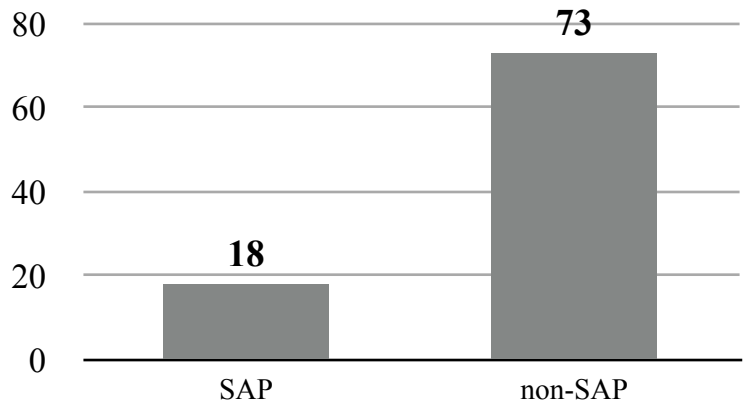

Figure 4-21. Ratio of SAP and non-SAP subjects

As is clear from the figure, the ratio of non-SAP is predominant (80%). It is noteworthy that among the 18 instances of SAP in the Brown and Frown corpora, *you* in the object position, as shown in (34), is attested only once.

(34) Marine dealers and even some manufacturers who sell direct in non-dealer areas cooperate in **enabling** *you* **to** launch now and pay later. [Brown E]

Since the higher ratio of non-SAP suggests that the description of a sentence is

oriented toward the outer world, *S enable O to do* construction tends to express the outer world, not the inner world of a speaker or a hearer.

Finally, Figure 4-22 shows the distribution of the specificity of the objects of *S enable O to do* construction. As is clear from the figure, specific objects are very frequent (73%). Pronouns are particularly frequent, occuring 39 times (60%). Thus, *S enable O to do* construction tends to be used with specific objects. In short, the most of the objects are identifiable in the sense of Halliday (1994: 181) (cf. Chapter 3 section 3.2.4).

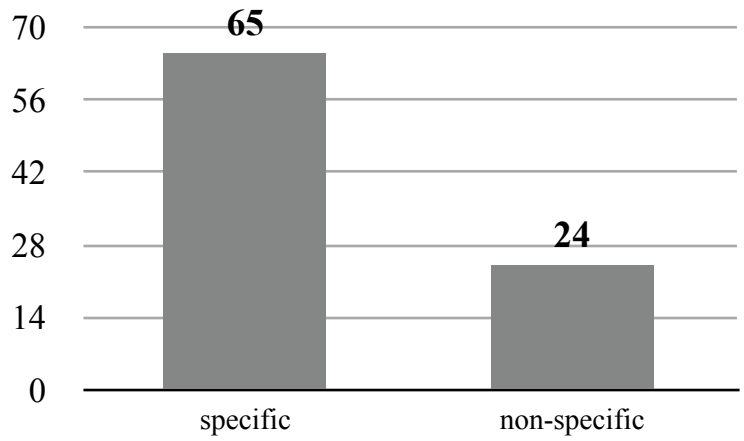

Figure 4-22. Distribution of specific and non-specific objects

To summarize this section: i) the subjects of *S enable N to do* construction are typically abstract nouns, ii) its objects are prototypically animate nouns, iii) almost half of the objects are pronouns, iv) the ratio of non-SAP in the object position is 80%, and v) most of the objects are specific.

4.3.1.2 Verbs and related topics

This section will examine verb, specifically i) the frequent semantic subdomains of verbs appearing in the *to do* part of the construction, ii) the distribution

of negative sentences, and iii) the distribution of the uses in various tenses as well as the patterns of the combinations of auxiliary verbs and the construction.

First, Figure 4-23 shows the frequent semantic domains of the verbs in *S enable O to do* construction. The figure clearly shows that activity verbs are the most frequent (64%).

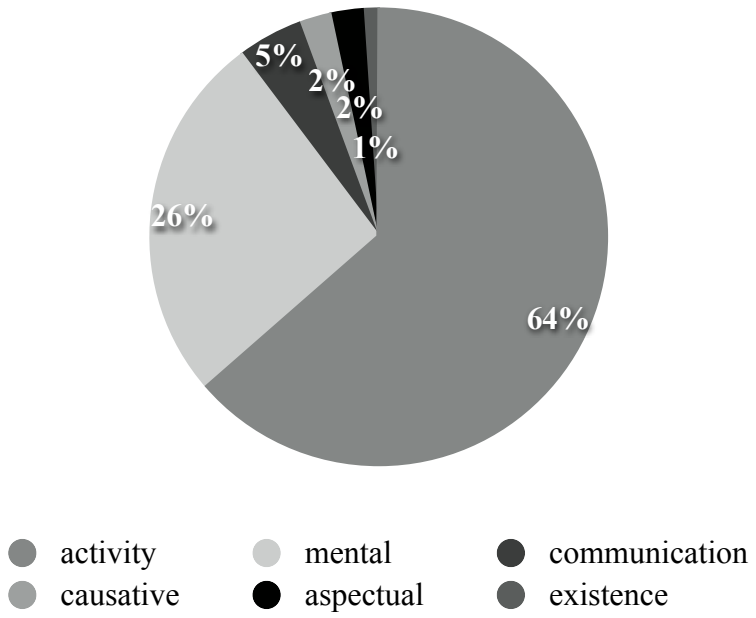

Figure 4-23. Frequent semantic domains of verbs

Compared to *be able to* and *be capable of*, the verbs co-occurring with *S enable O to do* show more variation. Verbs of existence, such as the one shown in (35a) and aspectual verbs as in (35b) are attested in the Brown and Frown corpora. Causative verbs are also found in the corpora as shown in (35c).

(35) a. While many African-Americans have moved up to the middle class, he writes, the important question is "what **enabled** some of them, a lower-class remnant, **to** *stay* behind in the ghetto? ..." [Frown G]

b. Still, the depth and breadth of Mr. Link's contacts and reading in Chinese

enable him **to** *keep* his pages livelier than most accounts from Beijing. [Frown C]

c. If the Dominican Republic achieves free, democratic government, it will be due in large part to the U. S. show of force that **enabled** President Balaguer **to** *prevent* a threatened restoration of Trujillo dictatorship. [Brown B]

Concerning semantic subdomains, three subdomains are frequent in activity verbs: the verbs of creation as shown in (36a), those of doing as in (36b), and those of motion as in (36c).

(36) a. Chance, he finds, **enables** him **to** *create* "a world beyond imagination". [Brown G]

b. Through thinking we apprehend a connection in experience that **enables** us **to** *act* intentionally. [Frown J]

c. One upward-mobile teacher may be a hard taskmaster for lower-class pupils because she wants them to develop the attitudes and skills that will **enable** them **to** *climb*, while another upward-mobile teacher may be a very permissive person with lower-class pupils because he knows their disadvantages and deprivations at home, and he hopes to encourage them by friendly treatment. [Brown J]

Unlike *be able to* and *be capable of*, one subdomain in mental verbs is frequent as well: the verbs of reasoning, an example of which is seen in (37).

(37) Instead, virtually all results were subjected to scrutiny that **enabled** us **to**

determine exactly which forces were, and which were not, driving the results.

[Frown J]

Second, there are few cases of negative sentences in *S enable O to do* construction. In the Brown and Frown corpora, there is only one instance of negative sentences, expressed in (38). This adds up to merely 0.97% of all instances[10].

(38) *No* load of sin had been laid on my shoulders, *nor* did earnest effort **enable** me **to** become conscious of one. [Brown G]

Finally, let us consider the distribution of the uses in various tenses and the patterns of the combinations with auxiliary verbs in *S enable O to do* construction. The result of the Brown and Frown corpora is shown in Figure 4-24. The graph clearly indicates that the majority of uses are in the present and past, with total uses amounting to 72%. Perfect systems are less used (9%) and the co-occurring auxiliary verbs of the construction has, surprisingly, only *would* in the corpora[11].

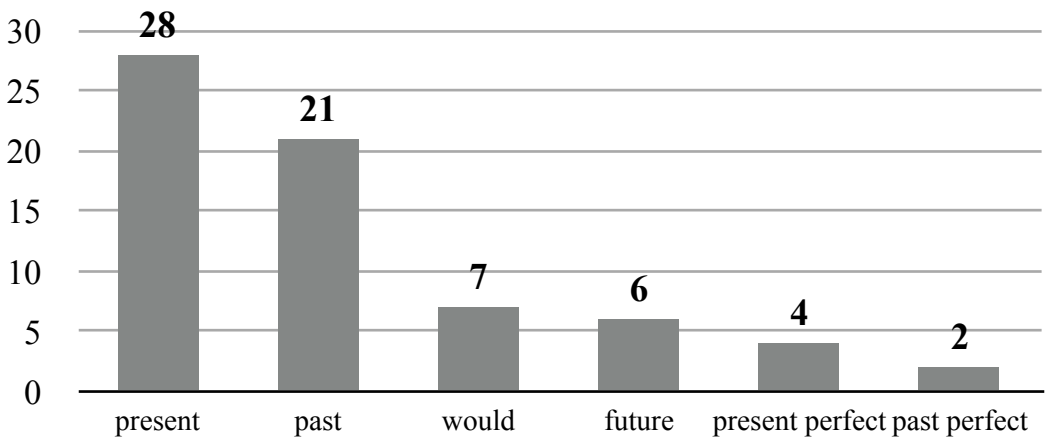

Figure 4-24. Distribution of the uses in various tenses and the patterns of the combinations with auxiliary verbs in *S enable O to do* construction

In short, the construction is used predominantly in the present and past. The choice of co-occurring auxiliary verbs is highly limited.

To summarize this section: i) the verbs of creation, doing, and motion are frequent semantic subdomains; ii) the construction is overwhelmingly used in declarative sentences with negative sentences being extremely rare; and iii) the construction is essentially used in the present and past tense.

These observations lead us to the basic pattern of *S enable O to do* construction. It is schematically represented in Figure 4-25. Other patterns such as those seen in (39) to (41) are very infrequent.

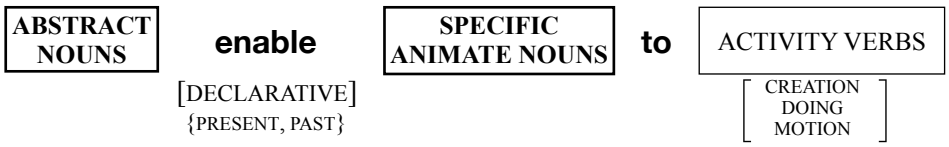

Figure 4-25. Frequent pattern of *S enable O to do* construction

(39) a. [**PEOPLE**] enable [**PEOPLE**] to do

b. = (33c) But in *The Transfiguration of the Commonplace* he tells us that by means of artistic theory *the artist* **enables** us "**to** see his way of seeing the world." [Frown G]

(40) a. [**THINGS**] enable [**PEOPLE**] to do

b. *The aluminum*, flush against the battens, acted as a fairing stick and **enabled** *me* **to** plane the chines and keelson to the proper bevels easily. [Brown E]

(41) a. [**ABSTRACT NOUNS**] enable [**ABSTRACT NOUNS**] to do

b. With lower levels, *thyroid hypertrophy and increased thyroid blood-flow*

enable *the thyroid* **to** accumulate a larger proportion of the daily intake of iodine. [Brown J]

4.3.2 Post-nominal modifications

This section will examine the post-nominal modifications by *S enable O to do* construction. The typical post-nominal modification by the construction and the prototypical pattern of relative clauses are the two major points to be addressed.

In the Brown and Frown corpora, there are 20 instances of relative clauses such as those seen in (42a) and (42b). There are, however, no other types of nominal modifications; i.e., only relative clauses are found in these two corpora[12].

(42) a. By 'culture' Hirsch doesn't mean 'high culture,' 'basic information,' the names and events [*that* **enable** us **to** decipher the world]. [Frown F]

b. What was missing in the Governor's argument, as in so many similar arguments, was a premise [*which* would **enable** one **to** make the ethical leap from what might be militarily desirable to what is right]. [Brown B]

Moreover, among the relative clauses of *S enable O to do* construction, 19 antecedents out of 20 cases are abstract nouns (95%). There is only one instance in which *things* is the subject of *enable* as can be seen in (43).

(43) Perhaps the outstanding standard bearer of Mr. Brown's tradition for accuracy was Mr. Oscar J. Beale, whose mechanical genius closely paralleled that of Mr. Brown, and whose particular forte was the development of *the exceedingly accurate measuring machinery* [that **enabled** Brown + Sharpe **to** manufacture

gages, and therefore its products, with an accuracy exceeding anything then available elsewhere in the world]. [Brown H]

Furthermore, there are more occurrences of *that*-relativizers such as can be seen in (44a) than there are *wh*-relativizers as in (44b). In the Brown and Frown corpora, out of 20 cases, 15 are relative clauses headed by *that* (75%). That is, *that*-relative clauses are preferred in *S enable O to do* construction.

(44) a. Instead, virtually all results were subjected to scrutiny [*that* **enabled** us **to** determine exactly which forces were, and which were not, driving the results]. [Frown J]

b. What was missing in the Governor's argument, as in so many similar arguments, was a premise [*which* would **enable** one **to** make the ethical leap from what might be militarily desirable to what is right]. [Brown B]

Finally, all relative clauses are those with subject gaps. Other gaps are not attested in the Brown and Frown corpora[13]. As a consequence, the part [**enable** obj. **to** do] is intact even after relativizations; namely, they preserve their structures[14]. This structural pattern might indicate that the functional constraint exists in this construction which does not make the construction more complex (i.e., more difficult to process). Namely, there is a tendency in this construction that avoids additional complexities by relativizations because the construction (*S enable O to do*) itself is already complicated.

These three points allow us to realize the frequent pattern of the relative clauses in which *S enable O to do* construction appears. Figure 4-26 illustrates this pattern.

Figure 4-26. Frequent pattern of the relative clauses in which *S enable O to do* construction appears

4.3.3 Other results

This section will explore five points: i) the pattern of the uses of adverbial participle clauses, ii) the objects of prepositions, iii) the patterns of the uses of *to*-infinitives, iv) the passive of *enable*, and v) *can enable*.

First, there are ten instances of adverbial participle clauses in the Brown and Frown corpora, an example of which is shown in (45). All of these are simple postposing patterns[15]. In the traditional types of grammar (e.g. Ando 2005), this pattern is explained as "attendant circumstances." It seems, however, the function of all examples is simply to add information to the preceding clauses, roughly paraphrasable as "..., and enable O to do."

(45) They will go along with special training programs and financial assistance, **enabling** the previously shackled **to** catch up with those who are ahead because of earlier unfair advantages. [Frown G]

Second, there are four cases in the Brown and Frown corpora in which the construction functions as the object of prepositions (*prep. enabling O to do*), an example of which is shown in (46).

(46) Reason can assist faith *by* **enabling** it **to** construct apologetic arguments and

theological systems. [Frown D]

Third, there are four patterns in the uses of *to*-infinitives in the Brown and Frown corpora. Table 4-5 shows the frequency of each use.

pattern	tokens
purpose/result	9
enough/ sufficient ... to enable O to do	2
S be to enable O to do	1
V to enable O to do	1

Table 4-5. Patterns in the uses of *to*-infinitives

The most frequent pattern is adverbial *to*-clauses expressing purpose/result as shown in (47a). Other infrequent patterns are: *enough...to...*, seen in (47b), the complements of subjects, seen in (47c), and the complements of verbs, seen in (47d).

(47) a. Each installation is connected with proper secondary service voltage *to* **enable** employees **to** train under field conditions. [Frown E]

b. It was dark inside the room but *enough* light spilled from the restaurant behind her *to* **enable** her **to** make out a round table with a green cloth top. [Brown L]

c. For what we propose, however, a psychoanalyst is not necessary, even though one aim *is to* **enable** the reader **to** get beneath his own defenses- his defenses of himself to himself. [Brown G]

d. Murdoch's News Corp., was the first to begin electronic mapping of

Japanese cities in 1987, *hoping to* **enable** ambulance services and others **to** find addresses on computer screens. [Frown F]

Fourth, we will consider the passive form of *enable N to do* construction. As discussed in Chapter 2, Konishi ed. (1980: 486) notes that *enable* can be passivized, citing the definition, expressed in (48a), and the example from *Webster's Third New International Dictionary of the English Language*, shown in (48b). The only actual example from the corpora is shown in (48c).

(48) a. "give the opportunity to do; ALLOW"

b. examinations so designed that high-school graduates **are enabled to** pass [*Webster's Third New International Dictionary of the English Language*]

c. "...; he could be helped in a certain way only because he was hurt in a certain way; and his help *is simply to* **be enabled to** move from one conundrum to the next." [Frown G]

Fifth, there is an interesting combination of *can* and *enable*, shown in (49), which may be termed "double capability-constructions." One case is found in the Brown and Frown corpora. The frequency is rather low. It might be argued that this *can* is added to emphasize the capability expressed in the subjects of sentences[16, 17, 18].

(49) Only our consciousness of the holy *can* **enable** us **to** desacralize and rehabilitate the sacred so as to open a social order to further development in the name [Frown D]

4.3.4 Genre analysis

This section will provide a brief discussion on genre analysis. Table 4-6 shows the number of actual tokens and that of normalized tokens per million words. Figure 4-27 represents the data (concerning normalized tokens) in Table 4-6 in the form of a bar graph.

GENRE	actual tokens	normalized tokens
Fiction	6	24
Press	15	85
Prose	53	129
Learned	19	119

Table 4-6. Frequency of *S enable O to do* in four genres

From this graph, *S enable O to do* is considered to be the most frequent roughly in both Prose and Learned. This is followed by Press while Fiction is low in frequency. These observations suggest that *S enable O to do* is preferred in both Prose and Learned.

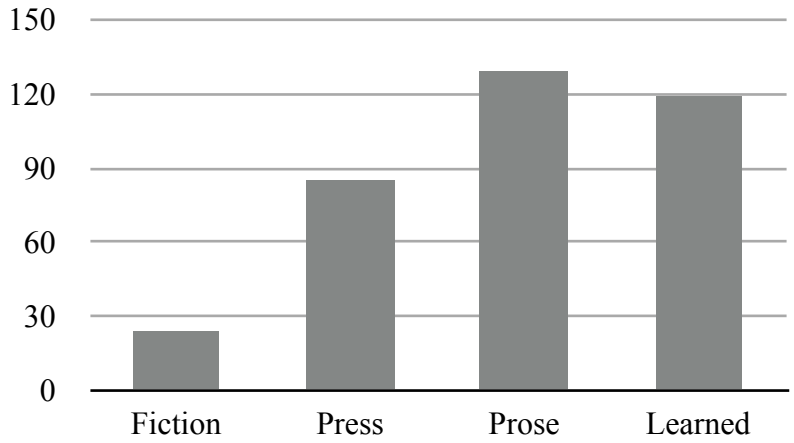

Figure 4-27. Frequency of *S enable O to do* in four genres

4.4 *it be possible (for N) to do* construction

This section will examine *it be possible (for N) to do* construction. There are seven points of focus: i) the possibility reading of the construction, ii) the distribution of the uses in various tenses, iii) the pattern of the combinations with auxiliary verbs, iv) four topics on subjects (the semantic properties of subjects, the frequency of the use of pronouns in the subject position, the ratio of SAP and non-SAP in the subject position, and the specificity of subjects), v) the frequent semantic subdomains of verbs; vi) post-nominal modifications, and vii) genre analysis.

First, the *it be possible for N to do* pattern sometimes exhibits possibility, as is pointed out by Quirk et al. (1985: 221-222) (cf. Chapter 2). Table 4-7 shows the distribution of possibility and capability reading in the Brown and Frown corpora.

	it be possible for N to do		*it be possible to do*	
	possibility	capability	possibility	capability
question	0	3	0	1
negative	0	7	0	15
declarative	5	0	0	67

Table 4-7. Distribution of possibility and capability reading

No examples are found with possible reading in the *it be possible to do* pattern. All cases are in capability reading as seen in (50).

(50) Indeed **it is possible to** separate electron paramagnetic from nuclear effects.

[Brown J]

Furthermore, no examples are found with capability reading in the *it be possible for N to do* pattern in declarative clauses. Possibility reading, such as that seen in (51), is found only in declarative clauses.

(51) In this class, **it is possible for** there **to** exist nontrivial factors and commuting transformations: the square of a rank one mixing transformation and certain two point extensions of a rank one mixing transformation are rank two mixing [2].

[Frown J]

In sum, there seems to be a division of labor in the construction. Namely, the *it be possible to do* pattern mainly exhibits capability while possibility reading is restricted to the declarative clauses of the *it be possible for N to do* pattern.

Second, the distribution of the uses in various tenses will be considered. The results of the Brown and Frown corpora are shown in Figure 4-28.

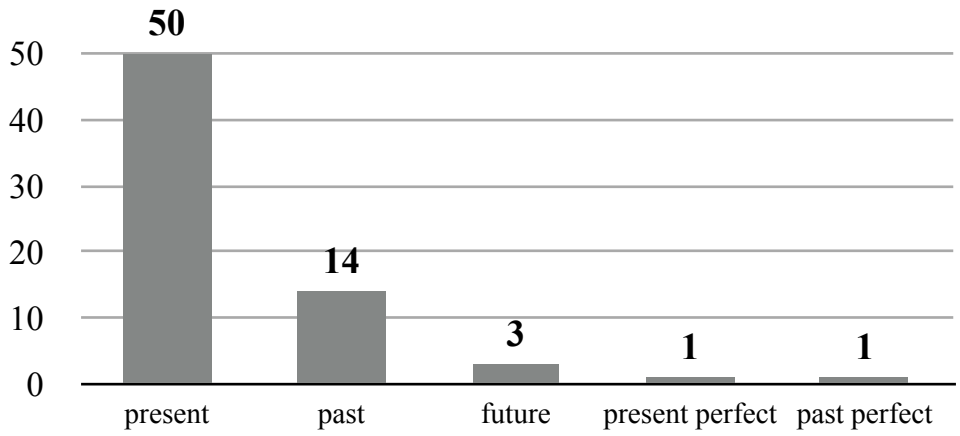

Figure 4-28. Distribution of the uses in various tenses

As is clear from the graph, this construction is overwhelmingly used in the present tense (72%). This is followed by the past tense (20%). In total, these two tenses make

up 92% of its use. Other tenses (future, present perfect, and past perfect) are very infrequent. Perfect systems are especially low in frequency, each occurring only once in the corpora. This suggests that the perfect systems as seen in (52) appear to be avoided in this construction as well. The reason for this might be similar to that of *S enable O to do* construction: to avoid becoming more complex since *it be possible (for N) to do* construction is already sufficiently complex.

(52) a. By strengthening the differentiability assumption, **it has been possible to** derive second and higher order theories of viscoelasticity. [Brown J]

b. Up until that time **it had been possible to** make cutters for making gear teeth, but they were good for only one sharpening. [Brown H]

Since the combinations of perfect systems with *be able to* are more frequent than *it be possible (for N) to do* construction, this result does not mean perfect systems and *capability*-constructions are incompatible in general. Rather, it is regarded as one of the characteristics of this construction.

Third, the patterns of the combinations of the construction with auxiliary verbs will be examined. These patterns are shown in Figure 4-29.

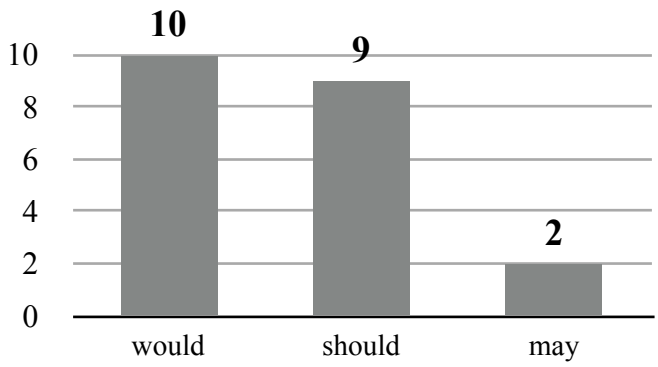

Figure 4-29. Patterns of the combinations of the construction with auxiliary verbs

The graph clearly indicates that in the Brown and Frown corpora the construction combines merely with *would*, *should*, and *may* as shown in the examples in (53)[19]. This limited set of co-occurring auxiliary verbs is another characteristic of the construction.

(53) a. By the universal application of scientific method, positivists believed, **it** *would* **be possible to** dispel the dark clouds of dogma and inaugurate a bright new era of free assent to universally acknowledged truth. [Frown D]

b. **It** *should* **be possible to** prepare very pure chlorine by oxidation of inorganic chlorides on a vacuum system followed by multiple distillation of the liquid. [Brown J]

c. Furthermore, **it** *may* **be possible to** estimate the error due to bias in method (as distinguished from sampling error) in each of these sources, on such subjects as fertility, mortality, and migration during a given interval by using information from two largely independent sources in conjunction. [Brown J]

In addition, it is interesting to note that this construction differs in co-occurring auxiliary verbs according to each pattern. This is shown in Table 4-8.

it be possible for N to do	*it be possible to do*		
would	should	would	may
4	9	6	2

Table 4-8. Distribution of modal auxiliary with sub-patterns

Table 4-8 clearly shows that the *it be possible for N to do* pattern co-occurs only with *would*, while the *it be possible to do* pattern combines with three auxiliary verbs. This suggests that the more complex pattern opts for fewer choices in auxiliary verbs and vice versa. This makes the total degree of complexity constant across patterns. One should note that the most frequent auxiliary verbs differ in the respective patterns: for the *it be possible for N to do* pattern, it is *would* and for the *it be possible to do* pattern, it is *should*.

Fourth, four topics on subjects will be examined. To begin, Figure 4-30 shows the distribution of the semantic subjects of *it be possible for N to do* construction (i.e., N in the *for N* part) based on semantic properties.

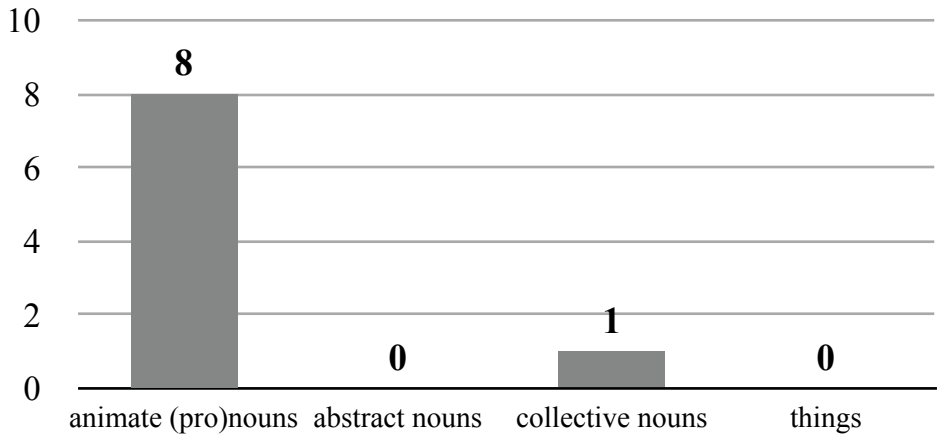

Figure 4-30. Distribution of the subjects (including pronouns) based on semantic properties

The figure clearly shows that animate (pro)nouns are overwhelmingly dominant (91%) while abstract nouns and things are not attested in the corpora. Thus, the most typical semantic subjects of *it be possible for N to do* construction are considered to be animate (pro)nouns.

Furthermore, let us consider the frequency of pronouns in the semantic subjects

(i.e., *for N*). Pronouns in this postion amount to four instances out of a total of nine cases (44%). Since this type of frequency implies the degree to which a construction is colloquial (cf. Chapter 3), this percentage suggests that this construction is neutral with respect to the degree of colloquiality.

In addition, Figure 4-31 shows the ratio of SAP and non-SAP in *it be possible for N to do* construction.

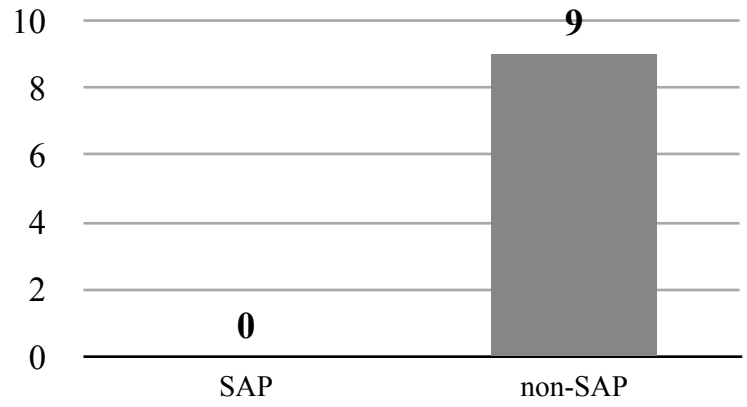

Figure 4-31. Ratio of SAP and non-SAP subjects

As is clear from the figure, all of the cases are non-SAP (100%). Since the higher ratio of non-SAP suggests that the content of a sentence is oriented toward the outer world, *it be possible for N to do* construction is considered to usually describe the outer world, not the inner, of a speaker or a hearer. This exclusive occurrence of non-SAP suggests that the *it be possible for N to do* pattern has an impersonal nuance. The word "impersonal" means to be "having no personal feeling or reference" (COD[8]). In short, there is no reference to any particular person. Hence, the construction has a somewhat detached and objective shade of meaning to it.

Finally, Figure 4-32 shows the distribution of the specificity of the semantic subjects of the *it be possible for N to do* pattern. As is clear from the figure, specific

subjects are extremely frequent (78%). The *it be possible for N to do* pattern has a tendency to be used with specific subjects, which means that its semantic subjects tend to be identifiable (cf. Halliday 1994: 181).

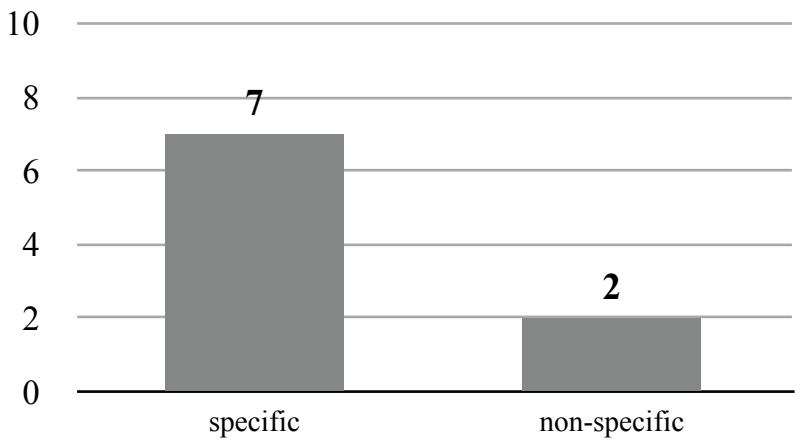

Figure 4-32. Distribution of specific and non-specific subjects

Fifth, Figure 4-33 shows the frequent semantic domains of the verbs in *it be possible (for N) to do* construction.

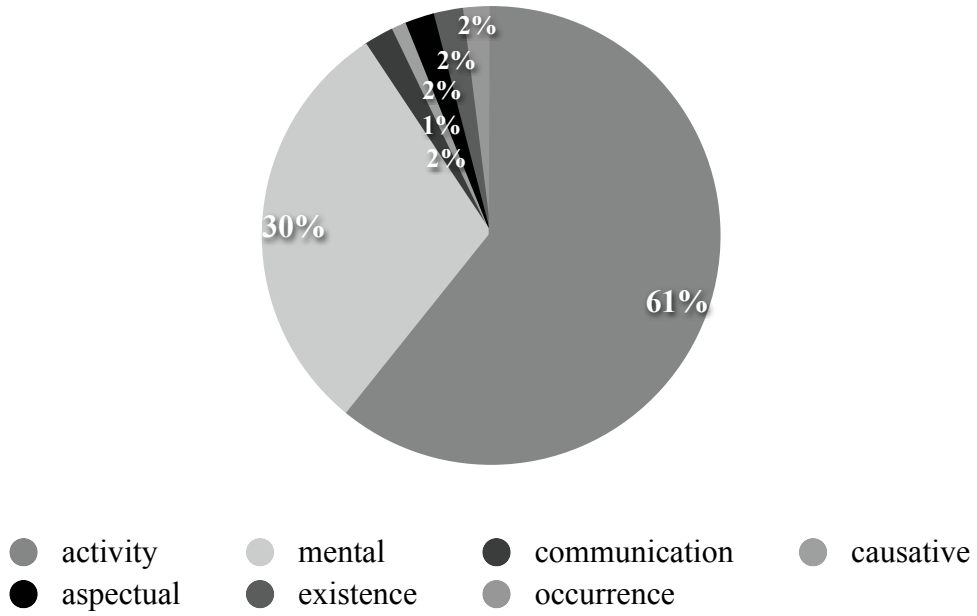

Figure 4-33. Frequent semantic domains of verbs

The figure clearly shows that activity verbs are the most frequent. Compared to *be able to* and *be capable of*, the verbs co-occurring with *it be possible (for N) to do* show more variation. Verbs of existence, an example of which is shown in (54a) and those of occurrence as in (54b) are attested in the Brown and Frown corpora. Verbs of aspect are also found in the corpora as shown in (54c).

(54) a. Nor would **it be possible** in many cases **for** them **to** *live in* health or any effectiveness on what their counterparts abroad are paid. [Brown D]

b. **Was it** really **possible for** a heterosexual black male **to** *grow up* in a slave society without being affected by the earthly values of plantation sexuality? [Frown G]

c. Nevertheless, as parasitologists have always been concerned with the influence of climatological effects on different parasite species, **it is possible to** *begin* to speculate on the ways that global warming might affect the distributions of some specific tropical diseases. [Frown J]

Concerning semantic subdomains, three subdomains are frequent in activity verbs: the verbs of breaking as shown in (55a), those of acquisition as in (55b), and those of motion as in (55c).

(55) a. In many cases **it is** not **possible to** *divide* the process into a finite number of discrete stages, since the state of the stream is transformed in a continuous manner through the process. [Brown J]

b. It's not easy, at this distance from the year 900, to define the relationship between the old priest Ixbalanque and the young king Nopiltzín, but **it is**

possible to *gain* some idea of the story from what the old murals show and what the archaeologists have been able to uncover. [Frown N]

c. "We must have faith in somebody — on the local level, and **it wouldn't be possible for** everyone **to** *rush to* a school to get their children". [Brown A]

Unlike *be able to* and *be capable of*, one subdomain in mental verbs is frequent as well: the verbs of reasoning, an example of which is provided in (56).

(56) By means of charts showing wave-travel times and depths in the ocean at various locations, **it is possible to** *estimate* the rate of approach and probable time of arrival at Hawaii of a tsunami getting under way at any spot in the Pacific. [Brown F]

These points lead to the frequent pattern of *it be possible (for N) to do* construction as shown in Figure 4-34.

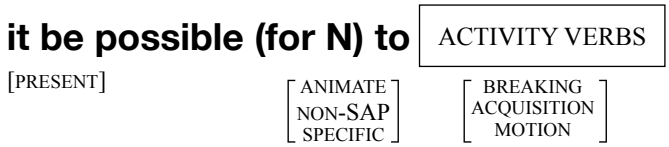

Figure 4-34. Frequent pattern of *it be possible (for N) to do* construction

Sixth, there are only three cases of post-nominal modifications in Brown and Frown corpora, which can be seen in (57). (57a) and (57b) are modifications by adverbial relative clauses and (57c) is by adjectival *to*-infinitives.

(57) a. The paper has a certain value as a comparatively easy introduction to this

approach, particularly since it treats *a fairly simple and straightforward phenomenon* [where **it is possible to** compare it with a more traditional (though not structural) statement]. [Brown J]

b. The cubist generation before World War I, and, on a lower level, the surrealists of the period between the wars, both assumed *an accepted universe of discourse*, [in which, to quote Andre Breton, **it was possible to** make definite advances, exactly as in the sciences]. [Brown J]

c. Designers and manufacturers have produced models for purchasers who run the gamut from a nautical version of the elderly Pasadena lady who never drove more than five miles an hour on her once-a-month ride around the block, to the sportiest boatman who insists on *all the dash, color, flair and speed* [**possible to** encompass in a single boat]. [Brown E]

The reason why the attested number of instances is small in number is because the construction itself is originally relatively complex compared to *be able to* or *be capable of*. If this construction is embedded in relative clauses, the degree of complexity will increase accordingly. Thus, the construction is considered to have a tendency to avoid being more complex. As a result, there are only few cases.

Two more points are worth mentioning. One is that all instances are the post-nominal modifications of non-subject gaps. This is the opposite of *S enable O to do* construction, which strongly prefers subject gaps. The other is that all instances are *(it is) possible to do* patterns, which are less complex than the *(it is) possible for N to do* pattern. On the surface, the former point runs counter to the situation of *enable*. However, the principle behind this is actually the same: to preserve structure as much as possible. The motivation of the latter point is to make the degree of complexity

constant. If the complexity of the construction increases by relativization as a whole, the construction embedded in the relative clauses becomes less complex to compensate for the complexity resulting from the relativization. Therefore, the reason of the latter and that of the scarceness of number of instances mentioned above are two sides of the same coin. In sum, the commonality of these three phenomena is to avoid being more complex.

Seventh, concerning genre analysis, Table 4-9 shows the number of actual tokens and that of normalized tokens per million words. Figure 4-35 represents the data (concerning normalized tokens) in Table 4-9 in the form of a bar graph.

GENRE	actual tokens	normalized tokens
Fiction	10	40
Press	7	40
Prose	38	92
Learned	42	236

Table 4-9. Frequency of *it be possible (for N) to do* in four genres

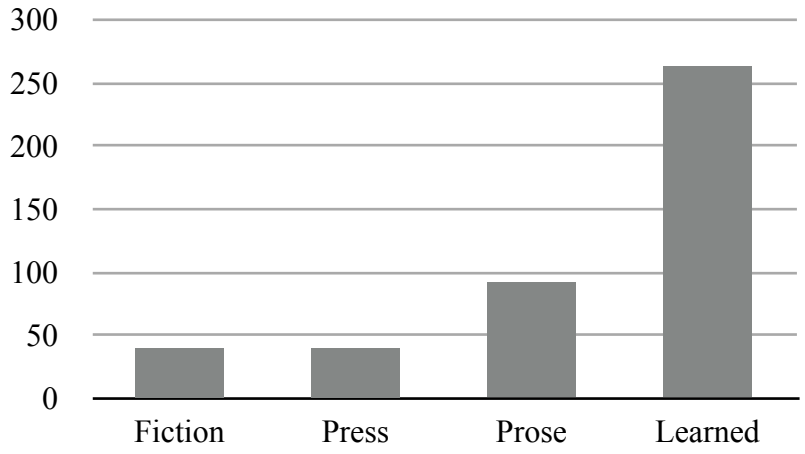

Figure 4-35. Frequency of *it be possible (for N) to do* in four genres

This graph clearly shows that *it be possible (for N) to do* construction is overwhelmingly frequent in Learned (academic prose). Its frequency is much lower in the other three genres. This suggests that *it be possible (for N) to do* construction is strongly preferred in Learned (academic prose).

4.5 *make it possible (for N) to do* construction

This section will analyze *S make it possible (for N) to do* construction. The points to be discussed are: i) the properties of subjects and nouns in the *for N* part of the construction, ii) verbs and related topics, iii) two asymmetries found in two patterns (*S make it possible for N to do* vs. *S make it possible to do*), and iv) the patterns of post-nominal modifications and non-finite clauses. In total, there are 26 occurrences of the construction in the Brown and Frown corpora. Unlike the *it be possible for N to do* pattern, there is no case of a *make it possible (for N) to do* pattern with a possible reading in the corpora[20].

4.5.1 The properties of subjects and nouns in the *for N* part of the construction

This section will consider the semantic properties of subjects and four properties of the nouns in the *for N* part of the construction. First, the semantic properties of the subjects of *S make it possible (for N) to do* construction will be discussed. Figure 4-36 shows the number of occurrences in the Brown and Frown corpora. It clearly indicates that the overwhelming cases of subjects are abstract nouns (82%) as shown in (58a). Other types of subjects, for example, collective nouns as shown in (58b), and things, as shown in (58c), are very infrequent. Unlike *S enable O to do* construction, there are no animate nouns in subjects.

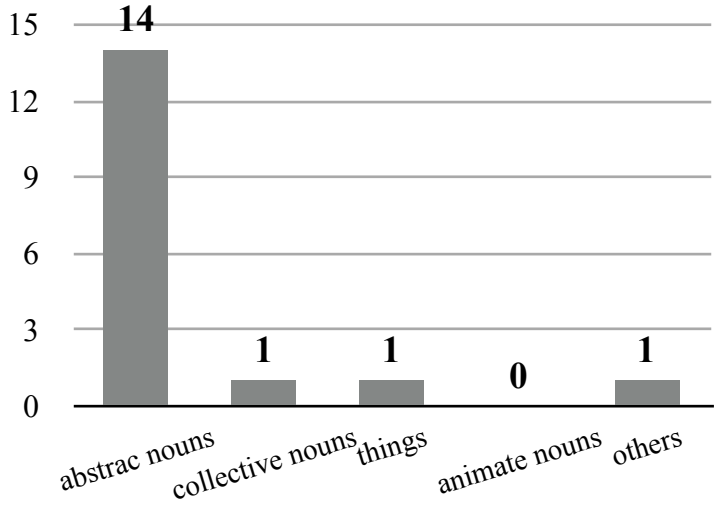

Figure 4-36. Distribution of subjects based on semantic properties

(58) a. *The introduction of the United States Pharmacopoeia reference standard in 1952 and the redefinition and equating of the ~USP and international units of thyroid-stimulating activity* **have made it possible to** compare results published by different investigators since that time. [Brown J]

b. For those who "like poetry but never get around to reading it", *the Library of Congress* **makes it possible for** poets **to** be heard reading their own work. [Brown B]

c. *The newly completed Danbury and Norwalk Railroad* **made it possible for** people **to** travel to the celebration from every part of the state. [Frown G]

Concerning the second point of this section, the nouns in the *for N* part of *S make it possible (for N) to do* construction are the semantic subjects of the verbs appearing in the *to do* part of the construction (cf. the Jespersen's *nexus*). Of specific focus here is the semantic properties of nouns, the frequency of the use of pronouns, the ratio of SAP and non-SAP, and the specificity of nouns in the *for N* part.

To begin, Figure 4-37 shows the distribution of nouns in the *for N* part (including pronouns) based on semantic properties. The figure clearly shows that animate (pro)nouns are extremely frequent (85%). The distribution stands in stark contrast to that of the subjects of the construction in that abstract nouns are the most frequent in subjects (82%) while there are no animate nouns.

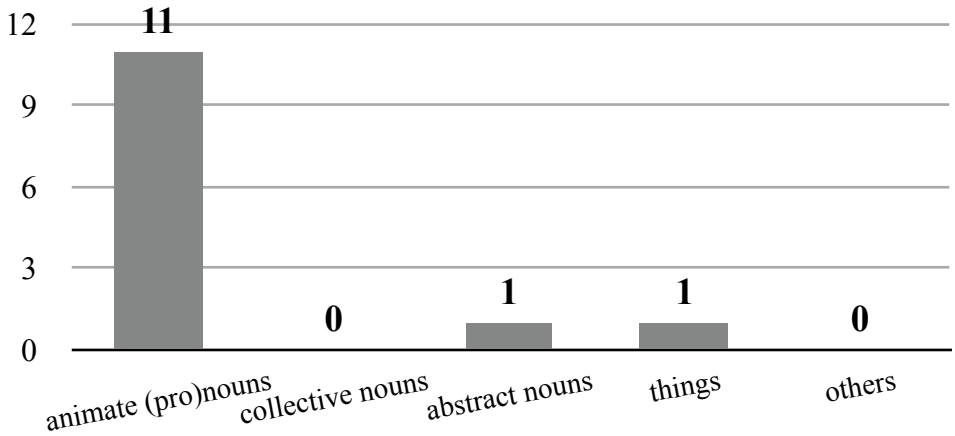

Figure 4-37. Distribution of nouns in the *for N* part (including pronouns) based on semantic properties

Furthermore, the frequency of pronouns in nouns in the *for N* part will be considered. Pronouns in that part of *S make it possible (for N) to do* construction make up four cases out of total 13 total (31%). This percentage is similar to that of *be capable of*. Since this type of frequency implies the degree to which a construction is colloquial (cf. Chapter 3), this percentage suggests that like *be able to* and *be capable of*, *S make it possible (for N) to do* is less colloquial or more formal than capability *can*.

In addition, Figure 4-38 shows the ratio of SAP and non-SAP in *S make it possible (for N) to do* construction. As is clear from the figure, the ratio of non-SAP is predominant (92%). It is noteworthy that there is only one SAP, as shown in (59), in

the corpora.

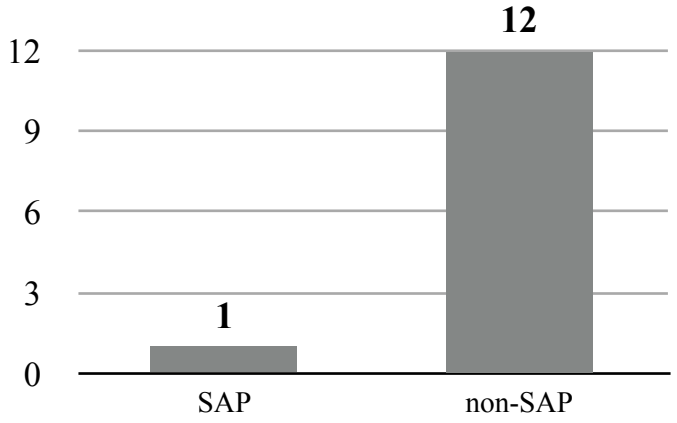

Figure 4-38. Ratio of SAP and non-SAP subjects

(59) Fray said, "I asked myself, what would it take to **make it possible for** ***me*** **to** continue to align myself with a party that limits my life? ..." [Frown A]

Since the higher ratio of non-SAP suggests that the described content of a sentence is oriented toward the outer world, *S make it possible (for N) to do* construction tends to express the outer world, not the inner world of a speaker or a hearer.

Finally, Figure 4-39 shows the distribution of the specificity of the nouns in the *for N* part of *S make it possible (for N) to do* construction.

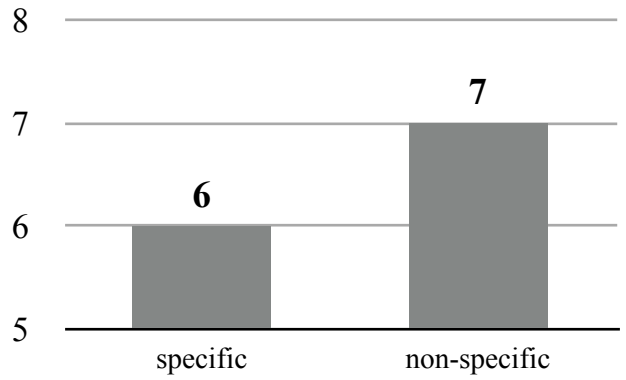

Figure 4-39. Distribution of specific and non-specific nouns in the *for N* part

As is clear from the figure, specific nouns are slightly more frequent (54%) than no-specific nouns. In the case of *be able to*, the ratio of specific subjects is 76% while that of capability *can* is 57%. *S make it possible (for N) to do* is analogous to capability *can* in this regard.

To summarize this section: i) the subjects of *S make it possible (for N) to do* construction are typically abstract nouns, ii) the nouns in the *for N* part of the construction (i.e., the semantic subjects of the *to do* part of the construction) are prototypically animate nouns, iii) the ratio of pronouns of those nouns in the *for N* part is not high (31%), iv) the nouns in the *for N* part are predominantly non-SAPs, and v) the ratio of the specificity of the semantic subjects of the *to do* part of the construction (i.e., the nouns in the *for N* part) is similar to capability *can*.

4.5.2 Verbs and related topics

This section will provide a description on verbs and related topics, including the frequent semantic subdomains of verbs appearing in the *to do* part of the construction and the distribution of the uses in various tenses as well as the patterns of the combinations of auxiliary verbs and the construction.

First, Figure 4-40 shows the frequent semantic domains of the verbs in *S make it possible (for N) to do* construction. The figure clearly shows that activity verbs are the most frequent. Compared to other constructions, the verbs co-occurring with *S make it possible (for N) to do* show more variation. Verbs of existence as in (60a) and aspectual verbs as in (60b) are attested in the Brown and Frown corpora. Occurrence verbs are also found in the corpora, an example of which is shown in (60c). Unlike other constructions, however, there are no communication verbs.

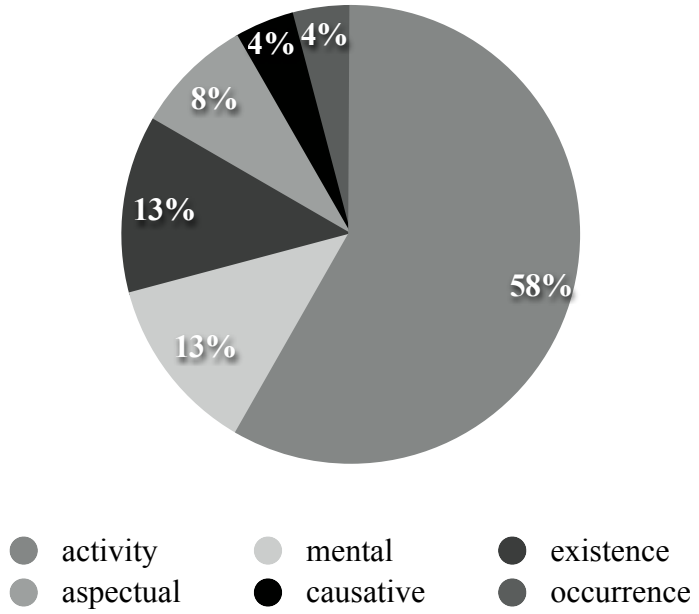

Figure 4-40. Frequent semantic domains of verbs

(60) a. They were there this winter to urge Congress to enact the Bankhead-Jones Farm Tenant Bill, which was designed, they had heard, to **make it possible for** them **to** *make their living* as farmers, the only thing they knew how to do, and get off the relief rolls. [Frown L]

b. It was improvements in other fields that **made it possible for** its crews **to** successfully *complete* the flight to Hawaii more often than not]. [Frown E]

c. They neglected to seize Yeltsin immediately, thus **making it possible for** him **to** *become* the focal point of resistance. [Frown G]

Concerning semantic subdomains, there are not any frequent subdomains due to the small number of the attested cases (26 instances).

Second, let us consider the distribution of the uses in various tenses and in the combinations with auxiliary verbs in *S make it possible (for N) to do* construction. Figure 4-41 shows the result of the Brown and Frown corpora. As is clear from the

figure, the ratio of uses is, in descending order, present (37%), past (26%), present perfect (21%), and future (5%). In addition, there is no attested case of the past perfect in the corpora. Furthermore, the construction seems to occur only with *would* and *should* when it combines with auxiliary verbs as shown in (61)[21]. In short, the construction is used mainly in the present, past, and present perfect. Other tenses (future, past perfect) and the combination with auxiliary verbs are very infrequent. The choice of co-occurring auxiliary verbs is highly limited.

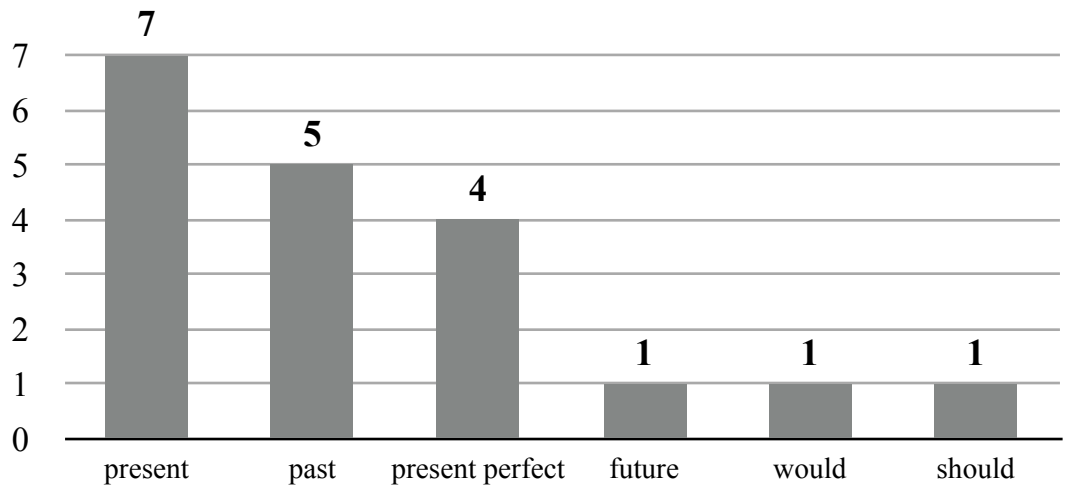

Figure 4-41. Distribution of the uses in various tenses and in the combinations with auxiliary verbs

(61) a. They argue further (and somewhat contradictorily) that our knowledge and resources in preventive medicine *would* **make it possible to** control such an outbreak of disease. [Brown J]

b. In spite of this, the very large radio reflectors and improved amplifying techniques which are now becoming available *should* **make it possible to** observe the radio emission of most of the planets in a few years. [Brown J]

These limited patterns of occurrences in tense and the combination with auxiliary verbs might suggest that *make it possible (for N) to do* construction avoids being more complex. The construction itself is complex from the beginning in comparison to other verbs involving *to*-infinitives (*want to* or *hope to*, for instance). If there are many options for the selection of auxiliary verbs, it might cause the encoding process or speakers to be more time-consuming. It will be easier to decode and encode if only restricted sets of potential options for expressions are available to speakers.

These observations will lead us to the basic pattern of *make it possible (for N) to do* construction as schematically represented in Figure 4-42.

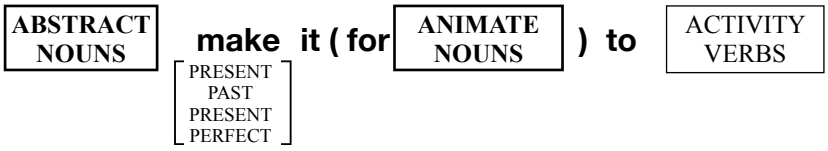

Figure 4-42. Frequent pattern of *make it possible (for N) to do* construction

4.5.3 post-nominal modifications and the patterns of non-finite clauses

This section will discuss the patterns and the characteristics of post-nominal modifications and the patterns of non-finite clauses.

First, only two relative clauses, as seen in (62), are attested as post-nominal modifications in the Brown and Frown corpora. Both are headed by the *that*-relativizer and involve subject gaps. Adjectival *to*-infinitives or adjectival participle clauses are not found in the corpora[22].

(62) a. The rain lets up after 20 minutes and Emil says it is time to put on crampons, *the steel-toothed footgear* [that **make it possible to** walk or climb on ice]. [Frown F]

b. *Simple systems* are available [that **make it possible for** urethane foam components **to** be poured, pumped, etc., into a void where they foam up to fill the void.] [Brown J]

This situation is the same as that of *S enable O to do* construction. It is possible to argue that the construction avoids becoming more complex by relativizations since the degree of its complexity is already high. Namely, originally complex constructions (i.e., *enable O to do* and *make it possible (for N) to do* constructions) prefer a simpler strategy to be relativized.

Second, the attested patterns of *ing*-clauses are only adverbial participle clauses, one of which can be seen in (63). Additionally, all three cases of adverbial participle clauses are of a simple postposing type. No other types are found in the corpora, which has the same tendency as *enable O to do* construction. Moreover, there are no cases in which *S make it possible (for N) to do* construction functions as the object of prepositions[23].

(63) They neglected to seize Yeltsin immediately, thus **making it possible for** him **to** become the focal point of resistance. [Frown G]

Third, the attested patterns of *to*-infinitive clauses in the corpora are adverbial *to*-infinitive clauses expressing purpose and the complements of copula *be* and an idiomatic expression such as those seen in (64).

(64) a. Many were there as representatives of friends and neighbors who had collected money *to* **make it possible for** them **to** come — and, even so,

some of them had ridden in boxcars or hitchhiked. [Frown L]

b. The basic objectives in each instance *are* to make available supplies of food during the intervals between harvesting or slaughter, to minimize losses resulting from the action of microorganisms and insects, and *to* **make it possible to** transport foods from the area of harvest or production to areas of consumption. [Brown J]

c. Fray said, "I asked myself, what would it take *to* **make it possible for** me **to** continue to align myself with a party that limits my life? ... " [Frown A]

4.5.4 Two asymmetries in two sub-patterns

This section will examine two asymmetries found in two sub-patterns (*S make it possible for N to do* vs. *S make it possible to do*). The first asymmetry concerns the variations of tense and auxiliary verbs that appear in two sub-patterns. Table 4-10 shows this asymmetry.

	variations in tense and auxiliary verbs
make it possible for N to do	present, present perfect, past
make it possible to do	future, present, present perfect, past, *would*, *should*

Table 4-10. Variations in tense and auxiliary verbs in two sub-patterns

Table 4-10 clearly shows that more options are available to *S make it possible to do* than to *S make it possible for N to do*. What this asymmetry might indicate is that there is a tendency in which the more complex structures (*make it possible for N to do*) have fewer options than the corresponding less complex ones (*make it possible to do*).

The second asymmetry involves the relation of finiteness and the complexity of a sub-pattern, illustrated in Figure 4-43.

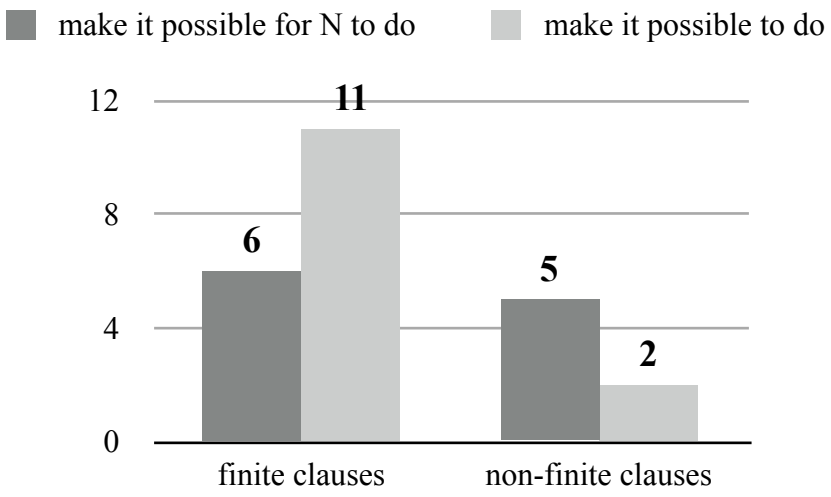

Figure 4-43. Frequency of each sub-pattern based on finiteness

It clearly shows that *make it possible to do* is more frequent in finite clauses while *make it possible for N to do* is more frequent in non-finite clauses. Namely, the less complex sub-pattern appears in finite clauses while the more complex one appears in non-finite clauses. Alternatively, the more complex environment (*main clauses*) opts for a simpler pattern (*make it possible to do*) while the simpler environment (*non-finite clauses*) does so for a more complex one (*make it possible for N to do*). This indicates that the degree of complexity of a pattern is the key to determining the environment in which the pattern occurs and vice versa. The essence is represented in (65). Bold font specifies the more frequent pattern.

(65) finite clauses: ***make it possible to do*** > *make it possible for N to do*

non-finite clauses: *make it possible to do* < ***make it possible for N to do***

4.5.5 Genre analysis

This section provides a brief discussion on genre analysis. Table 4-11 shows the number of actual tokens and that of normalized tokens per million words. Figure

4-44 represents the data (concerning normalized tokens) in Table 4-11 in the form of bar graph.

GENRE	actual tokens	normalized tokens
Fiction	2	8
Press	4	23
Prose	13	32
Learned	7	44

Table 4-11. Frequency of *S make it possible (for N) to do* in four genres

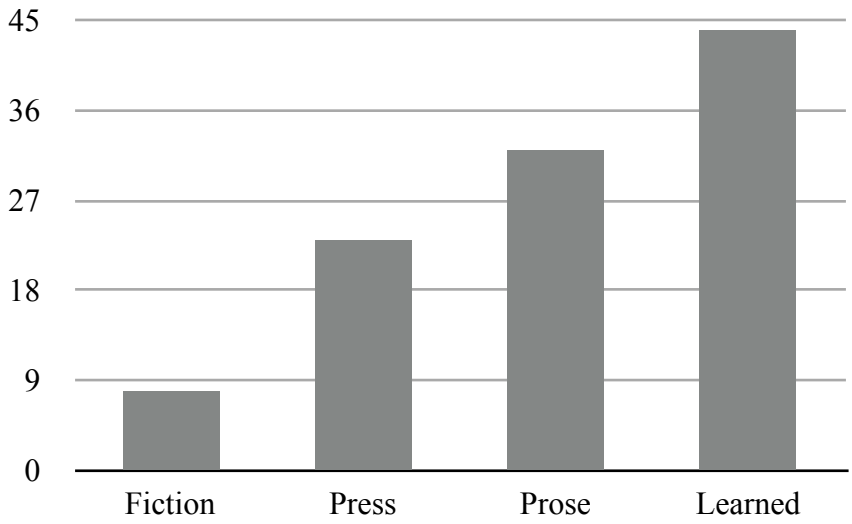

Figure 4-44. Frequency of *S make it possible (for N) to do* in four genres

This graph clearly shows that *S make it possible (for N) to do* is the most frequent in Learned (academic prose). Prose is the second most frequent while Fiction is low in frequency. These observations suggest that *S make it possible (for N) to do* is preferred in Learned.

4.6 Summary

This chapter has provided a data-oriented description of five English *capability*-constructions. Below is a brief summary of each construction.

• *be able to do* construction

Section 4.1 has shown that i) the frequency hierarchy of three major uses is: substitution use > the alternative use of *could* > use in present, ii) the frequency hierarchy of the substitution function of auxiliary verb *can* is: auxiliary verbs > future and present perfect > past perfect, iii) the auxiliary verbs frequently combined are those of obligation and certainty, iv) the non-finite forms are used in multiple grammatical contexts such as the objects of prepositions, the complements of verbs, verbless adverbial clauses, adverbial and nominal *to*-infinitive clauses, the complements of copula *be*, and the *enough/sufficient/too... to* pattern, all of which are low in frequency, and v) there are two types of post-nominal modification: *NP [able to do] and NP [REL ... be able to do ...]*.

This section has also examined the use of the construction in the present tense. Major points concerning this show that i) animate (pro)nouns are overwhelmingly dominant (76%), ii) the ratio of pronouns in the subject position amounts to 40%, iii) the ratio of non-SAP in the subject position is 81%, iv) specific subjects are extremely frequent (76%), and v) the verbs of motion and creation are frequent semantic subdomains. These five points can be expressed as follows:

Figure 4-10. Frequent pattern of *be able to* construction in the present tense

Finally, genre analysis has shown that *be able to do* construction is the most frequent in the Learned genre.

• ***be capable of doing*** **construction**

Section 4.2 has shown: i) *be capable of doing* construction is prototypically used in the present and past, ii) auxiliary verbs tend to be combined with those of obligation and the infrequent combined cases of the construction and auxiliary verbs might suggest that the construction is considered to be strongly fact-oriented, iii) the subjects tend to be *people* or *abstract nouns* and *things* are not so frequent as previous studies suggest, iv) the ratio of pronouns in the subject position amounts to 30%, v) the ratio of non-SAP in the subject position is 88%, vi) specific subjects are relatively frequent (59%), vii) there are some variations in copula *be* such as *seem* and *prove*, and viii) the verbs of creation are frequent semantic subdomains. These points can be expressed as follows:

Figure 4-17. Frequent pattern of *be capable of* construction

This section has also analyzed the types of non-finite clauses and post-nominal modifications. There are two types of adverbial verbless clauses: simple postposing and complex preposing types. Additionally, the construction has more various types of post-nominal modifications than *be able to*, but typical patterns are *NP [capable of doing]* and *NP [that be capable of doing]*.

Finally, genre analysis has shown that *be capable of doing* construction is the most frequent in the Prose genre.

• *S enable O to do* construction

Section 4.3 has shown: i) the subjects of *S enable N to do* construction are typically abstract nouns, ii) its objects are prototypically animate nouns, iii) almost half of the objects are pronouns, iv) the ratio of non-SAP in the object position is 80%, and v) most of the objects are specific.

It has also shown: i) the verbs of creation, doing, and motion are frequent semantic subdomains, ii) the construction is overwhelmingly used in declarative sentences with negative sentences being extremely rare, and iii) it is essentially used in the present and past tense.

These eight points can be expressed as follows:

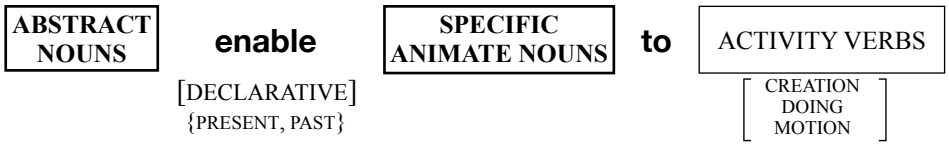

Figure 4-25. Frequent pattern of *S enable O to do* construction

Additionally, this section has indicated that only relative clauses are attested as post-nominal modification in the Brown and Frown corpora: i) antecedents are overwhelmingly abstract nouns (95%), ii) *that*-relitivizers are predominant (75%), and iii) all attested relative clauses are those with subject gaps. These three points can be expressed as follows:

ABSTRACT NOUNS [antecedent] [that enable SPECIFIC ANIMATE NOUNS to ACTIVITY VERBS]

Figure 4-26. Frequent pattern of the relative clauses in which *S enable O to do* construction appears

This section has further shown: i) the construction can function as adverbial participle clauses. All of the attested clauses are simple postposing patterns, ii) it also can function as the objects of prepositions, iii) the most frequent use of *to*-infinitives is that of adverbial *to*-infinitive clauses expressing purpose/result, and iv) the uses of *can enable O to do* and passive voice are attested in the corpora.

Finally, genre analysis has shown that *S enable O to do* construction is the most frequent in both the Prose genre and the Learned genre.

• *it be possible for N to do* construction

Section 4.4 has shown: i) concerning the possibility reading of the construction, the *it be possible to do* pattern mainly exhibits capability while possibility reading is restricted to the declarative clauses of the *it be possible for N to do* pattern, ii) the construction is predominately used in the present, and iii) the auxiliary verbs that combine with the construction are limited: *would*, *should*, and *may*.

Additionally, it has shown: i) animate (pro)nouns are overwhelmingly dominant (91%), ii) the ratio of pronouns in the subject position amounts to 44%, iii) the ratio of non-SAP in the subject position is 100%, iv) specific subjects are extremely frequent (78%), and v) the frequent semantic subdomains of verbs are those of breaking, acquisition, and motion.

These points can be expressed as follows:

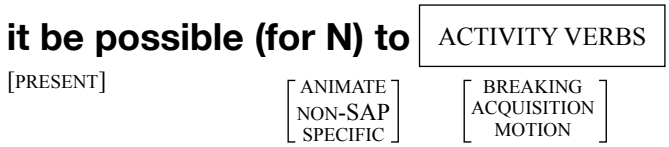

Figure 4-34. Frequent pattern of *it be possible (for N) to do* construction

It has further shown that the frequency of post-nominal modification is relatively low. Finally, genre analysis has shown that *it be possible (for N) to do* construction is overwhelmingly frequent in the Learned genre.

• *make it possible for N to do* construction

Section 4.5 has shown the semantic properties of subjects and four properties of the nouns in the *for N* part of the construction: i) the overwhelming cases of subjects are abstract nouns (82%), ii) animate (pro)nouns are extremely frequent (85%) in nouns in the *for N* part, iii) the ratio of pronouns in nouns in the *for N* part amounts to 31%, iv) the ratio of non-SAP in these nouns is 92%, and iv) specific nouns are slightly more frequent (54%) in these nouns.

It has also shown: i) activity verbs are the most frequent, although there are not any frequent subdomains and ii) the construction is used mainly in the present, past and present perfect.

These points can be expressed as follows:

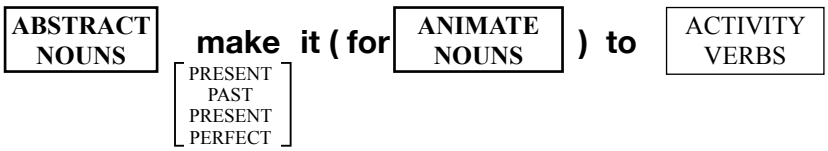

Figure 4-42. Frequent pattern of *make it possible (for N) to do* construction

Furthermore, this section has shown: i) post-nominal modifications are very infrequent, ii) the construction functions as the objects of prepositions, adverbial participle clauses of simple postposing types, and the complements of verbs and copula *be*, and iii) two asymmetries would suggest that there is an interdependency between the structural complexity of a construction or a clause type and encoding options available to the structure.

Finally, genre analysis has shown that *make it possible (for N) to do* construction is the most frequent in the Learned genre.

Notes to Chapter 4

[1] Siemund (2013: 162) shows the case of "triple modals."

i) John might should oughta be painting the barn.

[Southern United States, Coleman 1975: 73] cited in Siemund (2013: 162).

[2] The order of each column follows that of Ando (2005: 331). He proposes two scales of the degree of obligation and certainty as follows:

• The degree of obligation

Less intense ⟶ More intense

should < ought to < need to < have to < must < shall

• The degree of certainty

Uncertain ⟶ Certain

could < might < may < should < would < ought to < have to < will < must < be

[3] To note, in *Time* 93, there are cases of *used to* and *be to* as can be seen below.

i) a. "We *used to* **be able to** grow cereal crops here, corn and rice," says Rene Coty, the local schoolteacher. [Time 070593]

b. But I needed a much clearer sense of where Ronald Reagan stood if I *was to* **be able to** move us from rhetoric to real engagement. [Time 051093]

[4] Other examples of complex patterns include:

i) a. I was dismayed, but then I hadn't been consulted and, *never* **having been able to** resort to the open rebellion of some of my more normal peers, it never crossed my mind that there were other options. [Frown G]

b. "I was just worrying about my tent," the General said, *not quite* **able to** detach himself from the grim vision he had just conjured up. "What tent?... [Frown K]

[5] The examples of the present perfect and the past perfect in the corpora are shown below.

i) a. And both of us **have been capable** of truces, **of** reaching out to one another for periods of time until some event, some source of pain, would again wrench us apart. [Frown G]

b. **Had** Charity **been capable of** escaping to Nettleton she could have moved outside the realm of extreme choices and found alternatives to both her claustrophobic world of inexorable laws and the primitive, promiscuous world of unrule. [Frown G]

[6] In *Time 93*, however, there are only two instances of *may* as seen below.

i) Psychiatry *may* **be capable of** explaining such behavior, and perhaps the security of office will calm Clinton down. [Time 931205]

[7] In *Time* 93, there is also one case of *prove capable of* as seen below.

i) But he **has proven capable of** absorbing such blows in the past — including last January's attack against a suspected nuclear-components facility in the dying days of the Bush Administration. [Time 070503]

[8] In *Time* 93, there is an example of a simple preposing type as seen below, which is unnatural in *be able to* (Quirk et al. 1985: 144).

i) **Capable of** executing 650 million calculations per second, the M92 can simulate nuclear reactions to test designs, for example, speeding development of weapons. [Time 020193]

[9] There are more instances of objects than those of subjects. This is because in the case of objects, there are subject-less constructions such as *to*-infinitives.

[10] In *Time* 93, surprisingly, there is no token of negative sentences.

[11] Of note, in *Time* 93 there are sentences which co-occur with *may, might* and *should* as shown below.

i) a. Thus the same drug that can help some women end unwanted pregnancies *may* **enable** others **to** bear children. [Time 061493]

b. That may be overoptimistic, but even considerably smaller savings *might* **enable** Clinton **to** hack his way out of a political tangle. [Time 091393]

c. That *should* **enable** you **to** recoup any losses. – Choose no-load funds over loaded ones that carry a sales fee when bought or sold. [Time 110893]

[12] In *Time* 89-93, there are 79 cases of relative clauses. Other types include three examples of the post-nominal modifications by adjectival participle clauses like in (i) and one occurrence of those by adjectival *to*-infinitives as in (ii). Also in *Time* 89-93, the typical post-modifications are those by relative clauses. Despite its entry in the dictionary as seen in (iii), the modification by adjectival *to*-infinitives seems to be very infrequent.

i) For instance, it would even contain a mechanism [**enabling** the government **to** determine how many general practitioners and how many specialists medical schools train]. [Time 092793]

ii) Some magazines are being recycled to make newsprint and other grades of paper; we are also exploring ways [*to* **enable** readers **to** recycle more magazines at the local level]. [Time 051391]

iii) a new programme [*to* **enable** older people **to** study at college] [OALD[8]]

[13] In *Time* 89-93, there are two instances of those headed by *whose* as in (ia), and 16 examples of non-restrictive relative clauses as in (ib). All of the non-restrictive relative clauses are those with subject gaps. In type (ia), however, the exact grammatical role of the gap is genitive/possessive, but the larger NP *whose NP* itself functions as a subject.

i) a. She was the adored child of a rich Moscow textile merchant, [*whose* money **enabled** her **to** go to Paris in 1913 and study under those secondary Cubists, Jean Metzinger and Henri le Fauconnier]. [Time 031891]

b. Through the franking privilege, [*which* **enables** members of Congress **to** use their signatures as postage], elected officials can deluge voters with mail at taxpayers' expense. [Time 112690]

[14] This idea is obviously inspired by Emonds (1988).

[15] In *Time* 89-93, as well, only this pattern is attested.

[16] These "double *capability*-constructions" are found in older English, for example, in *Peterborough Chronicle* 1137:

i) I ne **can** ne I **mai** tellen alle the wunder ne alle the pines that hi diden wreccemen on this land, ... [text by Mizushima et al. 1999: 120]

(I neither can, nor may I tell all the wounds and all the pains which they inflicted on wretches men in this land.) [translation by Ingram 1823: 366]

[17] Other examples from *Time* 89-93 are shown below.

i) a. While there is no evidence that the treatment *can* **enable** people **to** live longer, it may one day help many of the aged appear and feel more robust. [Time 071690]

b. Only consummate statecraft *can* **enable** a king **to** save his throne when, after a long spell of oppressive rule, he sets to improving the lot of his subjects. [Time 010190]

[18] Note that in *Time* 89-93, there are four instances of *S enable O to do* used in the progressive as shown below. This fact is not pointed out in previous studies.

i) Equipment that uses computers, lasers and lightweight composite materials **is enabling** the disabled **to** overcome once insurmountable barriers and participate more directly in everyday life. [Time 021891]

[19] Other auxiliary verbs such as *might* and *ought to* each occur only once in *Time* 89-93 as shown below.

i) a. **It** *might* **be possible**—barely—**to** promote a settlement among the councils and clan leaders that would include Aidid without anointing him, allowing the U.S. to pull out and claim, Mission accomplished. [Time 101893]

b. In theory, then, **it** *ought to* **be possible to** extract a 32-cell embryo from a prize dairy cow and use it to produce 32 identical calves, each brought to term by a less valuable member of the herd. [Time 110893]

[20] Of note, there is one instance of a third pattern of this construction in *Time* 89-93: *make it possible that SV* construction as shown in (i).

i) The collaboration ends a drawn-out competition between different technical approaches and **makes it possible that** HDTV will be generally available as early as 1995. [Time 060793]

[21] In *Time* 89-93, there is no case of *should*, and all occurrences are only *would*.

[22] In *Time* 89-93, non-restrictive relative clauses are attested, as seen below.

i) Armstrong notes *the ever-growing strength of secularism*, [which **makes it possible for** more and more people **to** think of God as an idea that belongs to the past]. [Time 092793]

[23] In *Time* 89-93, the construction functioning as the object of prepositions are attested, as seen below.

i) *Beyond* **making it possible for** well-organized, small revolutionary groups **to** take power, this attribute also enabled them to consolidate power after the revolution and maintain control as the regime matured. [Time 052289]

Chapter 5

Conclusions and prospects

This thesis has presented a data-oriented description of capability *can* and five English *capability*-constructions. The data comes mainly from the Brown and Frown corpora. Material from *Time* 89-93 has also been examined as a supplement to these corpora. This final chapter comprises a number of concluding remarks and generalizations on the basis of the results obtained in Chapters 3 and 4 and limitations that should be addressed in future research. The following summary is, however, based on the Brown and Frown corpora alone, because the balanced corpus is considered to reflect the actual uses of language.

Two types of generalizations can be made due to the difference in the availability of non-finite forms. One concerns five *capability*-constructions and the other is in regard to all six *capability*-constructions including *capability* can.

5.1 Five *capability*-constructions

Six major findings are worth mentioning from the results of Chapter 4. First, a summary is provided for the distribution of tenses used in five *capability*-constructions in Figure 5-1. The figure suggests that, except for *be able to,* the present and past tense are predominantly used in *capability*-constructions. This suggests that the *capability*-constructions are considered to be strongly fact-oriented. This means that they have a propensity to state facts because the present tense is normally used to assert the validity of the content of a sentence and the past tense usually reports what happened in the past.

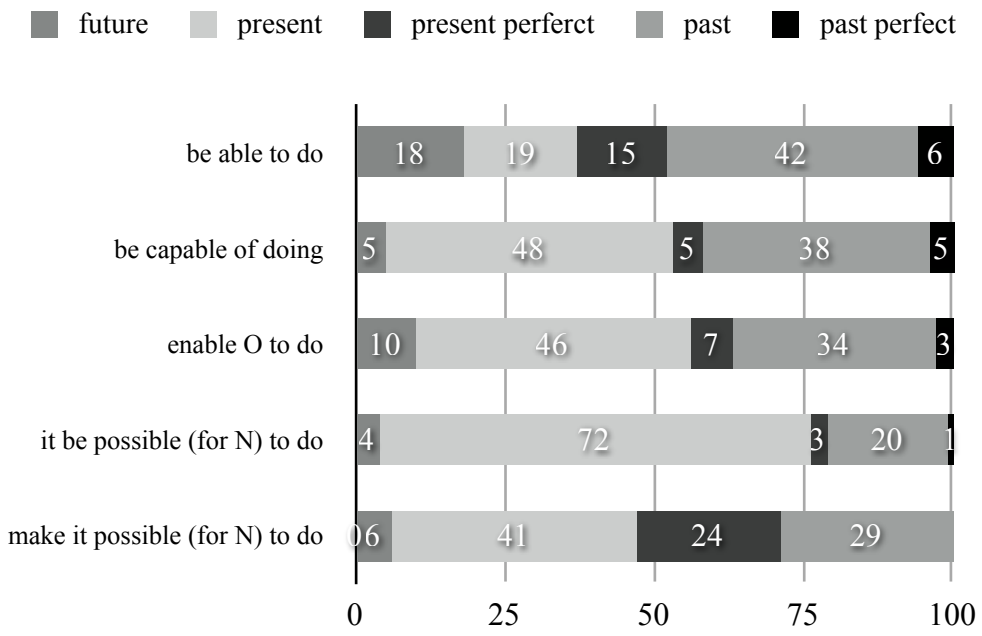

Figure 5-1. Distribution of tense in five *capability*-constructions

Second, a summary of the combinations of auxiliary verbs and five *capability*-constructions can be seen in Table 5-1.

	have to	must	need to	ought to	should	may	would	can
be able to do	√	√	√	√	√	√	√	
be capable of doing	√	√						
enable O to do							√	√
it be possible (for N) to do					√	√	√	
make it possible (for N) to do					√		√	

Table 5-1. Combinations of auxiliary verbs and five *capability*-constructions

Table 5-1 shows that the auxiliary verbs frequently combined with the *capability*-constructions are those of obligation and certainty. Specifically, these constructions can co-occur with *must/have to/should* (obligation) and *may*/*would* (certainty). The combinations with other auxiliary verbs are very infrequent except for *be able to*. Table 5-1 graphically represents this situation through Ando's scales (Ando 2005: 331) as shown in Figure 5-2[1].

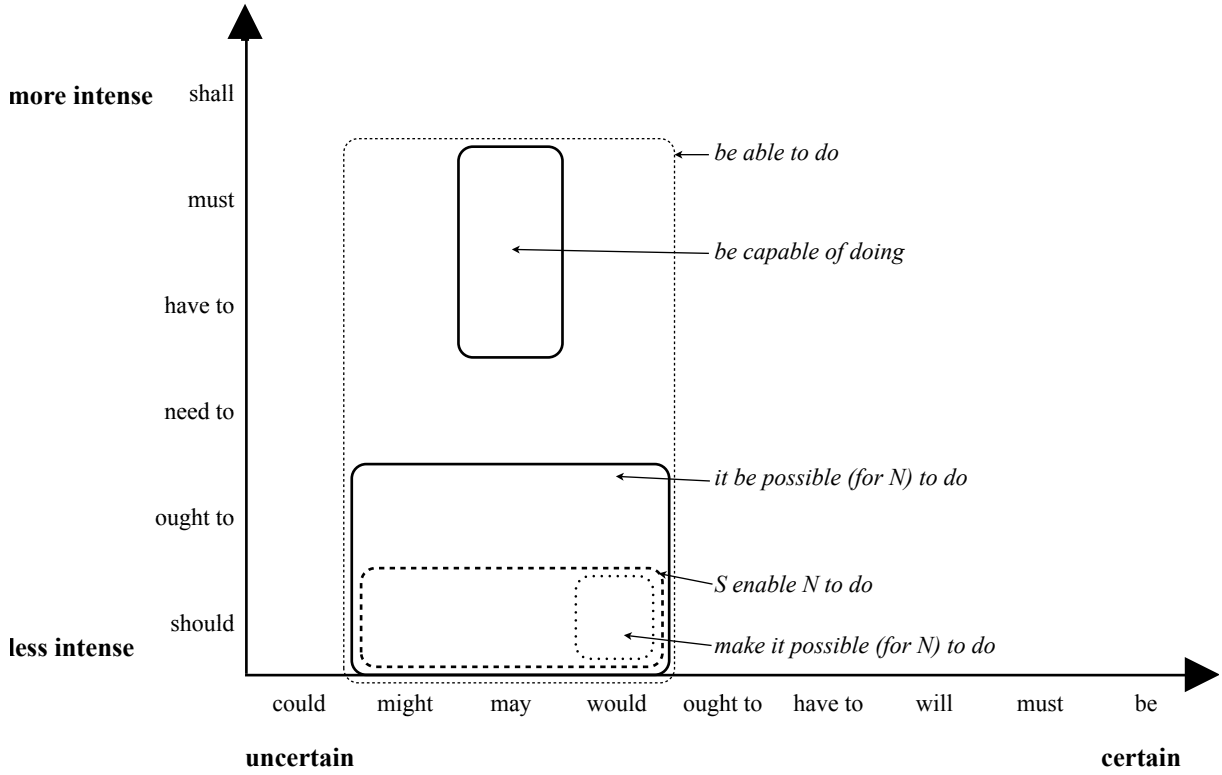

Figure 5-2. Distribution of auxiliary verbs and five *capability*-constructions

The vertical axis shows the degree of the strength of obligation (*ibid*.). The horizontal axis indicates the degree of certainty (*ibid*.). Figure 5-2 clearly shows that the combinations of five *capability*-constructions with auxiliary verbs are not random. Rather, they exhibit a systematic distribution. Each construction occupies a certain fixed region in the figure. The overall combination tend to occur on the uncertain side of the horizontal axis. Specifically, *capability*-constructions prefer to combine with the auxiliary verbs of weak certainty. In addition, three constructions (*it be possible (for N) to do, S enable N to do, and S make it possible (for N) to do*) prefer less intense type of obligation. In particular, there seems to be a division among between these three constructions and *be capable of doing*.

Third, a summary of the occurrence patterns of the *to*-infinitive clauses in five *capability*-constructions can be seen in Table 5-2, which suggests two patterns of the

uses. One is that some constructions (*be able to*, *enable*, *make it possible*) are used in *to*-infinitive clauses and some (*be capable of*, *it be possible for N to do*) are not. The other pattern shows that the dominant uses are those of complements.

	comple-ments of verbs	adverbial	nominal	comple-ments of subjects	enough to	too ... to ...
be able to do	√	√	√	√	√	√
be capable of doing						
enable O to do	√	√		√	√	
it be possible (for N) to do						
make it possible (for N) to do	√			√		

Table 5-2. Patterns of the combinations of five *capability*-constructions with *to*-infinitive clauses

Fourth, a summary of the occurrence patterns of the participle clauses in five *capability*-constructions can be seen in Table 5-3. The table indicates that participle clauses are rarely used except when following adverbial participle clauses. Tables 5-2 and 5-3 suggest that, except for *be able to*, *capability*-constructions prefer not to be embedded within other syntactic environments. This is evident particularly in *be capable of doing* and *it be possible (for N) to do.*

	objects of prepositions	complements of verbs
be able to do	√	√
be capable of doing		
enable O to do	√	
it be possible (for N) to do		
make it possible (for N) to do		

Table 5-3. Patterns of the combinations of five *capability*-constructions with participle clauses

Fifth, a summary of the occurrence patterns of the adverbial participle clauses in five *capability*-constructions can be seen in Table 5-4. It shows that the adverbial participle clauses of these constructions are predominantly used in simple postposing types. Of note, there are no attested instances of simple preposing types in the Brown and Frown corpora.

	simple preposing	complex preposing	simple postposing	complex postposing
be able to do		√	√	√
be capable of doing		√	√	
enable O to do			√	
it be possible (for N) to do				
make it possible (for N) to do			√	

Table 5-4. Occurrence patterns of the adverbial participle clauses in five *capability*-constructions

Finally, a summary of the occurrence patterns of post-nominal modifications by

non-finite clauses in five *capability*-constructions can be seen in Table 5-5.

	non-finite clauses
be able to do	√
be capable of doing	√
enable O to do	
it be possible (for N) to do	√
make it possible (for N) to do	

Table 5-5. Distribution of post-nominal modifications by non-finite clauses in five capability constructions

Table 5-5 indicates that except for *make it possible (for N) to do*, other constructions are used in post-nominal modifications by non-finite clauses.

5.2 Capability *can* and five *capability*-constructions

Four major findings are worth mentioning from the results of Chapters 3 and 4. Before going into detail, one terminology must be clarified. In the following summary, SUBJECTS are used to cover the nouns in three different syntactic environments. Namely, the nouns in (1a-c) are straightforward syntactic subjects. In (1d), the bold-faced noun in the syntactic object position (*you*) functions as a subject semantically in relation to the verb in the *to do* part (*create*) (cf. Jespersen's *nexus*). Similarly, the bold-faced nouns in the *for N* part in (1e) (*an elderly person*) and (1f) (*many people*) function as subjects semantically in relation to the verbs in the *to do* part (*nominate* and *work*, respectively). These nouns will be called SUBJECTS for lack of a better term.

(1) a. **Gabriella** can speak French fluently. [LDOCE[5]]

b. **Ammiano** still isn't able to make a living from acting. [LAAD[2]]

c. **The company** isn't capable of handling an order that large. [LDOCE[5]]

d. The software enables **you** to <u>create</u> your own DVDs. [OALD[8]]

e. It is legally possible for **an elderly person** to <u>nominate</u> someone to act for them, should they become incapable of looking after themselves. [COBUILD[5]]

f. Computer technology makes it possible for **many people** to <u>work</u> from home. [LAAD[2]]

Turning to the first finding, a summary of the ratio of pronouns in SUBJECTS of six *capability*-constructions can be seen in Figure 5-3. From the graph, six *capability*-constructions can be divided into two groups: *can* and other five constructions. Since the frequency of pronouns implies the degree to which a construction is colloquial (cf. Chapter 3), *can* is the most colloquial and other constructions are less colloquial.

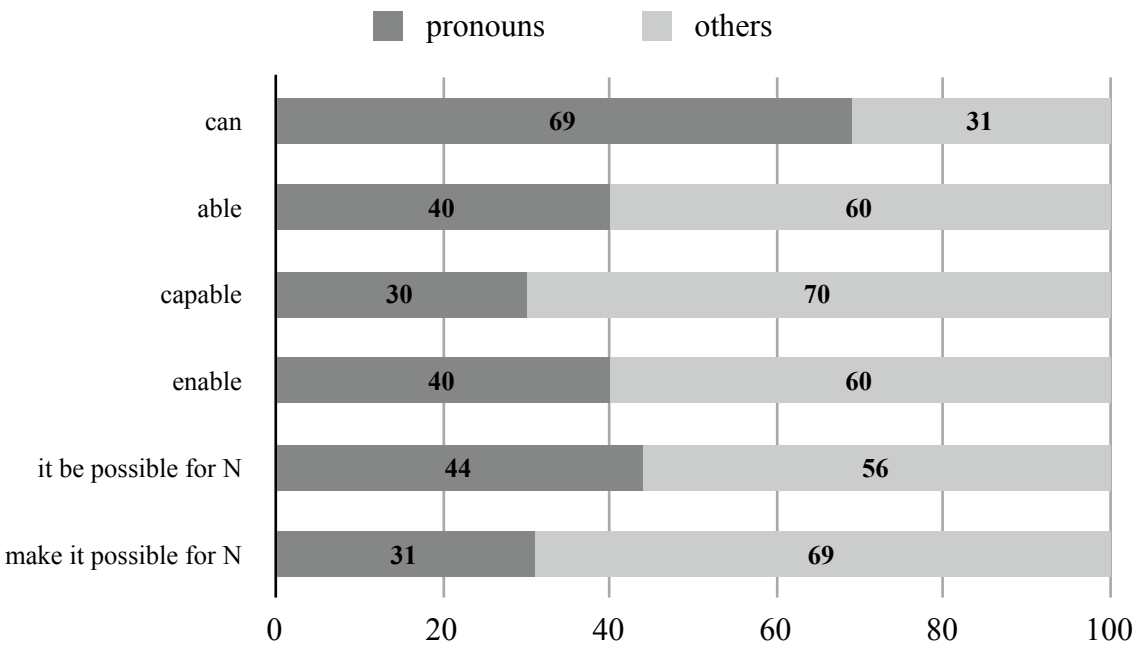

Figure 5-3. Ratio of pronouns in SUBJECTS of six *capability*-constructions

Next, a summary of the ratio of SAP (Speech Act Participant, i.e., *I*, *you*, and *we*) and non-SAP in the SUBJECTS of six *capability*-constructions can be seen in Figure 5-4. One can divide the constructions into three groups: high non-SAP group (*be capable of doing*, *make it possible for N to do*, and *it be possible for N to do*), middle non-SAP group (*be able to do* and *S enable O to do*), and low non-SAP group (*can*). Recall that the higher ratio of non-SAP suggests that the content of a sentence has a tendency to be oriented toward the outer world. Specifically, the construction with the higher ratio of non-SAP tends to have a somewhat detached and objective shade of meaning to it.

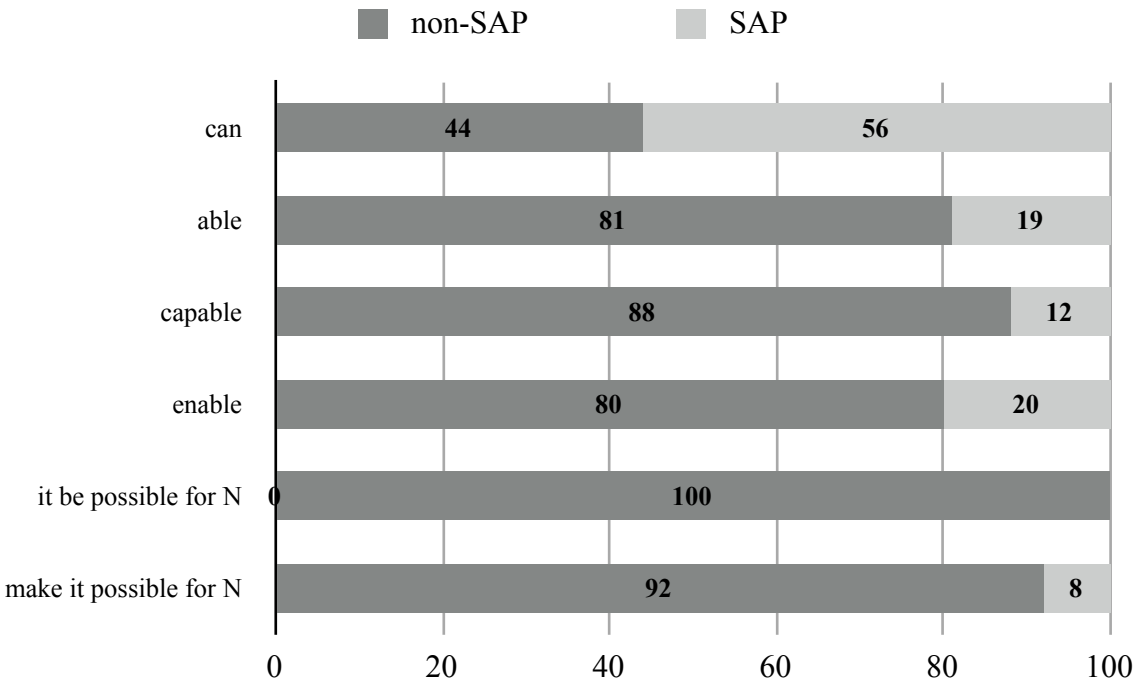

Figure 5-4. Ratio of SAPs and non-SAPs in SUBJECTS of six *capability*-constructions

Third, a summary of the ratio of the specific and nonspecific full NPs in the SUBJECTS of six *capability*-constructions can be seen in Figure 5-5. The constructions can be divided into three groups: a group with a high degree of specificity in SUBJECTS (*it be possible for N to do* and *S enable O to do*), a group with a middle degree (*be able*

to do, *can*, and *be capable of doing*), and a group with a low degree (*S make it possible for N to do*). Of note, the SUBJECTS of both *it be possible to do* and *S make it possible to do* are, by default, non-specific in that they do not have overt SUBJECTS and are essentially generic sentences.

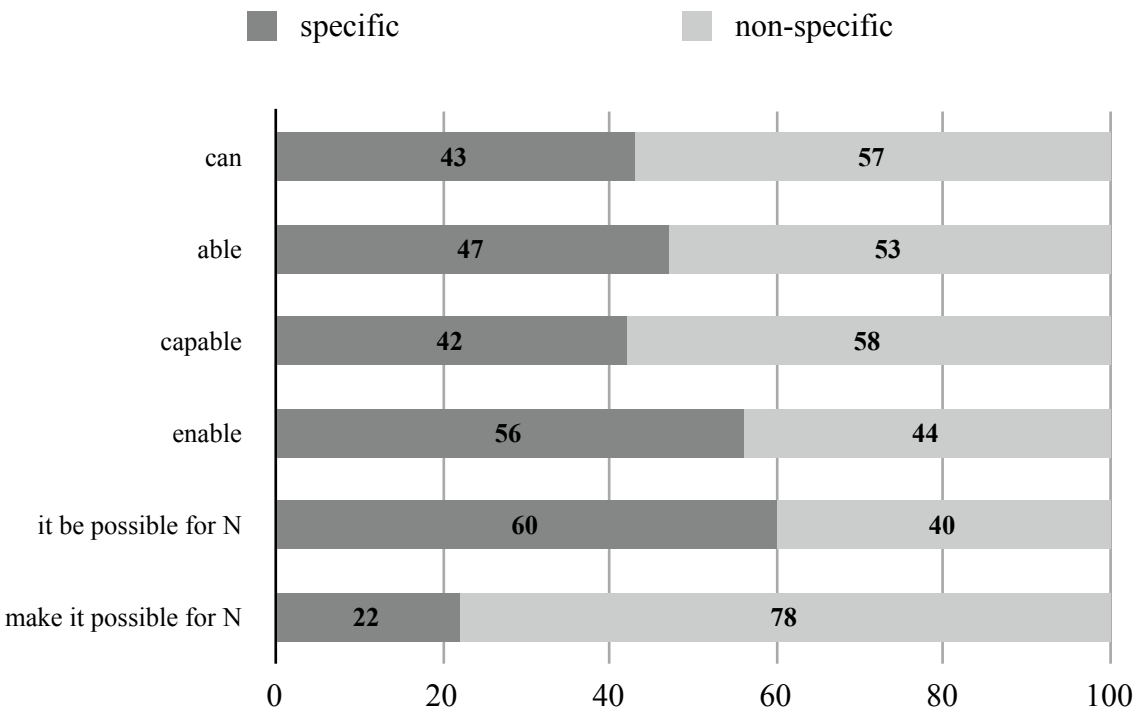

Figure 5-5. Ratio of specific and nonspecific full NPs in SUBJECTS of six *capability*-constructions

The preceding three summaries can be further summed by Table 5-6. In the table, three types of correlation can be observed. The first correlation as provided in Figure 5-6 is between the ratio of pronouns and that of non-SAP. The figure shows that a higher ratio of pronouns correlates with a lower ratio of non-SAP and that a lower ratio of pronouns correlates with a higher ratio of non-SAP. Recall that the frequency of pronouns implies the degree to which a construction is colloquial and that

the construction with the higher ratio of non-SAP tends to have a somewhat detached and objective shade of meaning.

	Ratio of pronouns	Ratio of non-SAP	Degree of specificity (full NPs)
can	high	low	middle
be able to do	low	middle	middle
be capable of doing	low	high	middle
S enable O to do	low	middle	high
it be possible for N to do	low	high	high
make it for N possible to do	low	high	low
it be possible to do	NA	high	non-specific
make it possible to do	NA	high	non-specific

Table 5-6. Summary of Figure 5-3, 5-4, and 5-5

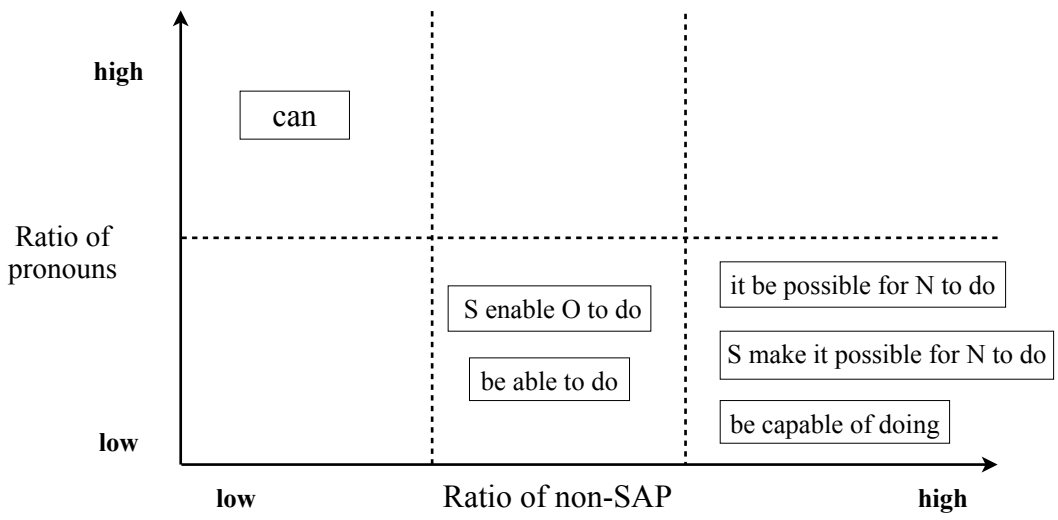

Figure 5-6. Correlation of the ratio of pronouns and non-SAP

The second correlation as shown in Figure 5-7 is between the raio of pronouns and the degree of specificity. Overall distribution is the same as in Figure 5-6. The position of each construction is, however, slightly different except for *be able to do* and *it be possible for N to do*, meaning that the ratio of non-SAP does not always correlate with the degree of specificity.

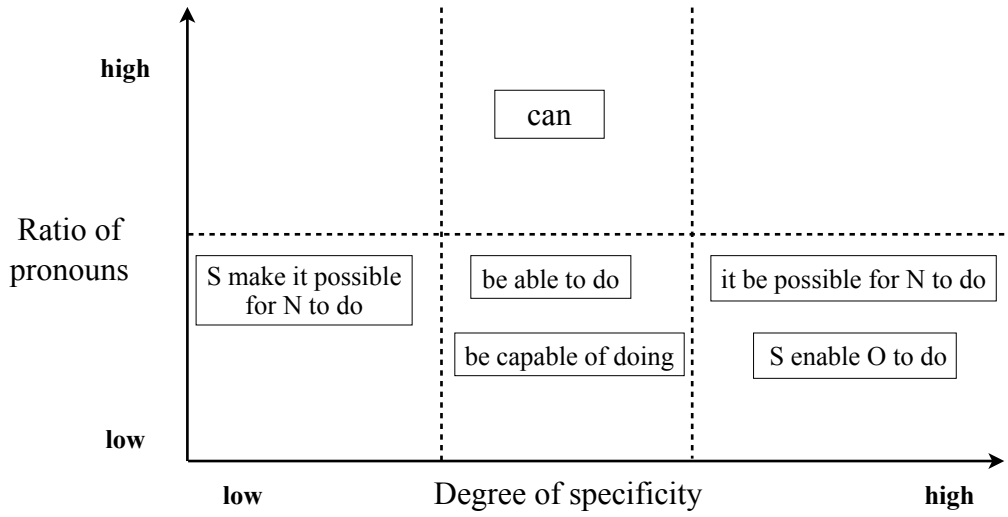

Figure 5-7. Correlation of the ratio of pronouns and the degree of specificity

The third correlation as given in Figure 5-8 is between the ratio of non-SAP and the degree of specificity. This figure clearly shows that each construction occupies its unique position. Specifically, each construction tends to be used with a mostly fixed ratio of non-SAP and the degree of specificity. In short, each construction has a preferred pattern of SUBJECTS.

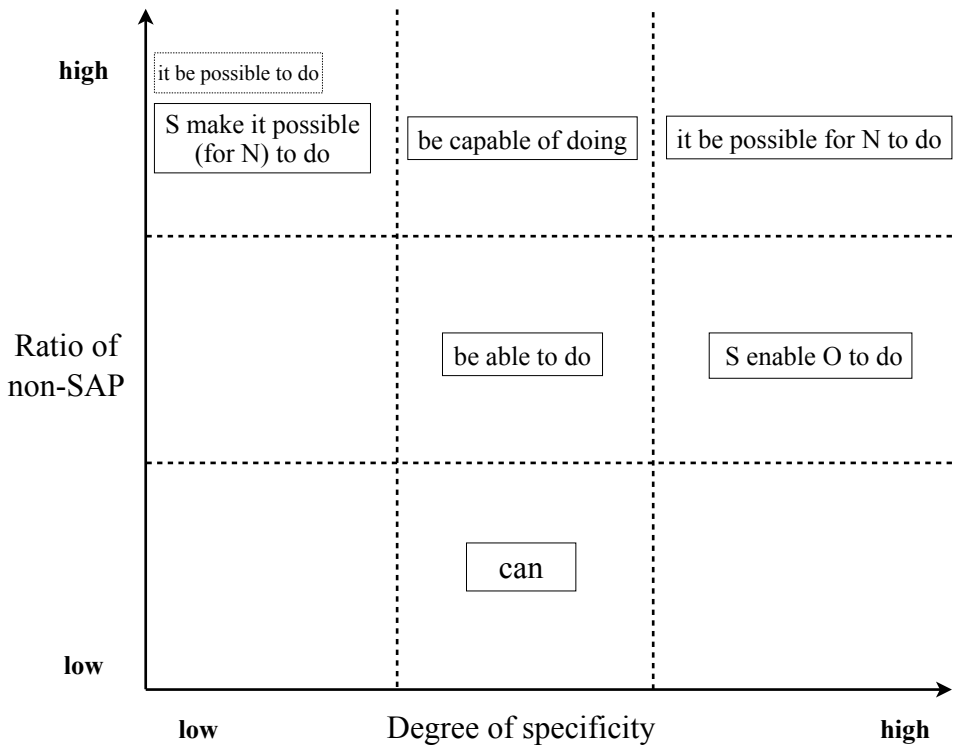

Figure 5-8. Correlation of the ratio of non-SAP and the degree of specificity

Regarding the second major finding, a summary of the frequent semantic subdomains of six *capability*-constructions (distinct semantic subdomains in the case of *can*) can be seen in Table 5-7. Check marks (√) indicate those semantic subdomain (s) that are frequent or distinctive for a construction in the Brown and Frown corpora. This summary focuses on activity verbs because except for *can*, the frequent subdomain in other constructions is only *reasoning* in the case of mental verbs. Figure 5-9 illustrates the relation of the distinctive semantic subdomains of *can* with the frequent semantic ones of five other constructions. The large box shows the frequent semantic subdomains of *can*. The circle on the left indicates the distinctive subdomains of *can* and the circle on the right shows the frequent subdomains of five other constructions. The subdomains (DO, MOTION, and CREATION) are frequent, but not distinct in the case of *can*. It is noteworthy that only the GET-subdomain is found

in the shared section of the diagram and the BREAK-subdomain is neither distinctive nor frequent in *can*.

semantic subdomains	**can**	**be able to do**	**be capable of doing**	**it be possible for N to do**	**S enable O to do**
amelioration	√				
amount	√				
avoidance	√				
break				√	
create		√	√		√
do					√
get	√			√	
manipulation	√				
money	√				
motion		√		√	√

Table 5-7. Frequent/distinctive semantic subdomains in activity verbs

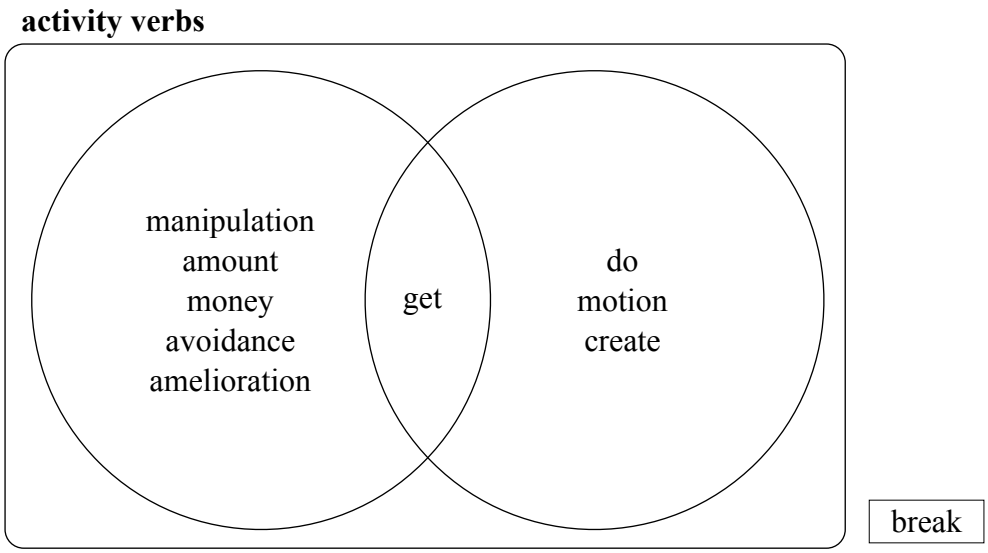

Figure 5-9. Frequent/distinctive semantic subdomains in activity verbs

The third finding relates to relative clauses. Table 5-8 shows a summary of the attested gaps and non-restrictive clauses. Table 5-9 shows the preferred gaps and relativizers in relative clauses. Three distinctive points can be gleaned from these tables. First, subject gaps are preferred in the relative clauses of *capability*-constructions (Table 5-8). Second, except for *be able to*, the *that*-relativizer tends to be preferred (Table 5-9). Third, the degree of the complexity of a construction correlates with the number of the attested gaps (Table 5-8). Simpler constructions (*can*, *be able to*, and *be capable of*) tend to allow more gaps than more complex ones (*enable O to do*, *it be possible (for N) to do*, and *make it (for N) to do*). This suggests that the complex constructions have a propensity for the avoidance of being more complex as much as posible.

GAP	can	able	capable	enable	possible	make it possible
subject	√	√	√	√		√
object	√	√	√			
genitive	√	√				
oblique	√	√	√		√	
adverbial	√	√			√	
non-restrictive	√		√			

Table 5-8. Distribution of attested gaps and non-restrictive relative clauses

	can	able	capable	enable	possible	make it possible
preferred gaps	object	subject/object	subject	subject	NA	subject
preferred relativizers	that	who/which	NA	that	NA	that

Table 5-9. Preferred gaps and relaivizers in relative clauses

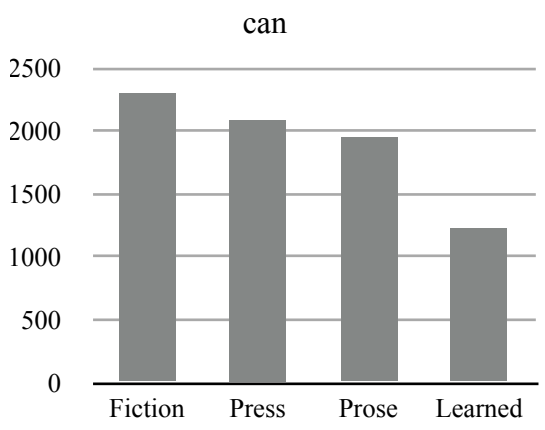

Figure 5-10. Frequency of *can* in four genres

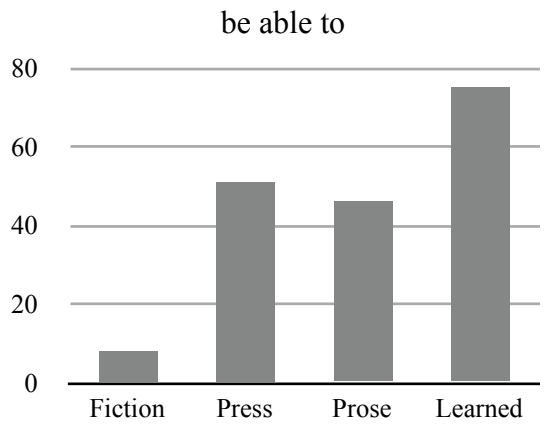

Figure 5-11. Frequency of *be able to* in four genres

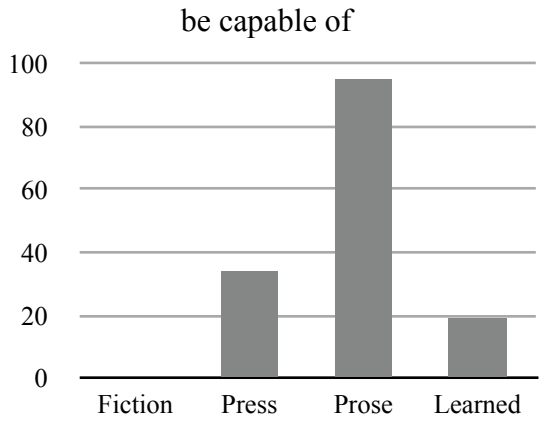

Figure 5-12. Frequency of *be capable of* in four genres

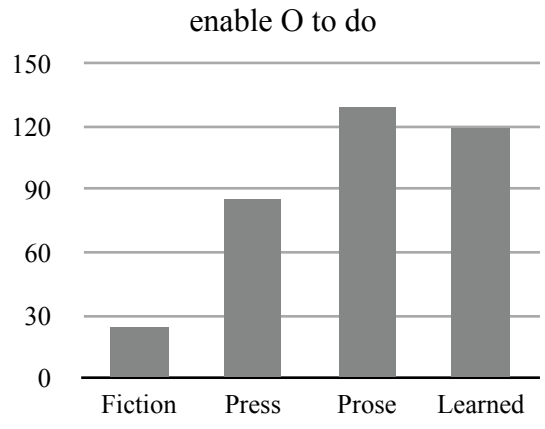

Figure 5-13. Frequency of *enable O to do* in four genres

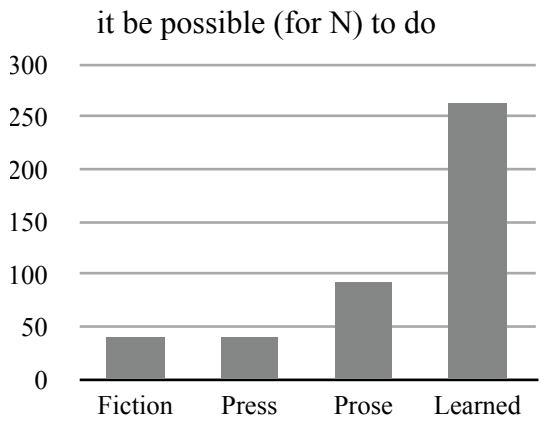

Figure 5-14. Frequency of *it be possible (for N) to do* in four genres

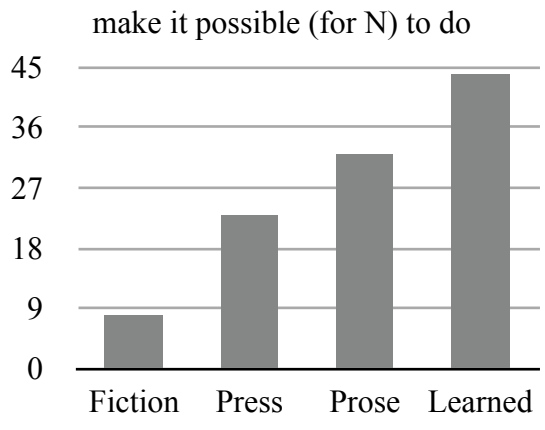

Figure 5-15. Frequency of *make it possible (for N) to do* in four genres

It may be appropriate to conclude this thesis with a summary of genre analysis will be provided. Figures 5-10 to 5-15 show the genre analysis of each construction (repeated for ease of reference). As can be seen in Figure 5-10, *can* is the most frequent in Fiction. Conversely, it is not preferred in the most formal register (Learned). Figure 5-11 shows that *be able to* is the most frequent in Learned. Prose and Press are almost the second most frequent genre. Figure 5-12 indicates that *be capable of* is the most frequent in Prose and the other genres are do not appear often. *S enable O to do* is considered to be the most frequent roughly in both Prose and Learned, as can be seen in Figure 5-13. Figure 5-14 shows that *it be possible (for N) to do* construction is overwhelmingly frequent in Learned and appear much less frequently in the other genres. As can be seen in Figure 5-15, *S make it possible (for N) to do* is the most frequent in Learned. The preferred genre of each construction can be illustrated as shown in Figure 5-16.

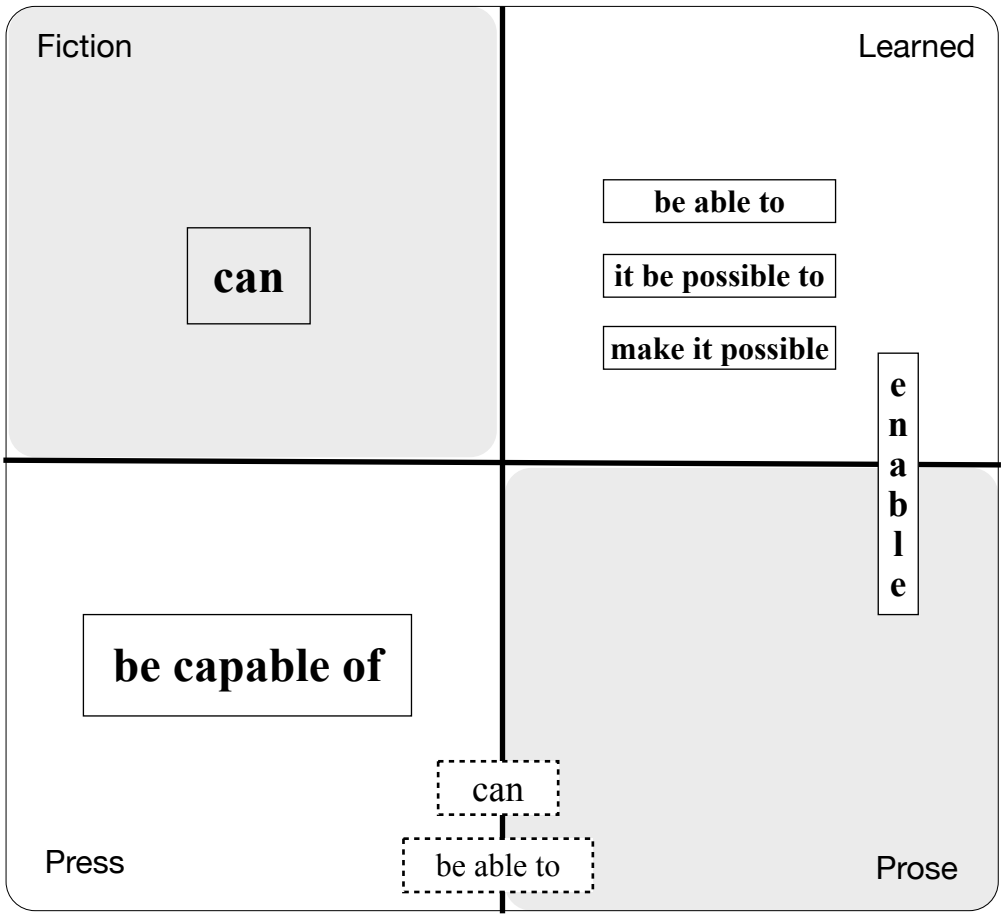

Figure 5-16. Distribution of the preferred genre of *capability*-constructions

It is important to note that this study is limited in at least two respects. First, the data used in this study is restricted to standard American written English. Other varieties or registers are not treated. It is possible that the use of the LOB and FLOB corpora could reveal more intriguing patterns of *capability*-constructions. Second, only capability *can* and other five *capability*-constructions are described. There are numerous constructions in addition to those examined in this thesis. The combinations of results obtained in this study and those in future studies could broaden our view on these constructions.

Despite these limitations, findings from the present study reveal inductively the existence of frequent or preferred patterns in the constructions from actual examples.

The broadening of data and constructions is a task for future research.

Notes to Chapter 5

[1] This type of representation has a close affinity to *semantic map* (Kemmer 1993, Haspelmath 1997, 2003), *conceptual space* (Croft 2001), and *mental map* (Anderson 1986) among others. However, the representation is intended to be just heuristic and does not claim its cognitive validity.

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