

The Pragmatic Inferential Process of Recovering Degree/Evaluative Adjectival Meanings in Noun + Postmodifying Infinitive Clauses in English

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I Introduction

The linguistically encoded meaning of an utterance often conveys to the hearer only very insufficient information, and thus the hearer needs to carry out pragmatic inferential processes to recover the assumptions that the speaker intends to communicate. No one will doubt that this pragmatic inferential process is crucially contingent on context, i.e. “a set of mentally represented assumptions, some of which are representations of immediate perceptible environmental features, but most of which are either retrieved from memory or constructed on the basis of stored assumption schemas” (Carston 2002: 200) (cf. Akiyama 2001: 14). This paper, taking this general human construal procedure into account, aims to cast light upon the inferential mechanism by which the syntactic sequence of “the noun + postmodifying infinitive clauses (henceforth, “PIC”)” gives rise to “free-enrichment”, a type of pragmatic inferential process.

PICs are a kind of infinitival clause that modifies the preceding noun (e.g. Few countries can rival Czechoslovakia for mountain scenery. Whether it’s walking, skiing or climbing, the Tatras are definitely the place *to go* (BNC: A65 798)). The interpretation of the antecedent noun followed by this type of infinitival clause often involves the addition of degree/evaluative adjectival meanings through the inferential process to develop the full propositional form of an utterance (e.g. The Tatras are definitely the **best** place *to go*).¹⁾ This type of inferential process is often referred to as free-enrichment, a pragmatic completion process which involves the addition of conceptual material (*best* in the example above) in order to recover the full-fledged proposition intended by the speaker (cf. Carston 2004a: 641).²⁾ However, the interpretation of the noun + PICs sometimes does not need such a free-enrichment process, as shown in the sentence “We are therefore in the (**best**) position to give company names, addresses, phone numbers, and contact names on a majority of organisations

¹⁾ Postmodifying infinitive clauses fall into two types; appositive infinitive and infinitival relative clauses. The distinction between these types is discussed in detail in section 4.

²⁾ A more detailed explanation of “free-enrichment” is given in section 2.

within the UK” (BNC: HX2 709).³⁾ The inferential mechanism by which the free-enrichment process occurs in the antecedent noun + PICs construction has not yet been clarified, however, and will constitute the chief focus of this study.

The organization of this paper is as follows. Section 2 is confined to determining and explaining the theoretical orientation of the present paper. The discussion in this study, while it also utilizes empirical data retrieved from the British National Corpus (cited throughout as “BNC”), is contingent on the relevance theory, an inferential approach to pragmatics established by Dan Sperber and Deirdre Wilson (1995). The basic idea contained in Sperber and Wilson’s work will then be clarified and several terminologies in the relevance theory will be accounted for. In section 3, I provide a detailed examination of a previous analysis of the mechanism of the enrichment process in the noun + PICs conducted by Fåhræus (1984). Fåhræus gives an empirical analysis of the target construction, but, in the author’s opinion, her data sets are too small to endorse the validity of her research. I will point out four major flaws in Fåhræus’s analysis, while utilizing data retrieved from the BNC. I will conclude that Fåhræus’s analysis is too dependent on the lexical meaning of the antecedent noun and fails to scrutinize the context in which the target construction occurs. Section 4 conducts a corpus-based approach to survey the target construction (i.e. the antecedent noun + PICs) and makes the case that the mechanism by which the enrichment process in this construction occurs vitally hinges on the context and can be explained by the principle of relevance. Section 5 concludes this paper with a brief summary.

II Theoretical Orientation

Relevance theorists divide the hearer’s assumptions regarding what is communicated by an utterance into two kinds, viz. explicature and implicature (Blakemore (1992, 2002), Carston (2002, 2004a, 2004b), Clark (2013), Hall (2008), Sperber and Wilson (1995), Wilson and Sperber (2012)). Explicature is an ostensibly communicated assumption, in which the hearer develops the linguistically encoded (and thus incomplete) conceptual representations (logical forms) to a fully elaborated and accordingly explicit propositional form (cf. Carston 2002: 377, Wilson and Sperber 2012: 12).⁴⁾ This explicit assumption is basically developed through the following four types of pragmatic processes: disambiguation, saturation, free-enrichment and *ad hoc* conceptualization (see

³⁾ Note here that the interpretation for the phrase “the position to give company names ...” is unlikely to require the hearer to add the evaluative adjectival meaning *best* to modify the antecedent noun *position* in order to recover the speaker’s intended assumption.

⁴⁾ The logical form can be defined as a semantic representation (or the recovery of a linguistically encoded meaning) of utterance which must be referentially completed, disambiguated and enriched in order to obtain the propositional form that is expressed by the utterance (cf. Cummings 2005: 19).

Carston 2002: chap. 2, 2004b: 636 ff.) (cf. Akiyama 2001: 15). Disambiguation is a process concerning sense selection, in which the hearer fleshes out an insufficient logical form by selecting a particular interpretation out of two or more possible senses of words, on the basis of context. In the following example, the meaning of the noun *board* is ambiguous *at the stage of the logical form* of the utterance, because the hearer cannot recover explicature until he selects the meaning (b) out of the possible meanings of this word illustrated in (a)-(c).

- (1) Back from holiday yesterday, he is due to meet the *board*. (BNC: A80 120)⁵⁾
- a. a flat wide piece of wood, plastic etc that you can use to show information
 - b. a group of people in a company or organization who make the rules and important decisions
 - c. ship, place, or spacecraft⁶⁾

Saturation is a pragmatic process of linguistically mandated completion, whereby “a given slot, position, or variable in the linguistically decoded logical form is filled or saturated” (Huang 2007: 190). An utterance “This necktie is better”, for example, will necessarily require the hearer to add “than X” in the interpretation of this utterance in order to recover the explicature, or full-fledged propositional form. Another example is “The situation is different.” This utterance requires the hearer to supplement “from X” to recover the valid explicature. Notice here that this recovering process is linguistically or grammatically mandated since without it there is “nothing that can be understood as the explicit content of the utterance” (Carston 2004a: 637). Free-enrichment is an optional process unlike saturation, “which involves the addition of conceptual material to the decoded logical form; for example, ‘it’s snowing [IN ABERDEEN]” (ibid.: 641). This pragmatic process is optional or free in that it is not under linguistic or grammatical control. Recanati (2004a: 460, 2004b: 95) emphatically states that free enrichment is “a top-down, pragmatically controlled pragmatic process”. The utterance “Everyone went to Paris”, for example, will not yield any informativeness if the hearer interprets it as “Every existing person in the world went to Paris”. The hearer needs to enrich unarticulated constituents to get an assumption the speaker intends to communicate according to the context (e.g. Every person in the group went to Paris). It should be noticed that the insertion of “in the group” here is pragmatically or contextually controlled rather than linguistically or grammatically mandated. The final inferential process to develop explicatures is *ad hoc* conceptualization, which involves the pragmatic adjustment of a concept expressed by a logical form to a narrowing, loosening, strengthening, broadening, or a combination of these. This

⁵⁾ Hereafter, italics in sentences quoted from the BNC are inserted to highlight relevant parts of the example.

⁶⁾ The definition of the noun *board* is taken from *Longman Dictionary of Contemporary English* (fifth edition).

conceptualization can be illustrated by examples such as “a flat country/ a raw steak/ a square face”, where the underlined words would be interpreted loosely (see Hall 2011: 5).

While explicature is developed by the combination of decoding and inference, implicature is “wholly inferred” (Wilson and Sperber 2012: 77). Implicature is “an ostensively communicated assumption which is not an explicature; that is, a communicated assumption which is derived solely via processes of pragmatic inference”. (Carston 2002: 377)⁷⁾ In other words, implicature is not developed from the logical form of an utterance and thus it is said to be an independent assumption from decoding. A simple example to illustrate implicature is found in the dialogue below:

(2) Jane: Can you answer the phone?

Dan: I am changing the baby’s nappy.

Dan’s reply to Jane’s request is likely to be interpreted as “I am busy at the moment and cannot answer the phone”, which is an implicature of Dan’s utterance. Notice that this pragmatic inference is not dependent on the logical form of Dan’s utterance.

III Fåhræus’s (1984) Analysis of Enrichment Process in the Target Construction

Now that I have characterised the basic ideas for the clarification of the inferential process of the noun + PICs, attention will be directed to the previous analysis of the target construction conducted by Fåhræus (1984).⁸⁾ In her explication of the construal mechanism by which PICs are enriched with degree/evaluative adjectival meanings, Fåhræus (1984: 135ff.) confines her investigation to the examples forming “*the* + unqualified noun + *to*-infinitives” which “occur after *posshave* and other items denoting “possession” or “lack of possession”, including *posswith*, as well as those that are subjects or subject complements of *be*”.⁹⁾ Fåhræus launches her investigation by classifying predicate verbs followed by the target construction (i.e. *the* + unqualified noun + *to*-infinitives) into two verb classes according to the meaning of the predicate verbs. One verb class is the verbs denoting “possession” or “lack of possession”, such as *posshave*, *lack*, *want*, or implying “cause

⁷⁾ Note that the pragmatic inferences involved in deriving explicatures and implicatures is conducted in parallel, and the inferential processing is “one of mutual adjustment until the propositional forms stabilize into an inferentially sound configuration which meets the expectation of relevance”. (Carston 2004a: 648)

⁸⁾ However, Fåhræus calls this pragmatic inference process as ‘supercharging’, not as ‘free-enrichment’. Her analysis is not dependent on the relevance theory.

⁹⁾ The term ‘unqualified noun’ refers to nouns whose degree of meaning is not always qualified or specified. (E.g. *ability* in *an ability to do it*, *place* in *a place to bring up children*, and *courage* in *the courage to do it myself*). In addition, the term ‘poss’ represents a semantic feature designating possession.

someone to possess”, such as *give, grant, find* (ibid. 136). The other class is the verbs which function as subject complements of copular *be*. Examples (3a) and (3b) illustrate these two verb classes, and (3a') and (3b') represent the explicatures of (3a) and (3b) respectively, which result from the enrichment process of adding degree/evaluative adjectival meanings.

- (3) a. ... have the courage to gamble everything ... (ibid. 137)
a'. ... have the *sufficient* courage to gamble everything...
b. Home is the place to find the comforts of home. (ibid. 145)
b'. Home is the *right/best* place to find the comforts of home.

Fåhræus (ibid.) also demarcates the target construction preceded by the former verb class (e.g. *posshave + the + unqualified noun + to-infinitives*) into two infinitival types, viz. “an appositive (infinitive) type” and “a realization (infinitive) type”.¹⁰ In the appositive type, she shows examples extracted from the Brown and the LOB corpora such as “*had the decency to blush*,” “*had the fortune to encounter*,” “*had the temerity to visit them*,” and “*had the taste to wear a dress in public*.” The striking point she mentions regarding this type of infinitive is that “the infinitives narrow the reference of the nouns, but nothing new is added to the semantic content of the nouns” (ibid. 136). This amounts to saying that the appositive type of infinitive does not bring about an enrichment process for the meaning of the antecedent noun. However, Fåhræus contradictorily contends that “*the luck + to-inf.*” and “*the taste + to-inf.*”, both of which are classified into the appositive type in her research, give rise to some enrichment process which involves the addition of adjectival meaning for their interpretation, as in:

- (4) a. “It is not often I have *the luck to be entertaining two such charming ladies*.”
b. At least the American girl had *the taste to wear a dress in public*. The other two had pants. (ibid. 136)

According to Fåhræus, *the luck* in (4a) and *the taste* in (4b) will be enriched into the *good luck* and *the good taste* through the inferential processes, respectively. Fåhræus attributes the enrichment mechanism of (4a) and (4b) to “the truistic effect of inalienable nouns in contexts of ‘possession’” (ibid. 137). This comes close to saying that the inalienable nouns “luck” and “taste” are value-neutral or unqualified in their basic sense and thus would necessarily be mere truisms or meaningless in the context of possession if they were not enriched with positively supercharged

¹⁰ The traditional linguistic term ‘apposition’ is primarily, and typically, a relation between noun phrases. “For linguistic units to be appositives, *ie* in apposition, they must normally be identical in reference.” (Quirk et al. 1985: 1301)

adjectival meaning (i.e. *good*). This explanation also leads to the statement that *to*-infinitives have no contribution to the enrichment process in (4a) and (4b).

In addition to the appositive type of PICs, the other type of PICs preceded by predicate verbs concerning “possession” is the “realization” type. The noun followed by the realization type of the *to*-infinitive “is right for the realization of the specific action denoted by the infinitive” (Fähræus *ibid.*: 146). The antecedent noun is an obligatory factor for the realization of the situation denoted by PICs and, “as a consequence of the fact that it is placed in the positive part of a subscale within the dimension of ‘quantity’, it might be considered as a case of supercharging” (*ibid.* 144). Furthermore, “when the noun denotes an obligatory factor for the realization of the action denoted by the infinitive, an unquantified noun (abstract plural count or mass) has a fixed position in the dimension of ‘quantity’” (*ibid.* 152). Examples are:

- (5) a. We would have the *means* to seek out and destroy the enemy’s force ... (Brown Corpus E03 1430)
 b. “If these services are to be maintained, the New York Central must have the *revenues* to make them possible.” (Brown Corpus H13 0350)

The nouns “means” in (5a) and “revenues” in (5b) will be reasonably enriched with the absolute quantifying adjective “sufficient” (i.e. “the sufficient means” in (5a) and “the sufficient revenues” in (5b)). On the other hand, however, Fähræus (*ibid.* 140) claims that an unqualified singular count noun carries no added information, as in:

- (6) a. Not only had he no canteen, but he lacked even the *belt* to hang one on. (BC N25 1080)
 b. A special template is furnished with the *apparatus* to enable marking a specimen ... (BC J77 1100)

Fähræus points out that the mechanism in which “the belt” and “the apparatus” are not enriched with adjectival meanings lies in the singular form of these two nouns.¹¹⁾ Her claim is easily falsified by the following examples, however:

- (7) a. ‘Good reading’ of the Bible enlarges our capacity to receive more of its depth and riches, to see with other eyes the wondrous things that God reveals to those who *‘have eyes to see,*

¹¹⁾ Let me reiterate here that Fähræus insists that *possHAVE* + absolute plural count or mass noun + *to*-infinitives give rise to enrichment.

and ears to hear'. (BNC: ARG 751)

b. He had given her *a book to read*, Thomas Mann's *Buddenbrooks*, which he recommended highly. (BNC: FNT 1074)

Eyes to see, and ears to hear in (7a) and *a book to read* in (7b) will represent a different pragmatic inferential process from Fåhræus's explanation. Firstly, the phrase *eyes to see and ears to hear* in (7a), while the antecedent nouns are plural, are unlikely to bring about an enrichment process with positive "quantitative/degree" meanings (e.g. *?sufficient eyes to see, and sufficient ears to hear*). Rather, this phrase is likely to be enriched with qualitative or evaluative meanings (e.g. *good eyes to see, and good ears to hear*). Secondly, while Fåhræus does not allow antecedent nouns of the singular countable noun variety to be enriched with adjectival meaning, the phrase *had given her a book to read* in (7b) may well have an enrichment process with evaluative adjectival meaning (e.g. *had given her a good book to read*), because of the content of the relative clause (i.e. *which he recommended highly*).

Fåhræus (ibid. 136) makes another claim that instances of the infinitive clause inherently give rise to a positive rather than a negative value enrichment.

- (8) a. *The poor man had the luck to be maltreated by thugs.
b. *a woman with the taste to make rude remarks.

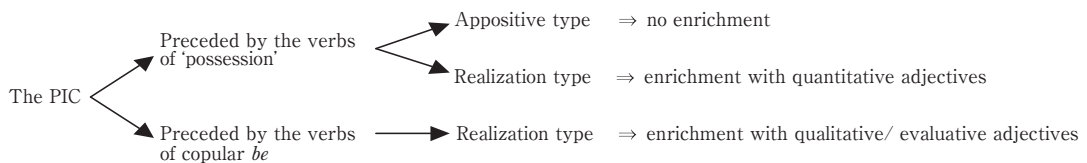
This issue seems to be concerned with modality denoted by *to*-infinitives. I will deal with this acceptability judgment in section 4.

Fåhræus puts forward the other class of predicate verbs, those employing copular *be*. The syntactic pattern "the noun + PICs" followed by this class of verbs functions as a subject complement of copular *be*. She classifies the syntactic sequence "copular *be* + the noun + PICs" into three groups according to the function of the antecedent noun in the *to*-infinitive construction. The first group (Group A) has antecedent nouns which are adverbially relativized with PICs, and this group semantically refers to conditions which are necessary for the realization of any action: a place, a time, and a way in which to carry it out (see (9a) below). The second group (Group B) holds the antecedent noun functioning as a subject of the PICs, which refers to another obligatory condition: an agent (see (9b)). Group C consists of direct objects of transitive verbs or objects of prepositional phrases (see (9c)). (9a), (9b) and (9c) below represent examples of Group A through C, and (9a'), (9b') and (9c') are explicatures of (9a-c), respectively.

- (9) a. Home is *the place to find the comforts of home*. [Group A]
 a'. Home is *the right/ best place to find the comforts of home*.
 b. Haig isn't *the man to do it*. [Group B]
 b'. Haig isn't *the right/ best man to do it*.
 c. For a resort area, Mackinack Island, Michian, is *the place to visit*. [Group C]
 c'. For a resort area, Mackinack Island, Michian, is *the right/ best place to visit*.

Fåhræus (ibid. 152ff.) argues that antecedent nouns occurring in Group A-C are supercharged by a qualitative/evaluative feature, expressible in an absolute adjective *right* or the superlative of the purely evaluative *good* – *best*. She goes so far as to say that “the supercharged senses of the nouns are only temporary, and the supercharging is thus accidental, not inherent” (ibid. 153). As my corpus survey will clarify in section 4, however, the enrichment (or supercharging) of the noun + the PIC construction is not accidental but motivated on the basis of “the principle of relevance.”¹²⁾ I encapsulate the main points of Fåhræus’s (1984) argument in Figure 1. This figure shows Fåhræus’s two classes of predicate verbs, the types of the PIC and the possibility of enrichment.

Figure 1. Fåhræus’s (1984) classification of types of the PIC construction



Fåhræus’s analyses of the enrichment mechanism of the antecedent noun + PICs have four major flaws, however. First of all, as Figure 1 clarifies, Fåhræus divides predicate verbs preceding the antecedent noun + the PIC into two classes, i.e. verbs denoting or implying possession (e.g. *have*, *take*) and verbs of the copular *be*. However, my corpus survey indicates that there is another class of predicate verbs which precede the target construction. Verbs in the existential *there* construction need to be regarded as another verb class which precedes the antecedent noun + PICs. Examples are:

¹²⁾ The definition of the principle of relevance is given in section 4.

- (10) a. At this point there is *a need to distinguish between two uses of the word disease (or illness)*.
(BNC: B1R 72)
- b. If you are interested, there is still *time to do something about it*. (BNC: CCF 292)

The second problem arises in her binary distinction between the appositive type and the realization type of *to*-infinitives. As Figure 1 suggests, the difference of the possibility for the antecedent noun of the PIC to cause enrichment is analyzed as being based on the binary distinction of the types of *to*-infinitives. The realization type of infinitive causes enrichment but the appositive type does not. Fåhræus's comment on the enrichment mechanism of noun + appositive infinitive seems to be plausible. However, she does not indicate any criterion by which these two constructions are classified. In section 4, I will show a paraphrasability into relative clauses to differentiate these constructions and prove the difference between these constructions is a matter of degree. The third problem appears in her following comment: "It is evident, however, that it is not a consequence of the INF construction as such that *luck* and *taste* are supercharged but rather that the supercharged extension which was traced back to the truistic effect of inalienable nouns in contexts of "possession", is a sense "in its own right" and possible to use also in other constructions than truisms. From the point of view of supercharging the construction *the* + unqual N + *to* + INF "appositive" is thus of no consequence" (ibid. 137). This amounts to saying that *to*-infinitival clauses cannot be a trigger of an enrichment process accompanying the antecedent noun with evaluative/degree meanings. Enrichment processes are merely contingent on the meaning of the antecedent noun itself, according to Fåhræus. In the next section, my corpus-based approach will show her claim is demonstrably incorrect. The fourth problem, which will be the most important, is that Fåhræus does not take the context into consideration. She attributes the possibility of enrichment processes in the antecedent noun + PICs to the difference between the appositive-type and the realization-type of infinitives. As we will find below, however, the enrichment process in this colligation is largely affected by the context.¹³⁾ In what follows, I will take a corpus-based approach using the data retrieved from the British National Corpus in order to construct a more convincing characterization of enrichment processes in the noun + PICs.

¹³⁾ The linguistic term "colligation" can be defined as a syntactic association pattern involving at least one grammatical category, where this grammatical category co-occurs frequently with some lexical item(s).

IV Two Types of Postmodifying Infinitive Clauses

I The distinction between infinitival appositive and infinitival relative clauses

As we have seen in the previous section, the syntactic pattern “the noun + PICs” falls into two outwardly similar constructions with functions that differ from each other, i.e. the appositive type of *to*-infinitives and the realization type of *to*-infinitives.¹⁴⁾ In this section, I examine the syntactic sequence “NP + *to*-infinitive” using data from the BNC in order to distinguish the appositive type and the realization type of *to*-infinitives, the differences between which being easily confused.

Let us here direct attention to the classification between the appositive type of infinitive and the realization type of infinitive on the basis of paraphrasability. The simple distinction of these two infinitival constructions can be made by two paraphrase patterns: a) the appositive type can be paraphrased by finite complement clauses, and b) the realization type by finite relative clauses, as in:

- (11) a. I applaud your decision *to employ them*, and shall leave your catalogue in the staffroom tomorrow ... (BNC: A03 1025) [the appositive type of inf.]
 a' = I applaud your decision *that you will employ them*, ...¹⁵⁾
 b. There's always something *to think about*. (BNC: JXU 1543) [the realization type of inf.]
 b' = There is always something *that I should think about*.

The appositive type can be characterized by the relationship between the antecedent noun and itself. As we saw in the last section, Fåhræus (1984: 136) correctly points out that appositive infinitival clauses “narrow the reference of the nouns, but nothing new is added to the semantic content of the nouns” (ibid. 136). Francis et al. (1998: 113ff.) represent a detailed classification of the antecedent nouns of appositive-type infinitives into 13 groups according to their semantic features. Those 13 groups are the nouns of 1) desire (e.g. *aim, ambition*), 2) arrangement (e.g. *agreement, appointment*), 3) promise (e.g. *commitment, pledge*), 4) proposal (e.g. *offer, suggestion*), 5) attempt (e.g. *effort, initiative*), 6) ability (e.g. *capability, chance*), 7) permission (e.g.

¹⁴⁾ The term PIC refers to the *to*-infinitive which postmodifies the preceding noun (the antecedent). It does not refer to a syntactic combination ‘NP + *to*-infinitive’. Furthermore, I will exclude from this study other types of infinitival clause consisting of NP + *to*-infinitives, which are illustrated by sentences like: a) “**The likeliest thing to happen** is that you leg it because, in a hullabaloo, you are one against two ... (BNC: ANI 2343)”; and b) “*Middlemarch* is a **long book to assign**” (Fleisher 2011: 342). *To*-infinitival clauses in these sentences seem to be syntactically connected with the adjectives (*likeliest* and *long*) rather than the antecedent nouns, although they might outwardly look like PICs. Fleisher (ibid.) calls the *to*-infinitive construction illustrated by the second sentence as ‘the nominal attributive-with-infinitival construction’.

¹⁵⁾ Here, and elsewhere in this paper, examples marked with an apostrophe signify a paraphrase by using a finite clause, which corresponds to PIC examples from the BNC.

authority, permission), 8) request (e.g. *demand, order*), 9) responsibility (e.g. *duty, obligation*), 10) reason (e.g. *encouragement, motivation*), 11) tendency (e.g. *predisposition, propensity*), 12) claim (e.g. *claim, pretension*), and 13) nouns with other meanings (e.g. *failure, job*). In their research, Francis et al. list 144 types of antecedent nouns of appositive infinitives.¹⁶⁾ The BNC, for its part, contains 393,880 tokens of the colligation pattern “noun + *to*-infinitives”. The frequency breakdown of antecedent nouns of infinitival appositive clauses extracted from the BNC is encapsulated in Table 1.¹⁷⁾ Table 1 clearly indicates that many of the nouns in this table are followed by appositive *to*-infinitives. Ten out of 30 nouns can be the antecedent noun of realization-type infinitives. These are highlighted by italics in the table.

Table 1. The most frequently occurring nouns followed by the PICs in the BNC

No	Nouns	Freq.	Percent	No	Nouns	Freq.	Percent
1	<i>time</i>	5596	2.24%	16	effort	1306	0.52%
2	need	3737	1.49%	17	<i>government</i>	1260	0.50%
3	<i>way</i>	3686	1.47%	18	plans	1194	0.48%
4	attempt	3611	1.44%	19	reason	1146	0.46%
5	ability	3420	1.37%	20	<i>money</i>	1101	0.44%
6	opportunity	3119	1.25%	21	efforts	1101	0.44%
7	right	3044	1.22%	22	<i>years</i>	1043	0.42%
8	chance	2436	0.97%	23	<i>place</i>	1004	0.40%
9	<i>people</i>	2405	0.96%	24	position	918	0.37%
10	decision	1806	0.72%	25	duty	861	0.34%
11	power	1732	0.69%	26	<i>things</i>	830	0.33%
12	attempts	1720	0.69%	27	capacity	760	0.30%
13	failure	1511	0.60%	28	<i>children</i>	753	0.30%
14	desire	1399	0.56%	29	intention	748	0.30%
15	<i>thing</i>	1358	0.54%	30	tendency	706	0.28%

The classification between the appositive type and the realization type of *to*-infinitives can be made on the basis of the following characteristics. Firstly, many of the nouns preceding appositive *to*-infinitives consist of either abstract nouns derived from verbs (e.g. *order, need, decision, attempt, failure, desire, plan, intention, tendency*) or nouns derived from adjectives (e.g. *ability*). And yet,

¹⁶⁾ Francis et al. (ibid.) represent these 13 groups of nouns as nouns consisting of a simple colligation pattern ‘NP + *to*-infinitive’ rather than ‘NP + infinitival appositive clauses’. A close-look at nouns he listed in the 13 groups of nouns reveals that all the instances are antecedent nouns followed by appositive infinitives.

¹⁷⁾ The BNC (CQP edition) cannot deal with over 250,000 tokens when it lists the frequency of the types of all the tokens. Thus, I thinned down the 393,880 tokens by the method of ‘random selection’ to 250,000, and then collected 21,789 types of antecedent nouns. I retrieved the nouns in Table 1 on the basis of the syntactic sequence ‘the noun + *to*-infinitives’.

Table 1 also shows that *right*, *chance*, and *opportunity*, none of which is de-adjectival or de-verbal, frequently occur. Secondly, the common denominator among these “noun + appositive *to*-infinitive” colligations is that the two parts are co-dependent on each other for communicating the idea which the speaker/writer intends to convey. In other words, this type of *to*-infinitive depends on the meaning denoted by the preceding nouns, but at the same time the nouns themselves are insufficiently explicit.¹⁸⁾ For example:

- (12) a. They have the ability *to make me feel guilty if I don't write/phone/visit at regular intervals*. (BNC: AYK 1064)¹⁹⁾
 b. I have to struggle hard in order to control the desire *to cry*. (BNC: BN3 7)

Neither *ability* in (12a) nor *desire* in (12b) itself conveys enough information to give rise to a contextual effect (in relevance-theoretic terms),²⁰⁾ unless it is combined with the following *to*-infinitive (i.e. *to make me feel guilty if I don't write/phone/visit at regular intervals* and *to cry*, respectively). Finally, the appositive *to*-infinitive does not seem able to be paraphrased by a finite relative clause (e.g. *the attempt to do it* ≠ **the attempt which I can do it*), although the realization type of *to*-infinitive does (e.g. *something to eat* = *something which we/I/you can eat*). Rather, some of the appositive *to*-infinitives can be paraphrased by complement *that*-clauses (e.g. *the attempt to do it* = *the attempt that we/I/you will do it*).

2 Enrichment in Noun + Infinitival Appositive Clauses

2.1 Enrichment with Evaluative Adjectival Meanings

It is helpful now to reiterate the four problems concerning Fähræus's analysis of the enrichment process in “the noun + infinitival clauses”. These problems consist of: a) the limitation of predicate verb patterns; b) the binary distinction between appositive-type and realization-type *to*-infinitives; c) too much dependence on the meaning of the antecedent noun itself; and d) the neglect of the context in which the noun + PICs occur. In the following discussion, my corpus-based approach to the target construction will clarify these issues.

¹⁸⁾ For more detailed analysis, see Akiyama (2004).

¹⁹⁾ The sentence subject ‘They’ refers to ‘(ordinary) Parents’.

²⁰⁾ The term ‘contextual effect’ is used within the framework of the relevance theory (Sperber and Wilson 1995). This term can be defined as ‘the result of a fruitful (i.e. relevant) interaction between a newly impinging stimulus and a subset of the assumptions already in the cognitive system. There are three main kinds of contextual (cognitive) effects: supporting and so strengthening existing assumptions, contradicting and eliminating assumptions, combining inferentially with them to produce new conclusions.’ (Carston 2002: 377)

First of all, I will survey the predicate verb patterns followed by the noun + PICs in the BNC. Fåhræus classifies the patterns of the predicate verbs into two types: verbs of *possession* and copular *be* verbs.²¹⁾ My corpus data proves that this binary classification of verb patterns is too crude to give a detailed description of the target construction. As we saw in Table 1, the most frequently occurring noun followed by an “appositive” *to*-infinitive is the noun *need*. Out of 3,737 examples of “*need* (the noun) + *to*-inf.” retrieved from the BNC (but thinned down by the method of *random selection*), 711 examples occur in the existential *there* + *be* verb construction (e.g. However, he suggested **there was** perhaps a need *to look into the system more closely* (BNC: AL2 258)).²²⁾ Other than the existential *there* construction, the predicate verb *feel*, *feels* and *felt* occur 140 times (e.g. When he has answered that question, he will no longer **feel** the need *to control others*). And the predicate verbs *stress*, *stresses* and *stressed* occur 28 times (e.g. Participants at the Manila consultation **stressed** the need *to put their words into action*. (BNC: EBF 135)). It is clear that the verbs *feel* and *stress* are not semantically connected with verbs of possession and the copular *be* verbs. The corpus examples consisting of “*right* (the noun) + *to*-infinitive” also falsify Fåhræus’s generalization. The predicate verbs “exercise” in (13a) and “deny” in (13b) should not be classified into verbs of possession or copular *be* verbs, as in:

- (13) a. In some countries a large majority of the electorate do not even **exercise** the right *to vote*.
(BNC: HSC 1770)
- b. Agricultural workers were still **denied** the right *to organize*, a situation which continues today. (BNC: EVS 641)²³⁾

In addition to the limitation of the number of predicate verb patterns, the relationship between the predicate verb patterns and the two kinds of PICs (i.e. the appositive and realization types of *to*-infinitives) should be under discussion. Recall that Fåhræus claims that the appositive type of *to*-infinitive can only occur after the verbs of possession (see Fig. 1). Here attention is directed to the colligation “*attempt* (the noun) + PICs”, in which the noun is derived from the verb *to attempt*, and thus the PIC is reasonably analyzed as being the appositive type of *to*-infinitive (see section 4.1). The BNC contains 593 examples of the syntactic sequence of “*the* + (adjective) + *attempt* + *to*-

²¹⁾ Out of 3,737 examples, 201 examples occur in the structure of ‘*have/has/had* + *need* + *to*-inf.’.

²²⁾ Out of the 711 examples, 467 examples are the negative structure of ‘*there* + *be* verb + *no* + *need* + *to*-inf.’.

²³⁾ In spite of these counterexamples, most of the predicate verbs followed by ‘*right* + *to*-inf.’ are *have/has/had*, *reserve/reserves/reserved*, and *give/gives/given*, all of which are categorized into verbs of possession or verbs implicating possession, however.

infinitive”, in which no examples preceded by verbs of possession (i.e. *have/ has/ had*) are found.²⁴⁾ Contrary to Fåhræus’s generalization encapsulated in Figure 1 above, 57 examples are found in the corpus which consist of “copular *be + the + (adjective) + attempt + to-infinitive*” (see (14a)). Furthermore, 145 cases of this colligation pattern occur as the sentence subject (see (14b)), which is never mentioned in the previous analysis. On the basis of this linguistic fact, Fåhræus’s generalization of the classification of predicated verbs followed by “*the + N + appositive to-infinitives*” proves to be inadequate.

- (14) a. The second approach *was the attempt to create a new class of ‘master farmer.’* (BNC: A6M 474)
 b. *The attempt to legitimise Renville* met widespread opposition. (BNC: FAN 1097)

I will now proceed to examine Fåhræus’s second problem concerning her mutually-exclusive distinction of PICs into the appositive and realization types of *to*-infinitives. As Figure 1 suggests, the possibility for the antecedent noun of the PIC to be enriched with degree/evaluative adjectival meanings is analyzed as being based on the binary distinction of the types of *to*-infinitives. Fåhræus claims that “the [appositive] infinitives narrow the reference of the nouns, but nothing new is added to the semantic content of the nouns” (ibid. 136). This basic idea seems to have an empirical validity. In the BNC examples, most of the antecedent nouns followed by the appositive *to*-infinitive are unlikely to cause enrichment with adjectival degree/evaluative meanings. Examples marked with apostrophes signify an explicature that corresponds to the example from the BNC.

- (15) a. You may also have the opportunity to attend a course. (BNC: A0J 293)
 a'. → ?You may also have the *good/ best* opportunity to attend a course.
 b. All citizens have the right to use the public highway. (BNC: ASB 151)
 b'. → ?All citizens have the *perfect/ best* right to use the public highway.

The unlikelihood of enrichment with adjectival meanings in the above sentences does not suggest that the noun (i.e. *opportunity, right*) cannot be modified with an evaluative adjective (e.g. *best*), as in:

- (16) a. “Operators like Jane’s Aviation will *have the best opportunity to develop their business* by

²⁴⁾ There are some examples found in the corpus, however, which consist of ‘possessive preposition *with + the + (adjective) + attempt + to-infinitive*’ (e.g. And this fascination is often in tension *with the attempt to articulate a critique* (BNC: ECV 1520)).

being based here.” (BNC: K4H 406)

b. “If in some sort the brothers all stand accused by this present word,” said Earl Robert helpfully, “it is they, the humbler children of the household, who *have the **best right to ask for a name.***” (BNC: G0M 2007)

The tendency that nouns followed by appositive *to*-infinitives are unlikely to be enriched with adjectival meanings will be reasonably explained by the relevance theory.²⁵⁾ The basic idea of this theory is that “every aspect of communication and cognition is governed by the search for relevance” (Sperber and Wilson 1995: 260). According to Sperber and Wilson, in human communication we pay attention to information that seems relevant to us. The technical notion “relevance” is measured in terms of the relationship between “cognitive/contextual effect” (informativeness) and “processing effort”. In other words, “the relevance of an input depends not only on the cognitive (contextual) effects it achieves, but also on the amount of mental (processing) effort it requires” (Wilson and Sperber 2002: 3). Contextual effects refer to “the result of a fruitful (i.e. relevant) interaction between a newly impinging stimulus and a subset of the assumptions already in the cognitive system” (Carston 2002: 377). Other things being equal, the more contextual effects there are, the greater the relevance of particular information. However, these contextual effects do not occur without any cost but require “processing effort”, and therefore “[a]n assumption is relevant to an individual to the extent that the effort required to achieve contextual effects is small” (Sperber and Wilson 1995: 265). To summarize, a highly relevant utterance has large contextual effects for small processing effort, and an utterance of small relevance has a processing effort which exceeds its potential contextual effects. Taking these notions into account, Sperber and Wilson (1995) enunciate the fundamental principle about human cognition and communication: 1) human cognition tends to be geared to the maximization of relevance (The Cognitive Principle of Relevance) ; and 2) every ostensive stimulus communicates a presumption of its own optimal relevance (The Communicative Principle of Relevance). As for the relevance-theoretic comprehension procedure, the hearer should take the linguistically encoded sentence meaning and then, following a path of least effort, he should enrich it at the explicit level and complement it at the implicit level until the resulting interpretation meets his expectation of relevance (see Carston 2004a: 638; Wilson and Sperber 2002: 9).

Let me now apply the (communicative) principle of relevance to the mechanism by which the antecedent noun followed by appositive *to*-infinitives is unlikely to cause enrichment with degree/evaluative adjectival meanings. On the basis of the principles of relevance, the hearer will test

²⁵⁾ The brief summary of the relevance theory in this paragraph is revised from Akiyama (2001).

interpretive hypothesis (disambiguation, reference assignment, saturation, *ad hoc* concept construction, free enrichment and implicatures) in order of accessibility.²⁶⁾

(17) You may also have the opportunity *to attend a course*. (= (15a))

In (17), the phrase *the opportunity to attend a course* does not require the antecedent noun *the opportunity* to be enriched with evaluative adjectival meaning (e.g. *good, best*). This is because the hearer will have an adequate contextual effect without a processing effort caused by free-enrichment processes of accompanying adjectival meanings. The same comment can be applicable to another example: “Science has given us the technology, but do we *have the right to use it?*” The phrase “the right to use it” will bring about an adequate contextual effect without a free-enrichment process of adding adjectival meaning (e.g. *perfect*) to the antecedent noun (i.e. *the right*).

However, the discussion is not so straightforward. The following examples, while they consist of “*opportunity + to-infinitives*”, are likely to require an enrichment process with evaluative adjectival meaning (e.g. *good*) for an adequate contextual effect with the least processing effort.

- (18) a. For those of you who haven't used *lurex* before, this is *an opportunity to have a go*.^{27) 28)}
 b. The Education Reform Act required college governing bodies to be dominated by employer interests, and it is normally a requirement that at least 50% of the attendance at any governing body meeting should be from the employer sector. This is an *opportunity to strengthen existing partnerships by securing board membership from a linked company, or to begin the process of negotiation which might lead to a productive partnership where none exists thus far*. (BNC: B2T 297)

The two examples of the colligation “*opportunity + to-infinitive*” in (18a-b) are highly likely to require enrichment processes with adjectival meaning (i.e. *a good opportunity to have a go* in (18a) and *a good opportunity to strengthen existing partnerships ...* in (18b)). The logical form of the utterance of (18a) will combine inferentially with contextual assumption and yield a possible

²⁶⁾ Wilson and Sperber (2002:9-10) propose the ‘relevance-theoretic comprehension procedure’, which operates the following two processes: a) Follow a path of least effort in computing cognitive effects and test interpretive hypotheses (disambiguations, reference resolutions, implicatures, etc.) in order of accessibility; and b) Stop when your expectations of relevance are satisfied.

²⁷⁾ The artificial sentence (18a) is based on a sentence extracted from the BNC (i.e. For those of you who haven't used *lurex* before, this is *a good opportunity to have a go*). Although (18a) lacks the adjective *good* in front of the antecedent noun (*opportunity*), it will still make sense provided that the free-enrichment process is given rise to.

²⁸⁾ *Lurex* is a product name for a type of yarn produced by a British textile company.

implicature that “We will recommend you to try our *lurex*, if you have never used it before.”²⁹⁾ It will be reasonable to state that this implicature will function as “recommendation of the product”. To acquire this implicature, the logical form *an opportunity to have a go* should be enriched with a positive evaluative adjectival meaning into *a good opportunity to have a go*. Otherwise, the logical form of this utterance will be vague in meaning and not yield an adequate contextual effect. Consequently, the vagueness needs to be resolved by means of an enrichment process. An analogous comment holds for (18b). The phrase *an opportunity to strengthen the existing partnership* in this sentence is highly likely to be enriched with the positive evaluative adjective *good* (i.e. *a good opportunity to strengthen the existing partnership*). The context of (18b) has the strong implication that the Education Reform Act’s requirement leads to a “good” opportunity to strengthen the existing partnership and to begin the process of negotiation. In this context, the pragmatic enrichment is caused by the necessity generated by the quality of the referent of the antecedent noun for the realization of the situation expressed by the infinitival clauses. It is thus reasonable to state that the contextual assumption will guide the hearer to bring about enrichment processing. Example (19) below will endorse the validity of my hypothesis.

- (19) Interviewees sometimes think that when an interviewer says to them, ‘Do you have any questions you would like to ask me?’ this is *an opportunity to ask how long the holidays are and how soon you would be due for a pay rise*. Unfortunately such questions may give a negative impression of your priorities. The interviewer would rather hear you ask positive questions about the company, about training opportunities and the chance to progress to greater responsibility. (BNC: BNA 307-9)

In this example, *an opportunity to ask how long the holidays are and how soon you would be due for a pay rise* is unlikely to be enriched into *a good/best opportunity to ask...*. The whole context induces interviewees not to ask such questions. In other words, the situation denoted by the PIC (i.e. *to ask*) is not always supposed to be realized. The infinitive clause should be therefore parsed as an appositive infinitival clause. This example also illustrates that the enrichment process with evaluative adjectives hinges on the contextual assumption and is based on the Communicative Principle of Relevance.

A question might arise concerning whether the *to*-infinitival clauses in (18a) and (18b) should be parsed as the appositive infinitive. These *to*-infinitival clauses could be paraphrased by a finite

²⁹⁾ The term ‘contextual assumption’ is “labeled an implicated premise because it is used in deriving further implicatures, i.e. implicated conclusions” (Clark 2013: 225).

relative clause (i.e. a (*good*) *opportunity in which you should have a go*). *To*-infinitival clauses in (18a-b) will thus be parsed as the infinitival relative clause (henceforth, “IRC”). Indeed, *to*-infinitival clauses in (18a-b) can also be paraphrased by the relative clause construction as illustrated in (20a) and (20b), respectively.

- (20) a. ..., this is *an opportunity in which to have a go*.
 b. This is *an opportunity in which to strengthen existing partnerships by securing board membership from a linked company, or ...*

Examination of the possibility of enrichment processes in the antecedent noun followed by *to*-infinitival clauses in (18a-b) and (19) makes us reasonably posit that this pragmatic inferential process is necessarily contingent on contextual assumptions. The linguistic evidence shown in (18a-b) and (19) demonstrably falsifies Fähræus’s analysis, which leads to her second problem (mentioned at the end of section 3) that the relationship between the antecedent noun and the appositive type or the realization type of *to*-infinitive is a *one-to-one* correspondence. On the contrary to her claim, enrichment in the antecedent noun is induced by the contextual assumption rather than the lexical meaning of the noun.

What is intriguing here is that the adjective *good* will be most likely to be recovered in the enrichment process, while there are plenty of other adjectives which can modify the phrase *opportunity + to*-infinitive, such as *ideal, golden, great, excellent, perfect, wonderful, reasonable, welcome, tremendous, exciting, glorious, superb, appropriate, fantastic, effective, adequate, invaluable, key*, etc.³⁰ Clark (2013: 149) points out that the accessibility of contextual assumptions has something to do with the effects of frequency and recency of use. Indeed, the adjective *good* has the highest frequency among evaluative adjectives retrieved from the BNC.

To enhance the empirical validity of my hypothesis that enrichment processes in the target construction are not contingent on the lexical meaning of the antecedent noun but crucially dependent on the context, I will examine another colligation pattern: *ability + to*-infinitive, which can be parsed either as an appositive clause or as a relative clause according to the context. In (21a-d) below the antecedent noun *ability* does not seem to have a free-enrichment process with evaluative adjectival meaning (e.g. *good, remarkable, great*) to develop the full propositional form of the utterance.

³⁰ These adjectives are virtually observed in the colligation pattern ‘adjective + *opportunity + to*-infinitive’ in the BNC. The order of the adjectives in this sentence is based on their frequency.

- (21) a. As Tudge (1988) discusses, the facility of plants to regenerate from a few cells is related to the characteristic known as totipotency. This means that each individual cell has *the ability to develop into any kind of cell that the organism will require for survival*. (BNC: B1E 1079)
- b. The final stages of training amount to the handing over of all the responsibility for safety to the student. Ideally, the student should be making all the decisions and choosing actions in the interests of safety and efficiency. By setting the student problems during the final flights before going solo, the instructor can test *his ability to think logically and to deal with situations as they arise*. (BNC: A0H 410)
- c. Most students have very little difficulty in learning how to make satisfactory launches. However, the critical few moments at the start of the launch are not always fully understood, and often there is an element of luck in getting it right. Instructors can be mistaken about *their students' ability to control the initial part properly if one or two launches go well*. (BNC: A0H 573)

The interpretation of the phrase *the ability to develop into any kind of cell that the organism will require for survival* in (21a) is not likely to require the hearer to enrich the phrase into *the good ability to develop ...* to recover explicature. The context of (21a) simply describes the biological characteristics of plant cells and does not compare the plant cells' ability to something else. The hearer will gain adequate contextual effect without an enrichment process in the phrase in question. Analogous comments will hold for another example, such as: "For example, the bacterium *Bacillus thuringiensis* has *the ability to produce crystalline spores which act as natural insecticides*" (BNC: B1E 1242)³¹⁾ This sentence also merely gives a biological description of the bacterium *Bacillus thuringiensis*, which has the ability to produce new cells. The hearer here will not consider any criteria on which he/she makes an evaluative judgment on the quality of this bacterium's ability. The sentence in question therefore brings about adequate contextual effect without an enrichment process with evaluative meaning (e.g. *good*) to modify the antecedent noun *ability*. The infinitival clause *to produce crystalline spores* will thus be parsed as being an appositive infinitive. Example (21b) is concerned with teaching students the technique of flying a glider and how to make decisions and judgements in the air. This context does not always assure that the student has a *good* ability to think logically and to deal with situations as they arise. Rather, *his ability to think*

³¹⁾ *Bacillus thuringiensis* refers to "a bacterium used in genetically altered form in the biological control of budworms, gypsy moth larvae, Japanese beetles, and other insect pests". (*Random House Unabridged Dictionary* (1997))

logically in (21b) is described as being neutral in quality in this context. Furthermore, *to test* something means to find out how well they are able to do something (see *Collins CoBuild Advanced Dictionary of American English* (2009)). To test a person's eyesight, for example, means to find out how well he/she is able to see. Notice here that the person's eyesight will not always prove to be *good*. Thus in the phrase *testing his ability to think logically and to deal with situations as they arise*, the test does not always premise his ability is good. The hearer of (21b) will gain an adequate contextual effect without an enrichment process of accompanying the evaluative adjectival meaning *good*. The context (21c) explains the situation that glider instructors sometimes cannot form a proper estimate of their students' ability to take off. In other words, instructors sometimes overestimate their students' ability to control the initial part properly if one or two launches go well, while their successful launch is virtually dependent on luck. Under these contextual assumptions, the antecedent noun *their student's ability* in (21c) is unlikely to be enriched into *their students' good ability*.

While all the examples of the antecedent noun *ability* in (21a-c) are not likely to give rise to free-enrichment processes, the following examples of *ability* followed by *to*-infinitival clauses are likely to be enriched with evaluative adjectives (e.g. *remarkable, unique*).

- (22) a. Of the World Cup final defeat, Gooch said that England 'didn't play well that day'. Although Pakistan had talented players and were formidable opposition 'we have *the ability to beat them*'. (BNC: AKV 886)
- b. One of the strengths of the company has been *their ability to produce films with a wide range of styles and subject, without losing their commitment to brave and adventurous film-making*. (BNC: A0E 189)
- c. It *would* be a pity if children did not read, let us say, Beatrix Potter's little books, or *The wind in the Willows*, or the Alice books, or Philippa Pearce's *Tom's Midnight Garden* or Shirley Hughes' *Dogger*. It would be a pity because these books have something special to say about the human condition, about being human beings, and about the power of words and images. These are not merely reading for children but they form part of a shared British culture. These kinds of books have *the ability to engage readers (at least some readers) in a particularly intimate and enriching way*. They make a permanent and pleasurable addition to ourselves as individuals. We are what we eat, we are told, and we are - at least in part - what we have read. (BNC: BML 1295)

The context of (22a) is extracted from a newspaper article concerning the interview with Graham Gooch, a former captain of England's cricket team. The England team was defeated by

Pakistan in the 1992 World Cup and Gooch admits the Pakistan team's good talent. The concessive clause (i.e. *Although ...*) of the second sentence in (22a) introduces a clear implication that the present England team has the "positive" ability to beat Pakistan. Through this inferential process, *the ability to beat them* in (22a) is likely to be enriched into "the good/better ability to beat Pakistan". Notice that this free-enrichment process is motivated by the contextual assumption rather than the lexical meaning of the noun *ability*. The context (22b) describes a remarkable advantage of a British film-making company "Working Title". The subject part of the sentence *one of the strengths of the company* reasonably induces the hearer to infer that this film-making company has the "remarkable" ability to produce films with a wide range of styles and subject, without losing its commitment to brave and adventurous film-making. The possibility of the enrichment process in (22b) thus will be endorsed by the contextual assumption that this sentence describes Working Title as having an important advantage over other film-making companies. The context of (22c) is also likely to bring about a free-enrichment process to the antecedent noun (*the ability*) followed by the *to*-infinitival clause. This context emphatically states that the particular books for children have a good effect on children's future life and form part of a shared British culture. The contextual assumption made through the first three sentences in (22c) makes us posit that the books exemplified here have the *remarkable* ability to engage readers in a particularly intimate and enriching way. The last two sentences in (22c) seem to express an implicature that "you should read those books, and then you will learn how to live well". The hearer is likely to conduct an enrichment process of accompanying the adjective *remarkable* to modify the antecedent noun *the ability* to induce this implicature. Through the analyses of the pragmatic inferential process in (22a-c), the three infinitival clauses in question will be reasonably parsed as infinitival relative clauses rather than infinitival appositive clauses.

The following example shows that the "*ability to*-infinitive" construction occurs after the predicate verb *praise*, which is not classified into the verb category of possession or the copular *be* verbs.

- (23) Vasari praised Giotto's **ability to represent things visible, a highly usual expectation in the tradition of Western art.** (BNC: A04 1470)

The meaning of the predicate verb *praise* enhances the validity of Giotto's ability to represent things visible. This contextual assumption (premise) will induce the hearer to conduct an enrichment process of accompanying an evaluative adjective, say *remarkable*, to modify the antecedent noun. Otherwise, the logical form of (23) will be vague in meaning and will not yield an adequate contextual effect. This enrichment process clarifies the reason why Vasari praised Giotto's

ability. Furthermore, the explicature of *Giotto's remarkable ability to represent things visible* can be paraphrased by an infinitival relative clause, such as: *Giotto's remarkable ability with which he can represent things visible*. It will be reasonable to state that this infinitival clause is referred to as an infinitival relative (not appositive) clause.

2.2 Enrichment with Degree Adjectival Meanings

Until this point we have observed examples of enrichment processes of accompanying “evaluative” adjectival meaning in the antecedent noun followed by appositive *to*-infinitives. This sub-section directs attention to the cases in which an enrichment process of accompanying “degree” adjectival meaning occurs in the antecedent noun + appositive infinitives. First of all, I will inquire into the colligation of “*sufficient* (a prototypical degree adjective) + the antecedent noun + the *to*-infinitive”.

- (24) a. Consultation is, or should be, a key element in a redundancy exercise. Without it, your employer risks making decisions on the basis of inadequate information and you risk losing your job without having been given *sufficient opportunity to convince management that you still have something to contribute*. (BNC: B08 1050)
- b. You may not be able to think of incentives and pressures that you can use, just because you haven't given *sufficient thought to identify what the other person wants and needs and how you can match them*. (BNC: CEF 751)
- c. Crèches at the workplace are still not a common occurrence, although some companies without *sufficient demand to make a crèche feasible opt for giving employees financial help with local childcare instead*. (BNC: ALW 81)

(24a) - (24c) contains antecedent nouns that are prototypically followed by appositive infinitives (i.e. *opportunity* in (24a), *thought* in (24b) and *demand* in (24c)). However, the *to*-infinitival clauses in these examples are unlikely to be parsed as being appositive. Rather, these three infinitival clauses can be paraphrased by infinitival relative clauses such as *sufficient opportunity in which to convince management ...* in (24a), *sufficient thought in which to identify...* in (24b) and *sufficient demand by which to make a crèche feasible ...* in (24c). This will be a clear indication that appositive *to*-infinitives are not preceded by the antecedent noun modified by degree adjectives. Furthermore, the omission of the adjective *sufficient* from the antecedent nouns in (24a-c) would not lead to the change of the parsing into the appositive infinitive (E.g. ... and you risk losing your job without having been given *the opportunity to convince management that you still have something to contribute*). Moreover, the possibility of an enrichment process of recovering the omitted adjective

sufficient in the latter part of the revised version of the sentence (24a) is not always assured. In other words, it will be a matter of degree whether the antecedent noun followed by the PIC will be enriched or not. To summarize my conclusion in section 4.2, the classification between the infinitival appositive clause and the infinitival relative clause is not affected by the lexical meaning of the antecedent noun but by the contextual assumption in which the target construction occurs.

3 Enrichment in Noun + Infinitival Relative Clauses

In section 4.2, I clarified that some antecedent nouns can take either infinitival appositive clauses (e.g. (21a)) or infinitival relative clauses (e.g. (22a)), and then that the parsing mechanism of the infinitive clause is dependent on the context in which it occurs rather than the lexical meaning of the antecedent noun. In this section, I will now direct attention to the infinitival relative clause and examine the inferential mechanism by which enrichment processes occur in the interpretation of this construction.

As I have pointed out in section 4.1, Table 1 indicates that the antecedent noun *time* is by far the most frequently occurring noun followed by the PICs. Out of 5,596 examples of *time* + *to*-infinitive, the colligation patterns “copular *be* verbs + *the time* + *to*-infinitive” and “*have* + *the time* + *to*-infinitive” occur most frequently. A survey of these examples allows us to assume that the antecedent noun *time* + infinitival relative clauses always induce an enrichment process with evaluative/degree adjectival meanings, as in:

- (25) a. The end of September is the time *to lift and store carrots and beetroot*. (BNC: A0G 1373)
a'. ⇒ The end of September is the **best** time *to lift and store carrots and beetroot*.
b. I do not have the time *to comment on its use in any detail*. (BNC: EBJ 687)
b'. ⇒ I do not have the **sufficient** time *to comment on its use in any detail*.

Furthermore, it should be noticed that these two types of colligations can be paraphrased by the pied-piping construction, as in:³²⁾

- (26) a. The end of September is the (best) time *in which to lift and store carrots and beetroot*.
b. I do not have the (sufficient) time *in which to comment on its use in any detail*.

Four other nouns in Table 1, viz. *way*, *money*, *years*, and *place* can also take infinitival relative

³²⁾ The linguistics term ‘pied-piping’ refers to “placing a preposition before a wh-word at the beginning of a clause or sentence: The pub in which the two men sat had oak beams and brass horseshoes.” (Leech 2005: 86)

clauses which can be paraphrased by the pied-piping construction. Let us refer to this type of infinitival relative clause as “adverbially-relativized IRCs”.³³⁾ It seems that these nouns modified by adverbially-relativized IRCs are highly likely to give rise to adjectival pragmatic enrichment:

- (27) a. That is the way *to have a sharp effect on the monetary environment*. (BNC: CEK 5585)
 a'. \Rightarrow That is the **best** way *to have a sharp effect on the monetary environment*.
 a". That is the way *in which to have a sharp effect on the monetary environment*.
 b. We don't have the money *to cough up to maintain the operation*. (BNC: K4H 117)
 b'. \Rightarrow We don't have the **sufficient** money *to cough up to maintain the operation*.
 b". We don't have the money *with which to cough up to maintain the operation*.

To enhance the empirical validity of the present research, I will expand attention to IRCs with pied-piping construction. Having a different syntactic construction from PICs we have examined so far, the pied-piping IRC seems to have the same property concerning enrichment process with evaluative/degree adjective as the IRCs which have no overt relativizer (i.e. *which*).

The BNC contains 1,946 examples of a colligation “noun + preposition + *which* + *to*-infinitive”. The top 20 most frequently occurring types of this colligation are depicted in Table 2.

Table 2. Most Frequently Occurring 20 types of “Noun + Pied-piping IRC” in the BNC

No.	Colligation	Freq.	%	No.	Colligation	Freq.	%
1	base from <i>which to</i> -inf.	44	2.26%	11	<i>months in which to</i> -inf.	17	0.87%
2	<i>time in which to</i> -inf.	41	2.11%	12	<i>framework within which to</i> -inf.	15	0.77%
3	<i>place in which to</i> -inf.	39	2%	13	<i>weeks in which to</i> -inf.	14	0.72%
4	<i>basis on which to</i> -inf.	34	1.75%	14	<i>point at which to</i> -inf.	14	0.72%
5	<i>way in which to</i> -inf.	28	1.44%	15	<i>places in which to</i> -inf.	14	0.72%
6	<i>information on which to</i> -inf.	24	1.23%	16	<i>years in which to</i> -inf.	14	0.72%
7	<i>environment in which to</i> -inf.	24	1.23%	17	<i>context in which to</i> -inf.	13	0.67%
8	<i>days in which to</i> -inf.	24	1.23%	18	<i>money with which to</i> -inf.	12	0.62%
9	<i>space in which to</i> -inf.	24	1.23%	19	<i>resources with which to</i> -inf.	12	0.62%
10	<i>base on which to</i> -inf.	18	0.92%	20	<i>ways in which to</i> -inf.	11	0.57%

As Table 2 shows, the most frequent colligation pattern is “*base from which to*-infinitive”, which occurs 44 times in the BNC. Out of the 44 examples, 22 examples are preceded by evaluative/degree adjectives denoting positive meaning such as *accurate, enough, fresh, good, ideal, solid, strong*, and *sufficient*. Examples are:

³³⁾ With regard to the syntactic and semantic properties of pied-piping IRCs, see Akiyama (2006).

- (28) a. Your hotel, the Nirayani, is a **good** base *from which to explore the surrounding area*.
(BNC: EET 1110)
- b. Just five hundred yards from the A82, it makes an **ideal** base *from which to tour the Central Highlands*. (BNC: CJK 1936)

Furthermore, this colligation also occurs without overt or articulated adjectives modifying the antecedent noun, but will still be enriched with evaluative adjectival meanings so as to flesh out the explicature, as in:

- (29) a. You need qualitative and quantitative research. First, a small representative group discussing subjects in depth with a trained observer leading and reporting conclusions. Then quantitative research, testing those themes, reactions and conclusions on a larger sample of people. If your research is good, it gives you the base *from which to start*. (BNC: ADK 1146)
- a'. ⇒ If your research is good, it gives you the **ideal/good** base *from which to start*.

The high frequency of the appearance of evaluative/degree adjectives (e.g. (28a-b)) and the explicature generated through the enrichment process (e.g. (29a')) will be explained by the principle of relevance. The adverbially-relativized IRCs refer to situations in which the speaker assumes that they can or should be realized (e.g. It gives you the base *from which to start*). The referent of the antecedent noun of this type of IRC (e.g. *the base*) performs the function of the “trigger” (or necessary condition) to give rise to the situation denoted by the IRC.³⁴⁾ And this trigger (i.e. the antecedent noun) necessarily has to have a positive evaluative/degree scale in order to realize the situation denoted by the IRC. If the antecedent noun is modified by the “articulated” positive evaluative/degree adjective, the speaker will acquire adequate contextual effect without free-enrichment processing. The lack of the overt positive evaluative/degree adjective in front of the antecedent noun will lead to the conduct of the enrichment process (see (29a) and (29a')). The implementation of free-enrichment involves the addition of evaluative/degree adjective meaning and leads to the recovery of the assumptions that the speaker intends to communicate. This kind of free-enrichment will necessarily require the hearer to make some processing effort, which will never be too large to develop the adequate contextual effect.

To assess the validity of the claim I made concerning the free-enrichment process in adverbially-relativized IRCs, let me examine another colligation pattern, i.e. *information on which to*-infinitive.

³⁴⁾ For more detailed analysis of the trigger of IRCs, see Akiyama (2005).

The BNC contains 24 examples of this colligation pattern, and out of these 24 examples, 17 examples are preceded by positive evaluative/degree adjectives such as *accurate, additional, best, better, enough, essential, fresh, more, necessary, and sufficient* (e.g. But it's much easier these days to get the **best** information *on which to base your decision* (BNC: EX5 2468)). All of these adjectives express positive features of the "information" for the situation denoted by the *to*-infinitive to be realized. A negative-meaning adjective "*insufficient*", however, can also be found in the data, as in:

- (30) Books that set out to give advice to management never fail to point out that a "no" decision is not at all the same thing as failure to make a decision. This point is illustrated quite definitely in the drawing. The making of a "no" decision is a definite action and a definite direction. It is the clear and deliberate avoidance of the direction implied by the "yes" decision. We can hold off making a decision if we do not have enough information. The making of a "no" decision is a positive rejection based - hopefully - on as much information as might be required for a "yes" decision. In practice this is just hopeful because many "no" decisions are made simply because there is need to make a decision (regarding investment for example) and **insufficient** information *on which to base a "yes" decision*. (BNC: H0E 286)

The antecedent noun phrase (i.e. *insufficient information*) in the last sentence of (30) has the implication of "inappropriateness" for the situation denoted by the IRC, *on which to base a "yes" decision*, to be realized.³⁵⁾ In other words, the hearer will have the interpretation that *information* in (30) is insufficient for the purpose at hand, i.e., for an act of basing. Of interest here is that the omission of *insufficient* from the IRC would lead to an enrichment process to provide positive sense adjectives, and thus the whole sentence does have an illogical meaning.

- (31) ? In practice this is just hopeful because many "no" decisions are made simply because there is a need to make a decision (regarding investment for example) and (sufficient/good) *information on which to base a "yes" decision*.

This linguistic fact suggests that IRCs have a construction meaning of "prospect" by which the situation denoted by the infinitival clause is expected to be realized, and thus a "positive" evaluative/degree adjectival meaning is highly likely to be enriched. The artificial sentence (31) will be judged as being unacceptable, because of the semantic contradiction between the "positive" meaning

³⁵⁾ Concerning the mechanism in which *to*-infinitival clauses have an implication of "inappropriateness" to the situation denoted by the infinitive clause to be realized, see Fleisher (2011).

enrichment for the antecedent noun and the illogical meaning of the whole sentence. There will be no contextual effects to change the hearer's cognitive environment. The discussion of the enrichment mechanism in (30) and (31) will ensure that adverbially-relativized IRCs always induce an enrichment process with a positive evaluative/degree adjectival meaning.

Contrary to adverbially-relativized IRCs, there are some examples in object type of IRCs which are not likely to induce pragmatic enrichment, even if this type of IRC occurs in the "have + *the* + noun + IRC" colligation. This will be illustrated by the following examples:

(32) a. I would suggest you think again, because you also have the children *to think about*.

(BNC: K3B 49)

[cf. ? *have the good/right/sufficient children to think about*]

b. 'We have things *to discuss*, Claudia; I'll see you tomorrow.'

(BNC: H8J 2247)

[cf. ? *have the good/right/many things to discuss*]

Here the referents of the antecedent nouns (i.e. *the children* in (32a) and *things* in (32b)) do not perform the function of a trigger (or necessary condition) for the situation denoted by the IRCs to be realized. Rather, they are the object of the action denoted by the IRC. It is not necessary for the referent of the antecedent noun to have a positive evaluative/degree scale in order to give rise to the situation of the IRCs. Therefore, the hearer will acquire an adequate contextual effect without a free-enrichment process in these sentences.

To summarize the discussion in this sub-section, the possibility of the free-enrichment process in the colligation the noun + the infinitival relative clause is dependent on the context rather than the lexical meaning of the antecedent noun, which is contradictory to the claim given by Fåhræus (1984). Free-enrichment in the target construction is induced by the principle of relevance. The hearer will conduct the free-enrichment process if he/she cannot give rise to an adequate contextual effect without this pragmatic inferential process to recover the assumption that the speaker intends to communicate. Furthermore, the possibility of the free-enrichment process in the target construction seems to be a matter of degree, because it depends on the hearer's contextual assumptions.

4 Negative Adjectives Followed by [Noun + *To*-infinitive]

As well as positive meaning adjectives, adjectives denoting negative meanings (e.g. *bad*, *poor*, *insufficient*) can also be followed by the syntactic sequence [noun + *to*-infinitive]. Let me confine my research to focusing on three negative adjectives, i.e. *bad*, *worst*, *insufficient*, which are antonyms of *good*, *best*, *enough/sufficient*, respectively. Notice here that these negative meaning adjectives always

denote inappropriateness for the realization of the situation denoted by the *to*-infinitive. This inappropriateness interpretation is not due to the combination of the adjectives with [noun + *to*-infinitive] but to the lexical meaning of these adjectives themselves (see Fleisher 2011: 343).³⁶⁾

The syntactic sequence of “*bad* + noun + *to*-inf.” hits only nine examples in the BNC. Out of the nine, three examples are parsed as PICs and these infinitival clauses are the object-type, as in:

- (33) a. It’s not *a bad position to strike from*. (BNC: FRH 2981)
 b. That’s not *a bad position to be in*. (BNC: K4T 1967)
 c. Luke Calder would be *a bad man to cross*, and suddenly she was glad that this time he was on her side and not the opposition’s. (BNC: JXV 348)

(33a)-(33c) would be highly less likely to allow an enrichment process to recover the negative adjective *bad* if this evaluative word were omitted (e.g. *It’s not a position to strike from*). Explicatures of phrases “*a position to strike from*” and “*a position to be in*” would be enriched with positive meaning adjectives such as *good*, *appropriate* or *right*. A phrase “*a man to cross*”, however, is less likely to be supplemented with a positive evaluative adjective in the context (33c) and this sentence does not make any sense. This is because a semantic contradiction would occur between “*a right man to cross*” and the following clause (i.e. *and suddenly she was glad that ...*).³⁷⁾

- (34) a. It’s not *a position to strike from*.
 a’. ⇒ It’s not *a good/~~bad~~ position to strike from*.
 b. That’s not *a position to be in*.
 b’. ⇒ That’s not *a good/~~bad~~ position to be in*.
 c. ? Luke Calder would be *a man to cross*, and suddenly she was glad that ...
 c’. ⇒ ? Luke Calder would be *a good/~~bad~~ man to cross*, and suddenly she was glad that ...

The adjective *worst* is also followed by a [noun + *to*-infinitive] sequence, and 29 examples of this type of syntactic sequence are found in the BNC, and all the examples can be parsed as PICs:

³⁶⁾ In the sentence “Middlemarch is a long book to assign”, for example, the attributive adjective *long* has inappropriateness interpretation for an act of assigning. This inappropriateness interpretation, however, is not due to the adjective’s lexical meaning, but is associated with the combination of the adjective and *book to assign*. For more detailed discussion, see Fleisher 2011.

³⁷⁾ In (33c) the infinitival clause ‘to cross’ means ‘to make somebody angry’.

- (35) a. Calcutta must be *the worst place to live*. (BNC: APL 25)
b. 'This is *the worst attempt to derail a train that I've ever seen*.' (BNC: CH2 1524)

The interpretations of PICs in (35a-b) are different from each other in that the former PIC denotes a non-factual situation and the latter expresses factuality. The latter's factual interpretation is triggered by determinations expressing exclusiveness (e.g. *worst*) and the past situation implicated by the phrase "that I've ever seen".³⁸⁾ Regardless of whether the interpretation of PICs is factual or non-factual, omitting the negative adjective *worst* from (35a-b) changes the meaning of the sentences (see (36a-b)). This linguistic evidence makes it reasonable to assume that the enrichment process for supplementing evaluative adjectives in PICs is restricted to the positive scale.

- (36) a. Calcutta must be *the place to live*. (= *the good/best place to live*)
b. 'This is *the attempt to derail a train that I've ever seen*.'³⁹⁾
(= *the best/right attempt to derail a train that I've ever seen*)

Having paid attention to negative evaluative adjectives, let us now shift our focus to degree adjectives with negative sense. The adjective "insufficient" is one of the typical adjectives denoting negative degree which occur with IRCs. Examples are:

- (37) a. He made immediate inquiries by telephone, but felt that there was *insufficient evidence to justify his intervention*. (BNC: FDD 229) [Adverbially-relativized type IRC]
b. At present, there are about 2,000 boys spread through approximately 20 groups in the city, but ten of those groups have *insufficient equipment to function properly*.
(BNC: BM4 1203) [Subject type IRC]
c. RIBA has even proposed staging a debate at its headquarters in London's Portland Place on the motion that 'volume housebuilders give *insufficient thought to design*, leaving innovation to the designers of individual homes'. (BNC: AHJ 983) [Object type IRC]

The BNC has 141 examples of the syntactic sequence "*insufficient* + noun + *to*-infinitive", out of which 136 examples turn out to be adverbially-relativized IRCs. Omitting the adjective "insufficient"

³⁸⁾ Another example of a factual situation denoted by PICs is '*In 1911, Ronald Amundsen became the first man to reach the South Pole*' (BNC: CBC 11913), in which the exclusive adjective 'first' and the past tense of the sentence are crucial factors for factual interpretation of PICs. For more detailed explanation of factual interpretation of PICs, see Kjellmer (1975).

³⁹⁾ It is difficult to imagine a situation in which the sentence (36b) is actually uttered, however.

from the phrases “*insufficient evidence to justify his intervention*” in (37a), “*insufficient equipment to function properly*” in (37b) and “*insufficient thought to design*” in (37c) would not lead to the recovery of this negative degree adjective through the pragmatic enrichment process. The phrase “*evidence to justify his intervention*,” for example, would be enriched as being “*good/sufficient evidence to justify his intervention*”. Notice here that this enrichment will bring about the illogicality of the whole sentence, and not lead to any contextual effect. The overt (or articulated) appearance of negative adjectives to modify the antecedent noun (e.g. *insufficient evidence to justify his intervention*) will be mandatory if they are necessary to recover the assumption the speaker intended to communicate.

Of interest here is the construal mechanism by which only “positive” evaluative/degree adjectival meaning is enriched through the recovering process of explicature in IRC constructions. Even if the linguistic context has the circumstance in which “negative” meaning adjectival meanings are likely to be enriched to the antecedent noun, this negative scale of adjectives will never be supplemented (e.g. [an artificial sentence] He made immediate inquiries by telephone, but felt that there was (*insufficient*) *evidence to justify his intervention*). This linguistic fact corresponds to our discussion concerning the phrase “information *on which to base a “yes” decision*” in section 4.3. The infinitival relative clause generally denotes the situation which is planned to be realized (e.g. *This is the place to bring up children*). The referent of the antecedent noun, therefore, will necessarily have a “positive” scale of meaning so as to realize the situation denoted by the infinitive clause (e.g. *This is the **best** place to bring up children*).

V Conclusion

The purpose of this paper was to give a full and valid specification of the pragmatic inferential mechanism by which the free-enrichment process occurs in the “antecedent noun + PIC” construction on the basis of the relevance theory. The present paper has pointed out four flaws associated with Fåhræus’s analysis of the pragmatic procedure of the target construction. The flaws I pointed out are concerned with: a) the limitation of predicate verb patterns followed by the target construction; b) the binary distinction between appositive-type and realization-type *to*-infinitives; c) too much dependence on the meaning of the antecedent noun itself; and d) the neglect of the context in which the noun + PICs occur. My corpus survey revealed that the antecedent noun + PIC construction has a high tendency to be preceded by the existential *there*-construction as well as the verbs of possession and the copular *be* verbs, which was never mentioned in the previous analysis. Fåhræus made a binary distinction of PICs into appositive-type and realization-type *to*-

infinitives, which simply hinges on the meaning of the antecedent noun itself. My scrutinization of the BNC data clarified, however, that the classification of PICs is crucially motivated by the contextual assumption in which the target construction occurs. This amounts to saying that some antecedent nouns can be modified either by the appositive-type or realization-type of *to*-infinitives according to the context. This finding suggests that the distinction between these two types of infinitives is a matter of degree rather than discrete categories.

I also gave a unified account of the inferential mechanism by which the antecedent noun + PIC construction is enriched with evaluative/degree adjectival meanings on the basis of the coherent notion of the relevance theory. The construction of the antecedent noun + infinitival “appositive” clauses never involves the addition of evaluative/degree adjectival meanings in order to recover the explicature that the speaker intends to communicate (e.g. *You may also have the (best) opportunity to attend a course*). The antecedent noun of appositive *to*-infinitives does not perform the function of the trigger (or necessary condition) to give rise to the situation denoted by the infinitive. Rather, the scope of the noun referent is merely narrowed down by the meaning of the appositive infinitive. In this way the hearer can reasonably receive an adequate contextual effect without conducting enrichment processing for the scale of the degree/evaluation of the antecedent noun. I have to reiterate here, however, that the antecedent noun can be sometimes enriched with evaluative/degree adjectival meanings according to the context (e.g. *For those of you who haven't used lures before, this is an (good) opportunity to have a go (= (18a))*). The contextual assumption has a significant effect on the parsing mechanism of PICs as well as on the other types of infinitival clauses.

My corpus investigation also shed light on the linguistic tendency that the antecedent noun + infinitival “relative” clause construction is highly likely to be enriched with adjectival meanings in the type of adverbially-relativized IRCs (e.g. *I don't have the time to comment on its use in any detail*). The adverbially-relativized IRCs refer to situations in which the speaker assumes that the situations are to be realized. The referent of the antecedent noun of this type of IRC performs the function of the trigger which brings about the situation denoted by the IRC. And this trigger (i.e. the antecedent noun) necessarily has to have a positive evaluative/degree scale in order to realize the situation denoted by the IRC. The lack of articulated positive evaluative/degree adjectives which modify the antecedent noun will lead to the conduct of the free-enrichment process. The execution of free-enrichment involves the addition of evaluative/degree adjective meaning and leads to the recovery of the explicature that the speaker intends to communicate. This kind of free-enrichment will necessarily require the hearer to make some processing effort, which will never be too large to develop the adequate contextual effect. To enhance the validity of the findings and hypotheses in this paper more conclusively, we have to await further research.

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