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When take *means* require: *A study of extraposed and impersonal constructions with* take

GREGORY FURMANIAK
Université Sorbonne Nouvelle

1. INTRODUCTION

The present article sets out to investigate the syntax and semantics of sentences formally realized as *it* + *take* + (NP) + NP + *to*-clause[1] from the perspective of Construction Grammar. The examples in (1) illustrate.[2]

(1) a. It took him five years to do it. (COCA, 1992, SPOK, CNN_Crossfire)

b. Sometimes, it takes a mom to figure that out. (1998, NEWS, NewYorkTimes)

This structure has so far received little attention. Levin (1993: 272–273) views *take* in this use as a measure verb, while Jones (1991:226–227) analyzes sentences of this form as instances of extraposition. Yet there are some indications that the syntax and semantics of examples such as (1a) and (1b) deserve a more thorough investigation.

1.1 Stating the problem

Jones's (1991) analysis of sentences such as (1a) in terms of extraposition is correct, as evidenced by the acceptability of (2).

(2) To do it took him five years.

In effect, a subordinate clause is described as extraposed if it passes the fronting test, which consists in moving the subordinate clause to the subject position, as in (2).

Couched in cognitivist terms, this means that the two sentences are truth-conditionally equivalent (i.e., they refer to the same conceptual scene) but that they differ semantically with respect to how the scene is construed. In the present case, the semantic divergence can be accounted for in terms of different discourse functions between the non-extraposed (or canonical) version and its extraposed counterpart (compare Bolinger 1977, Gómez-González 1997, Miller 2001, Huddleston and Pullum 2002, among others).

[1] The parentheses indicate that the first NP is optional.

[2] All examples taken from the *Corpus of Contemporary American English* (COCA).

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However, as noted by Jespersen (1940:255), not all sentences formally realized as *it* + *take* + NP + *to*-clause pass the fronting test — even when none of the usual pragmatic, syntactic and lexical constraints on the non-extraposed version (compare Huddleston and Pullum 2002:1404–1407) apply. For instance, the infinitive clauses in (1b) and (3a) cannot be moved to the subject position, as evidenced by (3b) and (3c).

(3) a. It takes a crisis to lead to major decisions [...]. (2008, NEWS, Atlanta)

b. *Sometimes, to figure that out takes a mom.

c. *To lead to major decisions takes a crisis.

The progressive form can be used in some cases, as in (4a), but not in others, as shown by (4b). This must also be accounted for.

(4) a. Rather than processing requests within a few days, it *is taking* a whole month to answer them. (1991, MAG, WashMonth)

b. *It *is taking* a crisis (like this one) to lead to major decisions.

Another complication is found in *take* licensing two NPs in (5a) but only one in (1b), as evidenced by the ungrammaticality of (5b).

(5) a. It takes *Doonan* a year to come up with such windows. (1991, NEWS, USAToday)

b. *It takes *you* a mom to figure that out.

Because in some cases, something similar to the dative alternation is possible (compare (6)), it is tempting to consider the optional NP in (6a) an indirect object. But unlike the indirect object of *give*, for example, it cannot be the subject of a sentence in the passive voice. Because its semantic role is not the one usually assigned to indirect objects, namely that of Recipient (Quirk et al. 1985:727), I shall remain non-committal and refer to it as the "optional NP".

(6) a. It took *me* a lot of effort to reach this decision [...]. (1993, FIC, WomenLanguage)

b. It takes a lot *out of you* to be spending three-quarters of your day in very intellectual meetings with really creative, intelligent people. (2012, MAG, MotherJones)

Lastly, the notion of "measurement" does not exhaust the meaning of a sentence like (1a), in which the sense of 'need' is implicated (*Oxford English Dictionary Online* — henceforth *OED*), and does not apply at all to (1b) and (3a).

1.2 Identifying the key parameter

We have seen that sentences such as (3a) cannot be analyzed in terms of extraposition, as they do not pass the fronting test. Yet (7) shows that substituting an NP like *some time* or *some effort* for *a crisis* makes the sentence acceptable.

(7) To lead to major decisions takes some time/some effort.

A similar substitution can render (8a–b) acceptable, as in (8c–d).

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(8) a. *It is taking a mom to figure that out.

b. *It takes him a mom to figure that out.

c. It is taking time to figure that out.

d. It takes him some effort to figure that out.

This suggests, therefore, that the semantics of the direct object is key in understanding the syntactic phenomena above. Note that what is here called the "direct object" (the compulsory NP following *take*) is analyzed as an obligatory adjunct by Kegl and Fellbaum (1988) who, like Levin (1993) and Newmeyer (2006), suggest that the NP following a measure verb such as *weigh*, *cost*, or *last* (the category in which Levin puts this use of *take*) is not an argument of the verb and should therefore not be regarded as a direct object. The most often cited test to prove this point is the impossibility of passivizing sentences containing a measure verb. I argue that the reason that the sentences under discussion do not pass the passivization test is that they take either a clausal semantic subject (in the cases of extraposition) or no semantic subject at all, as we shall see. The cognate construction with a subject NP (as in *This job took most of my time*) does pass the passivization test (cf. *Most of my time was taken by this job*). As will be shown later, the semantic characterization of the construction in terms of "consumption" rather than measurement also makes it preferable to analyze the NP as a direct object.

1.3 The article's proposal

The main claim of this article is that the above phenomena can be explained by postulating two distinct micro-constructions — that is "two individual construction-types" (Traugott 2008:148) which share the same formal realization but differ semantically and syntactically. Within the constructional and cognitive framework adopted here (Lakoff and Johnson 1980; Lakoff 1987; Langacker 1987, 2002; Goldberg 1995; Talmy 2000; Croft 2001; Croft and Cruse 2004), the two micro-constructions have different functions, differing with regard to their respective position in the taxonomic hierarchy of constructions representing the speaker's grammatical knowledge (see, for instance, Croft and Cruse 2004:263–264). This explains why some sentences with *it* + *take* have a truth-conditionally equivalent variant in the form of the non-extraposed construction while others do not. Their distinct semantic properties also account for the other grammatical phenomena observed.

1.4 Outline

After presenting the methodology used in this study, I provide a description of the syntactic properties of the two micro-constructions under scrutiny and focus on the grounds I have for making such a distinction. I then look at their semantics and, again, expose the argument for drawing the distinction I make. In the final section, I explore the corpus with a view to testing the hypothesis.

2. METHODOLOGY

This study, based on the *Corpus of Contemporary American English* (henceforth referred to as COCA), reflects the use of the forms under scrutiny in American English between 1990 and 2012.

My claim is that sentences formally realized as *it* + *take* + NP + *to* VP are structurally ambiguous between two micro-constructions, one of them being an extraposed micro-construction related to the canonical micro-constructions of the form NP/Non-finite clause + *take* + (NP) + NP (as in *This job/Doing this/To do this took time*). To confirm this hypothesis, it had to be demonstrated that sentences of the form *it* + *take* + NP + *to* VP exhibit semantic and grammatical properties that differ significantly from those of the "canonical" micro-constructions, the rationale being that if a form X is a syncretism of a (micro-)construction Y′ (hierarchically related to Y) and of another (micro-)construction Z, then X should diverge substantially from Y in terms of function and grammatical behaviour.

To test this hypothesis, a first sample of sentences realized as *it* + *take* + (NP) + NP + *to* VP was therefore constituted. Given the high frequency of the string *it* followed by the lemma [*take*] collocating with *to* (18,117 occurrences in COCA), a random sample of 1,000 occurrences was extracted. Irrelevant examples (those including an instance of referential *it*, those without a *to*-clause, and instances of the phrasal verb *take up*) were rejected. Each of the remaining 684 examples (Sample 1) was then examined in light of the following criteria:

(i) meaning of the micro-construction,

(ii) presence/absence of an optional object,

(iii) form of the verb,

(iv) ontological class of the direct object-referent, and

(v) grammatical behaviour[3] of the nominal head of the direct object.

Within the framework of Cognitive Linguistics (Langacker 2002, Paradis 2005, among others), this last criterion is assumed to reflect the way the referent is conceptualized. Because a number of examples contained coordinated objects (as in *It takes some time and effort to do that*), I arrived at a total of 711 nominal heads, each of which was analyzed according to criteria (iv) and (v).

For the reasons exposed above, a second random sample (Sample 2) of the same size was then assembled, made up of instances of the non-extraposed version[4] and sentences where the verb *take* takes an NP as its subject, as in *This job took a long time*. These sentences were analyzed according to criteria (i)–(iii). To compare Sample 1 and Sample 2 according to criteria (iv) and (v) and to test the significance of the differences observed, it was preferable to have the same number of nominal

[3]The following sets of features are considered: [countable] vs. [mass] vs. [collective], [singular] vs. [plural], and [common noun] vs. [proper noun] vs. [pronoun] vs. [gerund].

[4]That is, sentences in which a nominal clause (either a *to*-clause or an *-ing*-clause) occupies the subject-position.

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heads in the direct object-slot in the two samples. This was not the case as Sample 1 contained a few more coordinated objects than Sample 2. A few occurrences were therefore randomly selected and added to Sample 2. This augmented sample is referred to as Sample 2+.

The ontological classification I adopted was based on pre-existing classifications (in particular Lyons 1977, Paradis 2005) and adapted to the data under scrutiny. Each nominal head in direct object position was assigned to one of Lyons's categories (first-, second-, and third-order entities) and then to more specific classes (animate,[5] artefact, money,[6] natural object or phenomenon, substance, energy,[7] (non)-controlled event,[8] quality,[9] time, linguistics,[10] circumstances (luck),[11] others and unspecified).

As Sample 1 contained too few instances of *take* in the progressive, all the examples of this form were extracted from the COCA corpus (Sample 3).

3. SYNTACTIC PROPERTIES OF THE MICRO-CONSTRUCTIONS

In this section, I propose a formal description of the two micro-constructions. In particular, I consider their relationships with other cognate nodes (i.e., parent, daughter, or sister) within the hierarchical network.

3.1 Syntactic properties of micro-construction#1

As we have seen, the fact that a sentence such as (1a), repeated in (9a), has a truth-conditionally equivalent non-extraposed version (9b) suggests that it should be analyzed as a case of extraposition. The infinitival is therefore interpreted as the semantic subject of the verb *take*.

(9) a. It took him five years to do it. (1992, SPOK, CNN_Crossfire)

b. To do it took him five years.

The cognate form in which the subordinate clause is instantiated by an *-ing*-clause instead of a *to*-clause (10a) can also be analyzed in terms of extraposition, as evidenced by (10b).

(10) a. It took all day *getting them to high ground.* (2010, FIC, Bk:ImNotCowboy!)

b. Getting them to high ground took all day.

[5]Subsuming Paradis's (2005) classes of animals and people.

[6]In Paradis's (2005) ontology, money is subsumed under the artefact-category. But as it seems frequent in the constructions under study, I consider it as a distinct type.

[7]For Paradis (2005), energy would probably fall under different classes (natural objects and phenomena, substance, and, perhaps, plants). Again, the frequency of nouns such as *energy*, *fuel*, or *resources* justifies that it be treated as separate class.

[8]As we shall see, the controlled vs. non-controlled opposition proves more relevant to the present case than Paradis's (2005) distinction between event and process/activity.

[9]Which corresponds to Paradis's (2005) class of states.

[10]This refers to linguistic-related entities denoted by terms such as *text*, *book*, or *volume*.

[11]In fact, the only nouns that fell into this category were nouns referring to luck.

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As has been noted by Levin (1993:272), the verb *take* in this use follows the same pattern as the verb *cost*.[12] Indeed, like *take*, *cost* can take an NP (11a), an infinitival (11b), or an *-ing*-clause (11c) as its subject. Furthermore, as with *take*, the canonical version in (11b) has an extraposed equivalent (11d).

(11) a. And get this: *the funeral*'s going to cost me two thousand dollars. (1998, FIC, Ploughshares)

b. *For them to reduce those sales* will cost them billions in hard-currency earnings that they really need. (1991, FIC, Bk:SumAllFears)

c. *Taking a nap* cost another air traffic controller his job. (2011, SPOK CBS_Early)

d. *It* cost me and Hannah $1,300 *to do the entire nationwide investigation.* (2009, SPOK, Fox_Beck)

Reformulated into constructional terms, this means that the verbs *take* and *cost* instantiate the same schematic construction (which I shall call the *Take/Cost* Construction; henceforward TCC). The subject-position of the TCC can be filled by an NP referring to an event, as in (11a), or by a nominal clause (either a *to*-clause or an *-ing* clause). Sentences with extraposition such as (9a), (10a), and (11d) are therefore combinations of the version of the TCC with a nominal clause and of another schematic construction, namely, the Extraposed Construction (henceforth EC).

The taxonomic relations between these forms can be partially represented by the diagram in Figure 1. The most schematic constructions (in the narrow sense of formally and semantically unpredictable pairings of form and meaning) are in bold. They dominate the lexically specified constructions — or "micro-constructions" (cf. Traugott 2008) — represented in full lines.[13] These are less schematic but also more predictable from the properties of the TCC. The dotted boxes also represent micro-constructions, but their very low degree of schematicity and their high degree of predictability make their constructional status more controversial. Note that the TCC and all its daughters will be referred to as the "family of the TCC".

At this stage, it is necessary to discuss the status of the various nodes in Figure 1 and, in particular, if and why they can be considered as constructions.

In a "usage-based model of grammatical representation" (Croft 2001:28), high frequency leads to entrenchment, and since the taxonomy is supposed to represent the speaker's linguistic knowledge, all of the nodes in Figure 1 (and probably more[14]) are expected to be represented "even if [their] grammatical properties are predictable

[12]Levin puts the verbs *carry* and *last* in the same category. This is debatable. *Carry*, used as a measure verb (e.g., *This bridge carries more traffic*), cannot take a second object (e.g., **This shelf will carry you a heavy load*). As for *last*, it cannot be used with a subject-infinitival (e.g., **To read this will last 4 months*). Neither can it combine with the Extraposed Construction (e.g., **It will last 4 months to read this*).

[13]Only *take* constructions are represented here, but the verb-position can also be filled by *cost*.

[14]For example, the node instantiated by sentences like *This book took some time to read*, which have traditionally been analyzed as cases of object-to-subject raising.

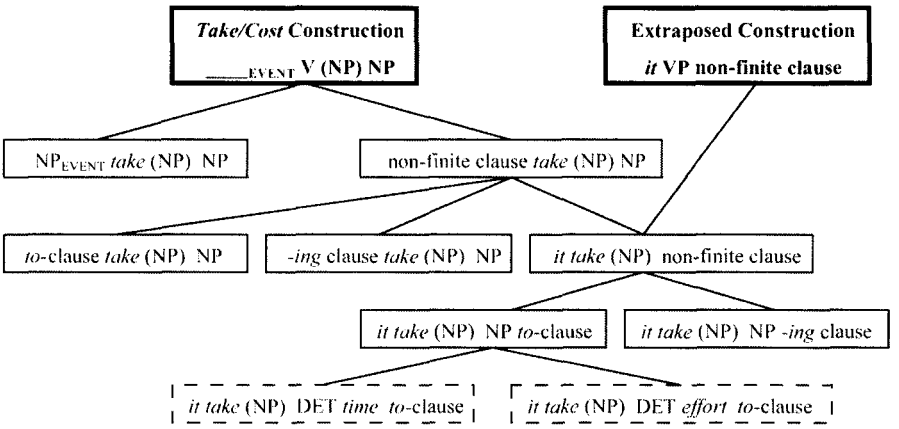

Figure 1: Taxonomy of constructions related to the TCC

from taxonomically superordinate constructions" (Croft 2001:28). What is not so clear is whether all these nodes represent constructions.

For Goldberg (1995:4), "C is a CONSTRUCTION iff$_{def}$ C is a form meaning pair <F_i, S_i> such that some aspect of F_i or some aspect of S_i is not strictly predictable from C's component parts or from other previously established constructions". It would seem then that only the two top nodes in Figure 1 (TCC and EC) should be regarded as constructions, given that their daughters in the taxonomy have forms and, as we shall see shortly, functions that are predictable from those of their parents. Yet, Goldberg (1995) makes provisions for such cases as these. In her discussion of relations between constructions, and in particular of "Instance Links", Goldberg (1995:79) considers that a (partially) lexicalized instantiation of a schematic construction is a special case of that construction, and a construction per se provided the lexical item or one of its senses occurs in that construction only.

Given that the meaning of the verb *take* in all these instances is certainly idiosyncratic, it makes sense to consider as constructions not only the TCC and the EC, but also the partially lexicalized instances of the form [___] *take* (NP) NP.

Croft goes one step further. In his Radical Construction Grammar, there is no distinction between constructional status and entrenchment, so that any node with "unique, idiosyncratic morphological, syntactic, lexical, semantic pragmatic, or discourse-functional properties" (Croft 2001:28) is considered a construction, that is, a symbolic unit which occurs frequently enough to be seen as part of the native speaker's linguistic knowledge. In that respect, the nodes within dotted boxes can also be regarded as (micro-)constructions, since the very high frequency of the strings *it* + *take* + *time/effort to* VP leaves no doubt as to their high degree of entrenchment. Should we need to distinguish these highly lexicalized constructions from the higher-level micro-constructions, it might prove useful to treat them as idiomatic micro-constructions. The problem of course is that we cannot say how frequent a given pattern must be to be considered entrenched and to be granted constructional status. Thus, there might well be more idiomatic micro-constructions of this type,

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such as *it* + *take* + DET + *courage to* VP, whose frequency is certainly lower but still relatively high.

The form *it* + *take* (NP) NP + *to*-clause (henceforth IT-TAKE$_{Extr}$), on which we focus here, can therefore be analyzed as a micro-construction, since it remains highly schematic, despite the instantiation of the verb-slot by a specific lexeme.

3.2 Syntactic properties of micro-construction #2

As we have seen, some sentences, such as (3a), repeated in (12a), do not permit the fronting of the *to*-clause (12b).

(12) a. It takes a crisis to lead to major decisions, and we certainly have one of those now. (2008, NEWS, Atlanta)

b. *To lead to major decisions takes a crisis.

The ungrammaticality of (12b) suggests that the infinitival clause in (12a), unlike the *to*-clause in (9a) (repeated as (13)), does not function as the real subject of the verb *take*. *Take* does not have a semantic subject at all.

(13) It took him five years to do it. (1992, SPOK, CNN_Crossfire)

Support for this is found in the fact that (13) can be paraphrased by a sentence like (14a), where the subject is an NP denoting an event, while (12a) cannot, as evidenced by (14b).

(14) a. This job took him five years.

b. *Such a major decision takes a crisis.

Unlike (13), (12a) is not related to a non-extraposed sentence. Thus, since sentences such as (12a) do not exhibit the main property of sentences with extraposition (i.e., the capacity for the *to*-clause to function as the real subject of the main verb) and since they are not related to the TCC, I conclude that they should not be viewed as instances of the EC.

An alternative syntactic account of sentences such as (12a) is suggested by the existence of cognate sentences formally realized as *it* + *take* + NP, but followed by subordinate non-nominal clauses, namely **time clauses** (introduced by *before* or, more rarely, by *till/until*), as in (15);[15] ***in order to*-purpose clauses**, as in (16); and ***if*-clauses**, as in (17).

(15) a. It took time *before we really began to enjoy being with each other* [...]. (1996, MAG, PsychToday)

b. How long did it take *till you were a former athlete*? Was it one day? Does it go away that quickly? (1993, SPOK, CNN_Crossfire)

(16) But it takes a weight like this *in order to get a board like this vibrating*. (1992, SPOK, NPR_Weekend)

[15]This should not be confused with examples such as *it took* till 9/11 *to have anything like it.* (2003, SPOK, NBC_Today) or *it took him* from 1972 to 2006 *for the VA to admit that [...]* (2010, SPOK NPR_ATC), where the object is a PP.

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(17) It takes that long *if they want to be a competitive performer after college graduation.* (1996, NEWS, CSMonitor)

As was the case for (12a), the subordinate clauses in (15)–(17) do not function as extraposed clauses, as (18) shows.

(18) a.*Before we really began to enjoy being with each other took time.

b.*But in order to get a board like this vibrating takes a weight like this.

c.*If they want to be a competitive performer after college graduation takes that long.

In these sentences, which are instances of what I shall call the Impersonal Construction (henceforth IC), *it* is not the preparatory subject, and the subordinate clause is not the real subject of *take*. It is an adverbial clause — a purpose clause, to be more precise. This is obvious with *in order to* but it is also true of *if*-clauses and time-clauses, which, as pointed out by Huddleston and Pullum (2002:730), can also "implicate purpose" (for example: "If you want to catch the six o'clock plane, you will have to get up at 4.30"; or "Come in before you get wet").

My claim is that sentences like (12a) (henceforth IT-TAKE$_{Imp}$) are also instances of the IC (taxonomically related to (15)–(17)), and not of IT-TAKE$_{Extr}$. This analysis is supported by two facts: First, if the *to*-clause is an adjunct and not an argument clause, then it is obvious that fronting in (12b) is impossible. Second, the *in order to*-clause in a sentence like (16) can be replaced by a *to*-clause with little change in meaning (see 19a), while *in order to* can easily substitute for *to* in (12a), as evidenced by (19b).

(19) a. But it takes a weight like this *to* get a board like this vibrating.

b. It takes a crisis *in order to* lead to major decisions, and we certainly have one of those now.

3.3 Preliminary conclusions and remaining problems

While the above analysis accounts for the fact that some sentences with *it* + *take* + NP + *to*-VP do not have a truth-conditionally equivalent counterpart of the form *to* VP + *take* + NP, it leaves two problems unsolved.

3.3.1 Occurrence of an optional NP

First, the fact that examples like (20) cannot take a second NP remains unexplained.

(20) *It takes *us* a crisis to lead to major decisions.

Tempting as it might be to suggest that the IC, unlike the TCC, has no slot for an optional object, the fact that the instances with *before* and *in order to* can take a second NP, as may be observed in (21), makes this claim untenable.

(21) a. And today it took *you* an extra sum of money in order to allow your wife to stay home with the child [...]. (1995, SPOK, PBS_Newshour)

b. It takes *me* two or three tries before I can grab a pen offered to me. (2004, ACAD, VisualImpair)

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3.3.2 *Structural ambiguity of the string* it + take + *NP* to-*VP*

The second problem is methodological. When a sentence does not pass the fronting test (for reasons other than the discourse-constraints on the non-extraposed version), it can be analyzed as an instance of IT-TAKE$_{Imp}$. Yet, when a canonical variant is available, it only tells us that the *to*-clause *could* be interpreted as an extraposed clause, not that it is *not* an adjunct clause. A sentence such as (13), repeated as (22a), is indeed structurally ambiguous, since we cannot say whether it is related to (22b), which would mean it is an instance of the TCC, or to (22c), which would make it an instance of the IC.

(22) a. It took him five years to do it.
b. To do it took him five years.
c. It took him five years in order to do it.

This entails that a semantic description of IT-TAKE$_{Extr}$ based on instances of the form *it* + *take* + NP + *to*-VP would be highly unreliable, as it would necessitate *a priori* decisions as to whether the observed occurrences are instances of IT-TAKE$_{Extr}$ or IT-TAKE$_{Imp}$. The way to avoid this is to infer the semantic properties of IT-TAKE$_{Extr}$ from the semantic analysis of cognate (micro-)constructions which have a high degree of semantic similarity with IT-TAKE$_{Extr}$ (i.e., which are truth-conditionally equivalent) without being structurally ambiguous. In that respect, the other (non-extraposed) micro-constructions of the TCC-set seem a fitting choice.

4. SEMANTICS OF IT-TAKE$_{EXTR}$ AND IT-TAKE$_{IMP}$

The *OED* reports two main senses for this use of *take*:

(i) "To use, occupy, use up, consume (so much material, space, time, energy, activity, etc.)" — which Levin (1993:272) calls "measurement", and

(ii) "need".

These senses are illustrated by (23a) and (23b), respectively.

(23) a. It takes only two years to learn how to talk. (2010, MAG, PsychToday)
b. It's a truly sad statement that it takes the deaths of 25 workers who clambered — tried to clamber their way out of a poultry plant where doors are locked [...] to have OSHA finally decide that they have to make a stand. (1991, SPOK, ABC_Nightline)

In (23a), the event denoted by the infinitival can be said to last two years (although, as will be shown, the notion of "consumption" is more appropriate to describe the kind of conceptualization underlying this use), while (23b) conveys the idea that *the death of 25 workers* was necessary for *the OSHA to decide to make a stand.*

My contention is that each construction-set (i.e., the micro-constructions related to IT-TAKE$_{Extr}$ and those linked to IT-TAKE$_{Imp}$) is primarily associated with one of these two meanings in a non-arbitrary way, each of these meanings being partially reflected in the syntactic properties of the family, and in the semantics of the NPs that can fill the direct object position.

4.1 "Consumption" as the primary meaning of the TCC and of IT-TAKE$_{Extr}$

Semantically, all the daughters of the TCC (see Figure 1) can be assumed to inherit their meaning from it, allowance being made for minor semantic adjustments depending on the lexical items that instantiate its various slots. Whether it is *take* or *cost* that fills the verb position is of course important, but this parameter will be ignored as I focus on the version with *take*. What will be examined in more detail is how the overall meaning of the construction relates to:

(i) the ontological class of the head of the direct object, and

(ii) its mode of construal which, following the main tenets of Cognitive Linguistics, I assume to be reflected in the grammatical category of the nominal head (i.e., whether it is a countable or uncountable noun, a gerund, a pronoun, singular or plural, etc.).

Like the widely studied Ditransitive Construction, exemplified by *John gave me a book*, the TCC involves the transfer of a theme from one location to another but it differs from the Ditransitive Construction in several respects. First, the transfer here is clearly metaphorical. Second, the NP directly following *give* is compulsory and refers to the Recipient while the NP following *take* or *cost* is optional and refers to the Source. Third, no agentivity is involved here.

I propose that the basic meaning shared by all instantiations of the TCC can be captured by the notion of "consumption". The event described by the subject NP or by the nominal clause — no matter its form, and whether it is extraposed or not — is conceptualized as metaphorically *taking in* or *consuming* the resource or fuel denoted by the direct object, the consumption being in turn conceived as the *means* by which the event can follow its course. This conceptualization relies on two metaphorical mappings: The "An Event is a Container" metaphor (Lakoff and Johnson 1980:66), which sanctions the conceptualization of the event as absorbing a resource, and the ability of the direct object to be conceived as a usable resource. In (24), for example, the activity of talking is conceptualized as consuming energy and using it to progress.

(24) "To talk takes a lot of energy," Ms. Tsabari said. (2002, NEWS, NYTimes)

Underlying this conceptualization is a circular causal chain that can be represented by Figure 2, where the occurrence of the event is pictured as causing the consumption of the resource, which in turn, causes the event to progress further.

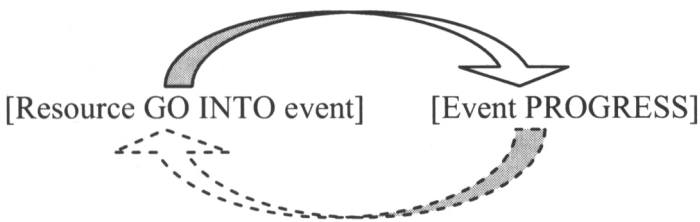

Figure 2: Causal chain underlying the "consumption" meaning of the TCC

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In instantiations of IT-TAKE$_{Extr}$ it is the event in the extraposed clause — which functions as the real subject of the main verb — that is conceptualized as consuming and using the resource, as (25) illustrates.

(25) It takes a lot of energy just to keep the tool lined up properly.
(1990, MAG, Horticulture)

The sense of "consumption" branches out into three more specific sub-meanings, each one selecting specific types of objects. It can thus be considered a generalization over these sub-meanings, which can be analyzed as specific kinds of consumption. This is confirmed, as we shall see, by the fact that the direct object of *take* can always be conceptualized as a resource, as evidenced by its ability to enter other (micro-)constructions whose semantics can also be described in terms of metaphorical transfer of a resource into an event, namely: '*put/throw* NP *into* V-*ing*' and 'NP *go into* V-*ing*'.

4.1.1 "Incremental consumption"

The meaning of the micro-construction in examples such as (26b) can be analyzed in terms of "incremental consumption" (Kennedy 2012:103).

(26) a. To fight takes *money*. (1990, FIC, KenyonRev)

b. Now we are always trying to find areas. This takes *more gas, more energy*.
(2007, ACAD, AmerIndianQ)

It means that, as with a predicate like *drink water (from a cup)*, the theme (here, the resource) decreases as the transfer/consumption progresses. It also implies that, at the end of the process, the source (or initial location) of the resource — denoted by the optional NP — has undergone some loss. The difference with *drink water* is that in examples like (26), the transfer progresses in parallel with the event consuming the resource, the two events being connected by a circular causal chain.

The analysis of correspondences between the meaning of the construction and that of the object shows that three ontological types of nouns are liable to enter this pattern. The two categories that are most obviously conceived as exhaustible resources are *money* and *energy*, as exemplified by (26). Support for this is found in examples such as (27) where the direct objects designating energy and money, respectively, enter the *put/throw* NP *into* V-*ing* constructions.

(27) a. Wal-Mart, which has *put more energy into defending* its image lately than it used to, has nonetheless chosen to ignore "The Wal-Mart Effect".
(2006, NEWS, WashPost)

b. I don't believe *throwing more money into buying* health insurance for everyone will accomplish these goals. (1993, NEWS, Atlanta)

The concept of time can also be conceptualized as an exhaustible resource consumed and used (up) by an event in sentences exploiting the "Time is a Resource" metaphor in combination with the "An Event is a Container" metaphor (Lakoff and Johnson 1980:59–65). In (28), a certain quantity of time is metaphorically conceived as being transferred into an event ("cleaning" and "planning") thereby causing and

enabling it to take place.[16] At the end of the process, the source (i.e., the person whose time has been put into the event) has been deprived of some of their time.[17]

(28) a. You've got to *put some time into cleaning them*, that's for sure. (1993, SPOK, CBS_SunMorn)

b. Planning the museum took a long time. (2003, NEWS, CSMonitor)

Note that the direct object can refer either to a quantity of time, as in (28b), or to a time-unit, as in (29).

(29) Boiling by machine takes only ten to fifteen minutes. (2001, ACAD, Ethnology)

Direct objects referring to time represent 62.6% (445 occurrences) of Sample 2^+ (which consist of non-extraposed instances). Taken together, cases that can be analyzed in terms of incremental consumption stand for 62.9% (430 occurrences) of Sample 2.[18]

A few words must be said about examples like (29), where the verb *boil* is an achievement. Following Recanati and Recanati (1999) and Rothstein (2001), I take achievements to denote accomplishments whose end-point has been profiled while the activity leading to the telos is left unprofiled. In (29), for example, there is an unprofiled process (increasing the temperature) that leads to the boiling-point, its profiled end-point. It is the unprofiled event that progresses along with the transfer.

4.1.2 "Non-incremental consumption"

In examples such as (30), the meaning of the micro-construction can be analyzed in terms of non-incremental consumption.

(30) a. To be that good takes a lot of *work*. (2004, MAG, BoysLife)

b. Knowing yourself takes a little more *effort*. (1992, MAG, RollingStone)

c. I think for a man to write that takes *some active empathy and even some research*. (2005, SPOK, NPR_FreshAir)

d. Getting employees to consider sharing technology took *prodding*. (2001, NEWS, NYTimes)

e. It's open, but getting there takes some *doing*. (2004, NEWS, Chicago)

While the resource is also transferred from a source-location into the event which uses it to progress — making it also a case of bi-directional causation — the consumption is not incremental in that the theme does not undergo any change: Unlike energy, money, and time, the kinds of resources that we have here do not exist

[16]The main difference between the two constructions is that, in the one instantiated by (28a), the source is necessarily explicit and conceived as an agent.

[17]The "Time is a Possessed Object" metaphor is reflected in phrases such as *have a lot of time*, *lose/waste one's time*, *take one's time*, etc.

[18]Examples with coordinated direct objects containing nominal heads belonging to ontological classes of different types were left aside, since the constructional meaning that can be assigned to such instances is problematic.

prior to the consuming event and do not decrease in quantity as the transfer progresses. Instead, they are produced simultaneously with the transfer by the entity denoted by the optional NP. Because the source-location is not conceived as a reservoir containing a limited quantity of the resource, no sense of loss or deprivation is implied. The referent of the optional object is not perceived as the possessor of the pre-existing resource but as an agent producing the resource in the course of the process. This is why this meaning (which corresponds to 14.5% of the occurrences in Sample 2) is found with direct objects denoting a controlled event, realized either as a noun like *work*, *effort*, *commitment*, *concentration*, as in (30a–c), or as the gerund of an action verb, as in (30d–e).

The conceptualization of a controlled event as a resource fuelling an event relies on the "Labour is a Resource" metaphor (Lakoff and Johnson 1980:151). Again, support for this analysis is found in the possibility for these kinds of NPs to occur in the *go into* V-*ing* and *put* NP *into* V-*ing* constructions (31).

(31) a. But you need to *put some work into getting* this seemingly effortless effect to look fab. (2006, MAG, Cosmopolitan)

b. Okay, I exaggerate, but she was holding it in a way that stretched her out nicely and revealed that she'd been *putting a lot more than minimum effort into keeping in shape*, at least if you like abs. (2010, FIC, Bk:NEPTUNESTREASU)

c. A great deal of *planning and effort went into creating menus* for an international array of athletes. (2007, NEWS, Denver)

4.1.3 "Onset consumption"

Examples such as (32) represent 9.4% of Sample 2 (64 occurrences).

(32) a. For a woman to press for her crime to be prosecuted takes a lot of *courage*. (2009, NEWS, CSMonitor)

b. Curing takes *intelligence*. (2008, FIC, Analog)

Their meaning is close to "incremental consumption", insofar as the resource is conceived as existing prior to the process of consumption but differs from "incremental consumption" to the extent that, here, the two events (the transfer and the event denoted by the subject) do not progress in parallel. Indeed, the transfer occurs at the very onset of the event denoted by the subject (which it sets going) but does not go on throughout the event's progression, hence the term "onset consumption". Because the event does not cause the consumption to continue any further, the underlying causal chain is no longer bi-directional. What we have is a simple causal link, as represented in Figure 3.

[Resource GO INTO event] [Event PROGRESS]

Figure 3: Causal chain underlying the "onset-consumption" meaning of the TCC

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Because the consumption is instantaneous, the resource is therefore more conceived as an ingredient than as a fuel, so that the instrument-component (making use of it) is more foregrounded than in the previous cases.

This sense emerges with direct objects designating qualities conceived as resources, or more accurately, if we take into account the punctual nature of the transfer, as ingredients that are incorporated into the event (conceived as a container) at its outset.

Evidence that qualities can be conceptualized as resources or ingredients is found in examples like (33), in which different qualities (*expertise*, *strength*, and *guts*) are metaphorically described as being put (or thrown) into an event.

(33) a. I know that you'll probably *throw your expertise into some of the work* that lies ahead. (1994, SPOK, ABC_DayOne)

b. She *put all her strength into trying* to project her thought mentally. (1992, FIC, BkSF:FractalMode)

c. I think if a lot of people here were *putting more of their guts into their work* and producing higher-quality products, then people would buy American more. (1992, NEWS, USAToday)

It should be noted that the borderline between qualities and controlled events can be very thin. Indeed, many examples are not so much about *having* a given quality as *exerting* it, that is, *behaving* in a certain way.[19] Example (34), for instance, is more about acting bravely in particular circumstances than being courageous.

(34) For Democrats, taking a pro-war stance took *guts*. (1999, MAG, WashMonth)

Still, unlike instances of "non-incremental consumption", the controlled event here uses a pre-existing resource.

Taken together, the three cases I have just examined represent 86.7% of the data in Sample 2. In the remaining examples, the semantics of the direct objects does not make them obvious candidates for the kind of conceptualization I assume to be underlying the use of the TCC. These cases will be dealt with in the last section.

4.2 "Necessity" as an inferable meaning of the TCC

Although the primary meaning of the TCC is the sense of "consumption", it appears that the sense of "necessity" is also available in the form of an inferable meaning. As a matter of fact, (35a) implies (35b).

(35) a. Calculating a single trajectory takes between 20 and 40 hours. (1998, MAG, Ms)

b. Calculating a single trajectory requires between 20 and 40 hours.

In cases such as (35a), where the direct object denotes a span of time, this inference results from a more general conceptual link that holds between an event and its duration. Langacker argues that the conceptualization of an event (or process)

[19]The semantic link between the dynamic reading and the initially stative quality is metonymic in nature (possessing a quality > using this quality).

"involves a continuous series of states representing different phases of the process and construed as *occupying a continuous series of points in conceived time*" (italics mine). He adds, "because evolution *through* time is criterial, the temporal profile of a process is necessarily **positive**, i.e. nonzero" (Langacker 1987:244). This means that since a certain amount of time is necessary for any event to take place, any sentence expressing the duration of an event, such as (35a), may imply that the specified duration is/was/will be necessary for the event to occur. For instance, on the basis of this general conceptual link, it is possible to infer (36b) from (36a).

(36) a. I read this book in two hours. (constructed example)

b. Two hours were necessary for me to read this book.

But this inference is not restricted to sentences with a direct object denoting duration. As we have seen, underlying the three meanings of the TCC is the notion that the consumption of the object-referent (the resource) by the event is the cause of the event's progress. But as pointed out by Talmy (2000:479), in a causative situation such as "Event 1 CAUSE Event 2", Event 2 "would not take place if Event 1 did not take place", which means that in the case of the TCC, it is possible to infer from the fact that the consumption of the resource causes the event to progress that the event's progression *requires* the consumption of the resource.

If the sense of "consumption" can then be considered as the primary meaning of the TCC, owing to the fact that it is more directly predictable from its syntax, there are contexts which seem to strengthen the sense of "necessity" without, however, utterly cancelling the meaning of "consumption". In the following examples, the modal meaning is prominent but coexists with the sense of "consumption". Two factors have been identified which strengthen the sense of "necessity": any expression that presents the event in the nominal clause as (potentially) desirable strengthens the modal interpretation. In (37a), for example, the modal form *be able to* presents *doing that* as the potential purpose of the (elliptical) subject of the clause. In (37b), *fighting* has been suggested as desirable ("you could fight it"), which yields a sense of "purposivity" that strengthens the "necessity" interpretation.[20]

(37) a. *To be able to do that* takes a tremendous investment. (2000, NEWS, WashPost)

b. "But if they tried to fire you, *you could fight it*," Ketchum said. # Fight? What have I got to fight about? *To fight takes money*.

(1990, FIC, KenyonRev)

I would suggest that presenting the event as the goal invites reading the causal chain backwards, as it were, and thus strengthens the modal reading. Indeed, a causal chain should be regarded as a conceptual base that is, by default, ordered chronologically: The causing event precedes the caused event and is therefore taken as the natural starting-point of the relation. But if the caused event is construed as a goal, the causing event (here, the consumption) is *de facto* assigned the role of means, a role that is subordinated to the goal — the means only existing by virtue of making the goal

[20]The relatedness of "necessity" and of "purposivity" was noted by Antinucci and Parisi (1971).

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possible. The caused event (now the goal) is then taken as the starting-point of the causal chain, thereby favouring the "necessity" interpretation.

The second strengthening factor is that the Present Simple seems to make the meaning of "necessity" more salient than the Past Simple. Compare (38a) with (38b).

(38) a. But buying exclusively local takes a lot of effort, and it can be hard to determine the origins of many foods. (2007, MAG, Environmental)

b. Getting to my feet took a tremendous effort, and once up I wavered, jelly-legged and woozy. (2010, FIC, Analog)

Because the Present Simple typically has a generic interpretation, it is not surprising that, in examples like (38a), stating that "event *x always* consumes resource *y*" should strengthen the implication that "resource *y* is necessary to event *x*".

4.3 Semantics of IT-TAKE$_{Imp}$: Necessary condition

I shall argue that the sole meaning of IT-TAKE$_{Imp}$ is the sense of "necessity". While it makes sense to say in the case of (39a) that a certain amount of energy is consumed in the process of digesting proteins, it would be absurd to propose a similar gloss for (39b).

(39) a. A fish like tuna is a smart snack, since it takes *more energy* to digest protein than it does to break down fats and carbs. (2010, MAG, Cosmopolitan)

b. In short, it takes *an oil shock or a severe overheating of the economy* to produce a surge in core C.P.I. inflation. (1994, NEWS, NewYorkTimes)

As we saw in section 4.2, "necessity" and "purposivity" are related concepts, and nowhere is this semantic link more blatant than in *anankastic* sentences, that is, "statement[s] to the effect that something is (or is not) a necessary condition of something" (von Wright 1963:10). In these sentences, the event whose occurrence is conditioned to the realization of the necessary event is expressed by a purpose clause. In (40), for instance, taking the E train is described as the necessary condition to go to Harlem.

(40) You have to take the E train *to go to Harlem.*

My claim is that the IC (and therefore IT-TAKE$_{Imp}$) should be analyzed as an anankastic construction, since the subordinate clauses in the IC, whatever their form, are purpose clauses and happen to be in all points similar to the subordinate clauses instantiating the anankastic constructions with a modal, as we can see in (41).

(41) a. You must show your ID *in order to enter.*

b. You have to register *before you can post.*

c. You have to take the E train *if you want to go to Harlem.*

The IC differs from the anankastic constructions with a modal in that the sense of "obligation" in (41) is either absent from the IC (39b) or greatly backgrounded, as in (42), in which a sense of "obligation" is certainly implied (the sentence means that to reach the specified goal, one should use a screwdriver) but is not prominent.

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(42) The [gun] sights are rather crude, and it takes *a screwdriver* to make them work.
(1999, SPOK, NPR_Morning)

This means that the IC, unlike the anankastic construction with a modal, profiles the relation of necessity itself and not the necessary event. This is of course reflected in the syntactic differences between the two forms. As noted by Talmy (2000:441), modals foreground the agonist (the agent under obligation) by promoting it to the subject-position, as well as the necessary event specified by the VP. By contrast, the IC leaves both the necessary event and the agent (when there is one) implicit. The subject of the sentence is not the agonist but the impersonal pronoun *it*, which can be assumed to refer to the circumstances specified by the adverbial clause,[21] so that the construction can be glossed as: in the circumstances in which *q* (the state of affairs designated by the *to*-clause) is desirable, the referent of the direct object is necessary.

5. TESTING THE HYPOTHESIS

The above hypothesis predicts that Sample 1 and Sample $2^{(+)}$ should differ substantially in a number of ways. Its validity therefore depends on whether these expected differences are observed in the data. Let us now consider each of these predictions.

5.1 Prediction 1: Grammatical properties of the direct object

My claim is that the sense of "consumption" of the TCC does not licence the use of direct objects that cannot be conceptualized as resources, and that when such an NP is used with the string *it* + *take* followed by a *to*-clause, this should be taken as evidence that the sentence is an instantiation of IT-TAKE$_{\text{Imp}}$ and not of IT-TAKE$_{\text{Extr}}$. If this is correct, the grammatical construal that is the most unlikely to be used to refer to resources (singular count nouns) should be either absent or significantly less frequent in Sample 2^{+} (which contains only instances of the TCC) than in Sample 1 (which consists of instances of both IT-TAKES$_{\text{Extr}}$ and IT-TAKES$_{\text{Imp}}$).

This is confirmed by the data. As Table 1 shows, in Sample 2^{+}, only 5% of the nominal heads in direct object position are singular count nouns, compared to 14% in Sample 1. Conversely, only 33% of the head-nouns in Sample 1 are non-count nouns, contrasting with 60% in Sample 2^{+}, which is again to be expected since the most obvious grammatical construct to refer to a resource is the category of non-count nouns.[22]

5.2 Prediction 2: Ontological class of the object

My hypothesis predicts that the ontological classes that are unlikely to be conceived as resources (let us call them Class-B objects) should occur only marginally in Sample 2^{+}. At first sight, three classes of nominal heads occurring in Sample 1 fit this description: non-controlled events, animates and artefacts. The above prediction is therefore correct as far as the first two categories go, as can be seen in Table 2.[23]

[21] This analysis of *it* is inspired from Bolinger (1977:86).

[22] These differences are highly significant: $\chi^2 = 167.815$; $df = 6$; $p = 0$.

[23] These differences are also highly significant: $X^2 = 116,633$; $df = 14$; $p = 0$.

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Table 1: Construal of the nominal heads in object position in Sample 1 and Sample 2+

Grammatical category of nominal head	Sample 1		Sample 2+	
Count singular	99	13.9%	39	5.5%
Count plural	221	31.1%	159	22.4%
Uncount	234	32.9%	424	59.6%
Gerund	4	0.6%	7	1.0%
Collective noun	10	1.4%	2	0.3%
Pronoun	73	10.3%	1	0.1%
Adverbial	70	9.8%	79	11.1%
Total	711	100.0%	711	100.0%

Table 2: Frequencies of ontological classes of direct objects in Sample 1 and Sample 2+

Ontological class of nominal head	Sample 1		Sample 2+	
	Raw freq.	Rel. freq.	Raw freq.	Rel. freq.
Time	420	59.1%	412	57.9%
Money	14	2.0%	19	2.7%
Energy	3	0.4%	12	1.7%
Substance	6	0.8%	2	0.3%
Luck	0	0.0%	6	0.8%
Controlled event	86	12.1%	142	19.5%
Exerted quality	27	3.8%	56	7.9%
Possessed quality	31	4.4%	34	4.8%
Animates	51	7.2%	14	2.0%
Non-controlled event	26	3.7%	0	0.0%
Artefact	10	1.4%	5	0.7%
No/p[a]	4	0.6%	5	0.7%
Linguistics	3	0.4%	2	0.3%
Others[b]	1	0.1%	2	0.3%
Unspecified[c]	29	4.1%	0	0.0%
Total	711		711	

[a]Natural object or phenomenon (after Paradis 2005).

[b]Nominal heads that do not fall into any of the other ontological categories.

[c]Mainly when the direct object is an indefinite pronoun such as *what* or *all* (e.g., *He's got what it takes*, *That's all it takes*) and when the context does not provide the referent of the pronoun or when the pronoun refers to an ontologically diverse group.

Like controlled events, non-controlled events can be expressed by an NP with a head noun, as in (39b) (repeated as (43a)) and (43b), or by a gerund (43c).

(43) a. In short, it takes an oil shock or a severe overheating of the economy to produce a surge in core C.P.I. inflation. (1994, NEWS, NYTimes)

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b. Sadly, it takes *a tragedy* to send a message home. (2007, NEWS, Chicago)

c. Sometimes it takes *suffering* to see the difference between perceived needs and real spiritual needs. (1996, NEWS, WashingtonPost)

As shown in (44), NPs like *a tragedy* and *suffering* cannot enter the *put* NP *into* V-*ing* or NP *go into* V-*ing* patterns, which suggests that they are unlikely to be conceptualized as resources fuelling an event. Sample 2+ contains no direct object of this kind, which supports this approach.

(44) a.*A tragedy went into sending a message home.

b.*A severe overheating of the economy went into producing a surge in core C.P.I. inflation.

c.*You have to put suffering into seeing the difference.

As Table 2 shows, objects denoting animates are also more frequent in Sample 1 than in Sample 2+, a fact that I interpret as further evidence that the sentences in Sample 2+ refer to the consumption of some kind of resource, since animates are hard to conceptualize as resources (as suggested by the ungrammaticality of (45b)).

(45) a. A great deal of planning and effort went into creating menus for an international array of athletes. (2007, NEWS, Denver)

b.**Four renowned chefs* went into creating menus for an international array of athletes.

The results suggest that the case of artefacts is more complicated. First, artefacts seem hard to conceptualize as resources, as evidenced by the inability of an NP such as *some soap* to enter the *put NP into V-ing* construction (46b).

(46) a. You've got to put some time into cleaning them, that's for sure. (1993, SPOK, CBS_SunMorn)

b.*You've got to put *some soap* into cleaning them.

Yet, not only do examples such as (47) actually occur, but the difference between the two samples is much less marked than in the previous cases. The overall frequency of direct objects pertaining to this category is too low to convincingly support the claim that direct objects denoting artefacts are less compatible with the TCC.

(47) a. To use the AMSC system takes *special hardware* developed by Westinghouse, Mitsubishi and KVH. (1997, MAG, MotorBoating)

b. [...] food in occupied Amsterdam was desperately scarce. To get it sometimes took more than *forged ration cards*. (1998, SPOK, NPR_Weekly)

A closer look at (47) confirms that the referents of *hardware* and *ration cards* are not conceptualized as objects being transferred into the events denoted by the subjects. They can, in themselves, neither be conceived as resources nor as ingredients. Yet, the paraphrases in (48) show that what is at stake is the *use* of the artefacts (i.e., a controlled event), which is presented as the means by which the main event is achieved. This entails that the meaning of such instances of the TCC can be described in terms of "non-incremental consumption".

(48) a. You can use the AMSC system by *using* special hardware developed by Westinghouse, Mitsubishi and KVH.

b. To get it, you sometimes need to *use* more than forged ration cards.

5.3 Accounting for apparent exceptions to predictions 1 and 2

Predictions 1 and 2 are partially confirmed by the data but, as I have suggested, there are a few cases that seem to contradict them.

First, Table 1 indicates that although singular count nouns in direct object position are significantly more frequent in Sample 1 than in Sample 2^+ (which corroborates my hypothesis), they do occur in Sample 2^+ even though this grammatical construal would at first sight appear unlikely to be used to refer to a resource. In fact, over half of such instances (22 out of 39), are nouns denoting a time-unit, as in (49).

(49) a. To get finished compost takes *about a year*. (1997, ACAD, BioCycle)

b. Scanning took *an hour*, verification another two. (2003, FIC, Analog)

Clearly, such nouns can be analyzed as kinds of quantifiers measuring the amount of time that is consumed to achieve the event denoted by the clause in subject position, so that the direct object of the verb *take* (i.e., what is actually consumed) can be considered to be elliptical. Support for this analysis is found in examples such as (50), where the time-resource measured by *one year* is made explicit by the PP *of elapsed time*.

(50) To travel a light-year takes one year *of elapsed time*, yes.
(1991, FIC, BkSF:SingerTime)

Similarly, (49a) can be rewritten as (51), in which the genitive form confirms that *a year* functions as a quantifier.

(51) To get finished compost takes about *a year's* time.

The other singular count nouns in Sample 2^+ refer mostly to controlled events realized as deverbal nouns (52).

(52) After a while, I decided that if there was going to be a commission and my students were to have an opportunity to meet and get to know a composer [...], it would be up to me to make it happen. This took *a leap of faith*. (2005, ACAD, MusicEduc)

As we have seen, although singular count nouns are not expected to refer to resources, NPs denoting controlled events are. By virtue of their ontological properties, NPs like *a leap of faith* can therefore enter the TCC despite their grammatical construal. But this has of course semantic implications. When realized as a singular count noun, a controlled event is not conceived as a resource continuously fuelling the event (as in the sense of "non-incremental consumption"), but rather as an ingredient setting it off (as in the sense of "onset consumption").

This suggests that the ontological class and grammatical construal of the nominal head should not be considered independently: An unusual grammatical construal may be compatible with the construction, provided the nominal head belongs to the "right" ontological class. Conversely, as we shall see, there are cases where a nominal head of the "wrong" ontological category can enter the construction, provided that its grammatical construal allows for an interpretation in terms of resource.

That direct objects referring to animates do occur in Sample 2^+, albeit rarely (see Table 2), can be explained along the same lines. When the direct object refers

to this category, the nominal head is generally realized as a plural count noun (e.g., *people*), as a collective noun (e.g., *a community, a generation of scholars*) or as an uncount noun (e.g., *manpower*). This case, exemplified by (53), should therefore not be regarded as problematic.

(53) a. "To offer more programs takes *more people*, and some of those people are paid out of the administrative line (in the budget)," she said. (1994, NEWS, Denver)

b. I was also encouraged to see that among young people there seem to be vocations waiting to be nurtured or picked from the vine, but I also came to see that no one sister or one generation can do this — it takes *a community*. (2002, MAG, America)

c. "To seize and secure facilities took time and *manpower*, and they did not want to do it," said Master Sgt.' Thomas Boon, a weapons hunter traveling with the Third Infantry Division. (2003, NEWS, NYTimes)

Indeed, the use of plural, collective or noncount nouns to refer to animates permits them to be conceived as resources ("manpower", to be more precise) involved in the bringing about of the event denoted by the subject. The constructional meaning is therefore close to the "incremental consumption" interpretation even though the people involved are not literally used up in the course of the process.

There are, however, three instances in the data (54) where the animate referent is realized as a singular count noun. How can these be accounted for?

(54) a. [A]lthough anthrax and other biological poisons are not easy to get, using them effectively is far harder than stealing them. That takes *a more refined form of killer* than someone who simply dumps powder into an envelope. (2001, NEWS, SanFranChron)

b. For Lady Routledge's annual evening had launched any number of young ladies from veritable obscurity onto that very coveted pedestal, the most sought after title a girl could attain: that of Original. But to do that took *a lady of some talent* — able to sing, perhaps a dab hand on a pianoforte, or possess the composure to give a stirring and dramatic reading. (2006, FIC, BkJuv:HisMistressBy)

c. [...] a man whose tastes favored expensive courtesans and high-stakes gaming, as well as an unsavory penchant for frequenting some of the most dangerous hells and darkest brothels. To bring him to heel, one matron had declared, would take *a lady of some consequence*. (2008, FIC, Bk:TemptedByNight)

What is striking in these three examples is that, although the direct object denotes an animate, it refers to a role without a value (Fauconnier 1994:41); it focuses on the qualities of the *potential* referent and not on the referent per se. It is precisely the foregrounding of the role that is crucial in making these examples acceptable, so that even when the role is assigned a value, as in (55), the sentence remains acceptable provided the role is foregrounded.

(55) To bring him to heel took a lady of some consequence.

However, when the value (i.e., the referent herself) is foregrounded, as in (56), the sentence is less acceptable.

(56) ?To bring him to heel took the lady next door.

In (54), the emphasis on the roles instead of the values therefore makes these instances very similar to examples where the direct object refers expicitly to a quality (as in *To do that takes courage*), which suggests that the constructional meaning invoked here is that of "onset consumption", the specified qualities being conceived as triggering the event denoted by the subject.

5.4 Prediction 3: On the use of the progressive

If my claim is correct, the use of the progressive should be specific to the TCC. Indeed, while the dynamic nature of "consumption" is expected to license the use of the progressive in the TCC (cf. Leech 1987:22–31), the sense of "necessity", which is the only one available with IT-TAKE$_{Imp}$, is not. As can be seen in (57b), which paraphrases (39b) (repeated in (57a)), IT-TAKE$_{Imp}$ means that the existence, presence, or use of the object-referent is necessary. It therefore involves an underlying stative predicate (expressed here by *is necessary*) that is normally incompatible with the progressive unless, as we shall see, a special meaning is intended.

(57) a. In short, it takes *an oil shock or a severe overheating of the economy* to produce a surge in core C.P.I. inflation. (1994, NEWS, NewYorkTimes)

b. An oil shock or a severe overheating of the economy *is necessary* to produce a surge in core C.P.I. inflation.

My first attempt to test this hypothesis was to compare instances of the progressive in Sample 1 and Sample 2. Sample 2 contains 5 instances of the progressive (0.7 %) against 1 instance in Sample 1 (0.1%). Although these results do not conflict with my hypothesis, the number of occurrences and the difference between the two samples are too low to be statistically significant. I therefore used another method, extracting all the occurrences of the string *it* + *be* + *taking* + (NP) + NP + *to* V from the whole COCA corpus (Sample 3). If, as I have argued, the occurrence of Class-B objects is to be taken as evidence that the string is an instantiation of IT-TAKE$_{Imp}$, the above hypothesis predicts that Sample 3 should contain only Class-A objects. Table 3 shows that this prediction is correct, since 97% of the examples with *take* in the progressive contain Class-A objects (objects that can be construed as resources). The progressive never co-occurs with a direct object designating a non-controlled event or an artefact, and it is extremely rare with animates (3 occurrences).

Let us consider the three apparent exceptions (58):

(58) a. It's taking *200 U.N. peacekeepers* to help maintain a cease fire. (1994, SPOK, ABC_Brinkley)

b. Before the votes were finally counted yesterday, President Clinton was asked why it was taking *both Clintons* to handle you [Obama] in South Carolina. (2008, SPOK, ABC_ThisWeek)

c. We shouldn't have to put eye — earmuffs on them when they walk on a boardwalk or a public street. We need help from the community. You know, it's interesting that, say, Bill and Hillary Clinton are always talking about "It's taking *a village* to raise children." (1999, SPOK, CNN_Talkback)

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Table 3: Count of objects of each ontological type co-occurring with the progressive

Ontological class of object	Raw Frequency	Relative frequency
Time	111	84.1%
Quality	4	3.0%
Controlled event	9	6.8%
Other resource	4	3.0%
Total Class-A objects	128	97.0%
Animate	3	2.3%
Indeterminate	1	0.8%
Total	132	100.0%

First, it must be pointed out that the nominal heads in (58a–c) are plural nouns — either grammatically or semantically.[24] As we have seen, thus construed, nouns pertaining to this ontological class are easier to conceptualize as resources or ingredients. This interpretation is particularly convincing in the case of (58a) where the *200 U.N. peacekeepers* are presented as the manpower used (and needed) to help maintain a ceasefire, as evidenced by the paraphrase in (59).

(59) 200 U.N. peacekeepers are being mobilized to help maintain a cease fire.

Examples (58b) and (58c) are certainly more difficult to account for in this way and should therefore be unambiguously regarded as instantiations of IT-TAKE$_{Imp}$. How can we explain the use of the progressive, then?

Although the sense of "necessity" of IT-TAKE$_{Imp}$ implies a stative predicate which, is normally expressed via verbs in the simple tenses, this is no more than a generalization (Leech 1987:27–31). Verbs (or VPs) which are supposed to be incompatible with the progressive do occur in this form with a different meaning[25] (e.g., "He's stupid" versus "He's being stupid"). Interestingly, the modal expression *have to* can also be used in the progressive, as evidenced by (60).

(60) To do so, Reliance *is having to* build a 21st-century retail supply chain from growers to grocery-store shelves, in a chain that Reliance Chairman Mukesh Ambani calls "farm to fork." (2006, NEWS, CSMonitor)

This shows that the stativity inherent to the notion of "necessity" makes the use of the progressive unlikely but does not preclude it, so that examples like (58b) and (58c) should in no way be regarded as anomalies. The progressive is used to present the modalized situations (the presence of both Clintons in (58b), the participation of the whole community in (58c), and the building of a retail supply chain in (60)) as in the process of being actualized at a specific (past or present) moment.

[24] *Village* can be considered a collective noun (Quirk et al. 1985:116), a noun referring to a plurality of individuals although it is grammatically singular.

[25] This can be analyzed in terms of coercion (see, for example, Michaelis 2005).

5.5 Prediction 4: On the occurrence of an optional object

When an optional object is expressed, it refers to the source-location of the resource (either its initial "possessor" as in (61a–b), or the agent producing it, as in (61c)). The resource can be viewed as being metaphorically extracted from its source-location to fuel the event denoted by the *to*-clause.

(61) a. It took *them* 50 years to come up with that, you know that?
(1990, SPOK, ABC_Primetime)

b. They're fixed very quickly, and in one of the cases, I mean, it took *people* thousands of dollars and days to actually crack just one single code.
(1995, SPOK, NPR_Weekend)

c. As she told Anne later, Amedee woke disoriented and it took *her* some effort to bring him to himself. (2002, FIC, KenyonRev)

The occurrence of an optional object can then be assumed to be connected to the sense of "consumption" and therefore to the TCC. In contrast, *be necessary* is a one-place predicate which takes only one argument, expressed by the direct object. This analysis therefore predicts that the optional object should be more frequent in Sample 2 than in Sample 1 and that, within Sample 1, it should not occur with Class-B objects.

The former prediction is falsified by the data. In Sample 1, 151 examples take an optional object (27.3%) against 21 occurrences in Sample 2 (3.4%).[26] Yet, these results do not undermine my hypothesis, since the latter prediction proves correct: in Sample 1, *all* the examples with an optional object take a Class-A direct object (see Table 4).

Table 4: Types of direct objects co-occurring with optional objects in Sample 1

Semantic class of the direct object	Raw frequency	Relative frequency
Time	145	96.0%
Quality	0	0.0%
Controlled event	5	3.3%
Resource	1	0.7%
Artefact	0	0.0%
Animate	0	0.0%
Non-controlled event	0	0.0%
Total	151	100.0%

How can these results be interpreted? Because the optional object occurs with direct objects designating time-spans and controlled events, my contention is that the optional object is not only restricted to the TCC but to two of its meanings, namely "incremental consumption" — where it refers to the source of the resource — and

[26] These results are highly significant: $X^2 = 112.386$; $df = 1$; $p = 0$.

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"non-incremental consumption" — where it refers to the agent producing the controlled event.[27]

Note that another — less constraining — factor is also in play. In 109 sentences out of the 150 in which an indirect object is expressed, the verb *take* is in the Past Simple. In contrast, only 37 examples are in the Present Simple, even though both tenses are evenly represented in Sample 1.[28] One reason for this may be that the Present Simple is mostly used in generic sentences where the optional object-position would have to be filled by a generic pronoun such as *one* or *you*, which would convey very little information. This, added to the fact that the syntactic slot is optional, might explain why optional objects are infrequent when the verb is in the Present Simple.

6. Conclusion

This paper has provided a detailed and empirically informed study of constructions that have so far been left out of grammar books and out of the literature on modality.

I have suggested that the string *it* + *take* + NP + *to*-clause corresponds to two micro-constructions: a micro-construction with extraposition, whose primary meaning is described in terms of metaphorical consumption of some resource; and an impersonal (anankastic) micro-construction, which expresses a necessary condition. Because the two micro-constructions share similar formal realizations and have the sense of "necessity" in common, in many cases (i.e., when the meaning of the direct object is compatible with both micro-constructions), it is impossible to say whether a specific sentence of the form *it* + *take* + NP + *to*-clause should be analyzed as an instance of the micro-construction with extraposition or of the impersonal micro-construction. With other kinds of direct objects, however (i.e., those which cannot be construed as resources), the sense of "consumption" is excluded and so is the micro-construction with extraposition.

This study leaves room for future research in at least two directions. First, in order to understand the link between the two micro-constructions, the time-factor needs to be taken into consideration and a finer characterization of the forms under scrutiny might be gained from a diachronic study of their emergence and evolution. Second, although I have alluded to the near-synonymy between the impersonal micro-construction with *take* and the constructions with *require* and *have to*, a fine-grained analysis of the data is needed to determine their respective semantic properties and conditions of use, that is, the types of context that privilege the use of one form over the other.

[27] Note that, in all cases, the optional object also specifies the agent of the event expressed by the non-finite clause or the subject NP.

[28] In Sample 1, 325 sentences are in the Present Simple and 300 in the Past Simple.

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