Horn-amalgam Constructions:
A Construction-based Analysis*

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Kim, Jong-Bok and Sim, Rok. 2018. **Horn-amalgam Constructions: A Construction-based Analysis**. *Studies in Generative Grammar*, 28-4, 677-698. The paper examines grammatical properties of the so-called Horn-amalgam constructions in English and offers a construction-based analysis. Horn-amalgams are peculiar in exhibiting transparency effects in which the predicative expression within the amalgam clause functions as a syntactic as well as semantic nucleus of the construction. In capturing such transparency effects, the prevailing analyses have resorted to movement and deletion operations, together with the postulation of cleft constructions as their putative sources. The paper discusses empirical data of the construction as well as analytical issues that movement-based accounts encounter. In doing so, we first investigate how Horn-amalgams are used in real-life with corpus data and then offer a construction-based analysis that allows us to capture a wider range of empirical data in a simpler manner.

1. Introduction

An example like the following is referred to as Horn-amalgams, first introduced by Lakoff (1974) who refers such an example to Larry Horn (see Tsubomoto and

Whitman 2000, Kluck 2009):[1]

    (1)   John is going to [I think it is **Chicago**] on Saturday.

The peculiarity of such an example concerns the fact that the complement of the preposition (*to* in (1)) is not adjacent but interrupted by a clause including a reduced *it*-cleft clause. For instance, the object of the preposition *to* is the NP *Chicago*, occurring in the bracket 'amalgam' clause. This interrupting amalgam clause is optional, except this 'content kernel'.
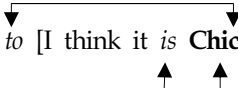
    The content kernel acts as if it is the syntactic and semantic pivot of the amalgam clause, inducing a transparency effect in Horn-amalgams. This transparency effect can be further observed with idiom chunks (Kluck 2011):

    (2)   Bea made [I think it was a lot of headway].

The verb *made* in (2) and *a lot of headway* are in different local domains but still induce the idiomatic reading. The transparency effect in Horn-amalgams seems to indicate that matrix and interrupting amalgam clauses are intertwined into one clause, while sharing the content kernel in terms of syntactic and semantic aspects. This can be represented as following (see, among others, Grosu 2006, Riemsdijk 2006, Kluck 2011).

    (3) a. Matrix clause (MC): John is going to Chicago on Saturday.
        b. Amalgam clause (AC): I think it is Chicago.

        c. John is going *to* [I think it *is* **Chicago**] on Saturday.

This paper tries to investigate empirical data of Horn-amalgams with online available corpora and then offer a construction-based analysis. This paper is organized as follows. In section 2, we briefly explain our search method used for the research. Then, in section 3, we discuss main grammatical properties of the Horn-amalgam construction in English on the basis of corpus data from COCA (Corpus of Contemporary American English) and BNC (British National Corpus). In section 4, we consider the semantic and pragmatic aspects of the Horn-amalgam constructions in depth. In section 5, we review previous analyses

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    [1] COCA: Corpus of Contemporary American English

of Horn-amalgam constructions and discuss empirical and analytical issues that these previous analyses encounter. In section 6, we provide a construction-based account for Horn-amalgams, which places emphasis on the interplay of lexical and constructional constraints. Section 7 concludes the paper.

2. Search methodology

To explore attested examples, we first used the corpus, COCA (Corpus of Contemporary American English). The corpus, containing more than 560 million words in 220,225 texts from the 1990-2017, is a balanced corpus with classifying the data into five genres (Spoken, Fiction, Popular magazines, Newspapers, Academic Journals). We also extracted data from the BNC (The British National Corpus), which contains 100 million words of texts from a wide range of genres (Spoken, Fiction, Magazines, Newspapers, and Academic).

In searching Horn-amalgams in the corpus, we used simple search strings[2]:

Table 1: Search strings for Horn-amalgams

Some elements	(,)	Subject	Verb	Pronoun	Copular
[i*]	([y*])	[nn*]/[p*]	[vv*]	[nn*]/[p*]	[vb*]
[nn*]	([y*])	[nn*]/[p*]	[vv*]	[nn*]/[p*]	[vb*]
[v*]	([y*])	[nn*]/[p*]	[vv*]	[nn*]/[p*]	[vb*]
[j*]	([y*])	[nn*]/[p*]	[vv*]	[nn*]/[p*]	[vb*]

Of the extracted data, we excluded irrelevant examples like the following:

(4) Well, all **of you think it's** complete nonsense. (COCA: 2004 SPOK)

Removing such examples, we obtained a total of 136 examples for Horn-amalgams, as shown in the following frequencies in each register:

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[2]   [i*] = preposition, [nn*] = noun, [p*] = pronoun, [j*] = adjective, [vv*] = verb, [vb*] = copular verb, [y*] = punctuation marker
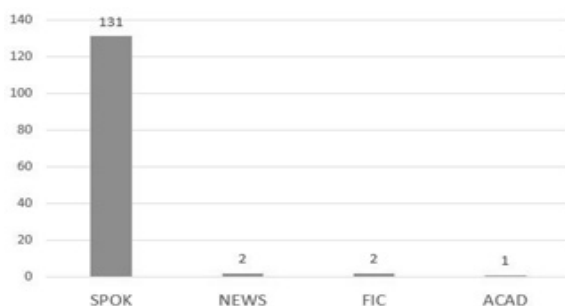
Figure 1: Frequencies by registers

As shown here, among the five registers, SPOK (131 tokens, 96.3%) is the most prevalent register for Horn-amalgams. The other four registers hardly use Horn-amalgams. This implies that Horn-amalgams have strong preferences in spoken use (see section 4).

3. Syntactic properties

In analyzing the collected data, we first assumed that Horn-amalgams have the following syntactic template, with the XP functioning as the content kernel:

(5) A template of the Horn-amalgam construction:
     Subject + verb + it + embedded predicate (*be*) + XP

With this template, we investigated distributional properties of the amalgam clause as well as grammatical properties of each expression in the amalgam clause.

3.1. Distributional properties of the amalgam clause

Our data have first shown that Horn-amalgams can occur in the diverse position of grammatical functions. They can position in the subject (6a), object of a verb (6b), object of a preposition (6c), predicate (6d). They can appear even in a modifier position (6e):

(6) a. How is [I think it's called Lambic beer] different from a regular beer?
       (COCA: 1999 SPOK)

    b. One was that she said the first time she tried [I think it was heroin],
       ... (COCA: 2009 SPOK)

    c. He gives a speech in [I think it was Florida]. (COCA: 2011 SPOK)

    d. The fact that we wanted to stay connected with the people that we
       met in the communities is, [I think it's pretty unusual]. (COCA: 2006
       SPOK)

    e. And there was a show, [I think it was on NBC], a dramatic show that
       depicted a scene that was very similar]. (COCA: 1995 SPOK)

The following illustrates the frequency of the data by grammatical functions:
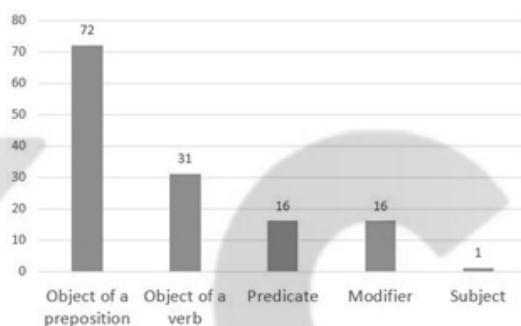

Figure 2: Frequencies of the grammatical functions

As noticed here, the object of a preposition is the most common function, whereas the least usage is as a subject. The only example we identified as the subject use is the one in (6a) where the subject is in the SAI construction.

3.2. Types of the subject

As for the subject of the interrupting clause, we could identify that the first person pronoun *I* is most dominantly used in the clause (131 out of 136 tokens in total):

    (7)   I noticed you never gave a full answer to, [**I** think it was Megyn
            Kelly's question]. (COCA: 2011 SPOK)

This frequent usage of the first person pronoun has to do with the fact that the construction is basically speaker-oriented. For instance, as in (7), the

Horn-amalgam is used in the situation where the speaker conveys a subjective opinion by expressing his/her knowledge toward the state-of-affairs (Kluck 2011).

There is one example we find with the pronoun *we* as the subject (1 token):

(8)   ... some of the top dignitaries for Mexico came over and met, [**we** understands it was Steve Bannon] and ... (COCA: 2017 SPOK)

The pronoun *we* here is an inclusive one, whose membership includes the speaker and the addressee, supporting Kluck (2009)'s observation that Horn-amalgam allows only the inclusive *we*.

There are also a few examples with the pronoun *you* functioning as the subject of the amalgam clause (4 tokens):

(9)   ... he would argue with me about [**you** think it was just a war of mama and papa]. (COCA: 2016 SPOK)

One thing we note here is that the sentence involves a speaker's perspective, not the hearer's.

3.3. Types of the verb

The matrix verb in the amalgam clause is typically a non-factive, parenthetical verb like *think*, *believe*, *guess*, and *understand*:

(10) a. He had the vice president, after meeting with the eight senior leaders in [I **think** it was April, late April, early May]. (COCA: 2011 SPOK)
    b. And, in fact, the Bush administration brought [I **believe** it was eight WTO cases against China]. (COCA: 2009 SPOK)
    c. York Times had a story on [I **guess** it was Sunday] about this. (COCA: 1996 SPOK)

These verbs all allow a sentential complement and encode epistemic modality, which refers to the way speakers convey their doubts or certainties. This also reflects the speaker-oriented property of the construction. In terms of the frequency of these verbs, *think* is predominantly used in the construction.

We have not identified any factivity denoting verb as the matrix verb of the amalgam clause, which supports the point made by Kluck (2009):
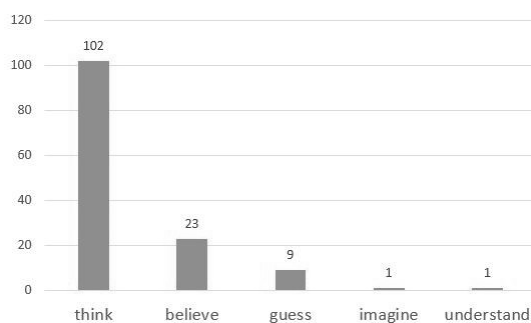
Figure 3: Frequencies of verb types

(11) *John is going to [I **forgot**/**remember** it's Chicago] on Saturday.

The limit of verb types to non-factive one also indicates that the construction is to express the speaker's opinion.

3.4. The pronoun *it*

The corpus yielded only the pronoun *it* as the subject of the embedded clause:

(12) a. They kept him at the crime scene for, [I think **it** was, 45, maybe 50 minutes], at one point took him out of one car. (COCA: 1999 SPOK)
   b. I lament that this primary was run with you versus [I believe **it** was Marcy Kaptur, who is also a great representative for our state], ... (COCA: 2012 SPOK)

Before we consider the status of the pronoun *it*, let us consider main uses of the pronoun *it*. It has three typical uses: weather-temporal *it*, extraposition *it*, cleft *it*, respectively.

(13) a. **It** is raining again.
   b. Does **it** make a difference that they are under age?
   c. **It** cannot have been John who did it.

These uses differ from the anaphoric/cataphoric uses of *it* in (14), in that the examples in (13) do not presuppose any antecedent either before or after the pronoun, or is not tied to any particular situation (see Kaltenböck 2003):

(14) a. The flat is very nice but unfortunately **it**'s too expensive. (referring *it*)
　　 b. Isn't **it** rather nice? (said to somebody looking at a photograph) (situational *it*)

Going back to the use of *it* in (12), it is hard to take *it* to be non-anaphoric since the clause is tied to the matrix clause: there must be a situation that triggers the introduction of the pronoun *it* in the amalgam clause, even though the clause a lot resembles *it*-cleft clauses. The requirement of having a previous context is also supported from the fact that the amalgam clause does not occur in the subject position. This being the case, we take the pronoun *it* to an anaphoric use, different from the one in the cleft clause.

3.5. Types of the embedded predicate

Two types of the embedded predicates are identified in the Horn-amalgam construction; *be* and *'s called*.

(15) a. the reality is [I think it **is** something that does happen]. (COCA: 2007 SPOK)
　　 b. Hi. I wanted to talk to you about − [I think it**'s called** synthetic-aperture radar]. (COCA: 2001 SPOK)

Of these two, be is used dominantly (90.4%) and be called follows (9.6%). If each of the Horn-amalgams has a *it*-cleft source, we are then forced to exclude examples with the passive verb *call* from the construction.

In terms of the verb's tense, we could observe that its tense information matches with that of the clause triggering the amalgam clause:

(16) a. I only **had** to pay [I think it **was** $200 for the whole thing]. (COCA: 2011　SPOK)
　　 b. We **have been** fighting for this day for, [I think it**'s been** about eight years now],... (COCA: 2016 NEWS)

3.6. Types of the content kernels

The syntactic category of the content kernels varies, as illustrated by the following:

(17) a. I started off in New York in an old Mustang and **paid**, [I think it was [NP **900 bucks**]]. (COCA: 2006 SPOK)

b. He **spoke**, [I guess it was [PP **for several hours**]], on the importance of his work ... (COCA: 2005 FIC)

c. The fact that we wanted to stay connected with the people that we met in the communities **is**, [I think it's [AP **pretty unusual**]]. (COCA: 2006 SPOK)

d. Kim was working for me and working another job nights also **helping**, [I believe it was, [VP **clean floors or something**]]. (COCA: 1993 SPOK)

As demonstrated by the examples here, the possible categories depend on the (underscored) head expression that selects them. Among the possible categories, the category NP is predominantly used, followed by the PP category.
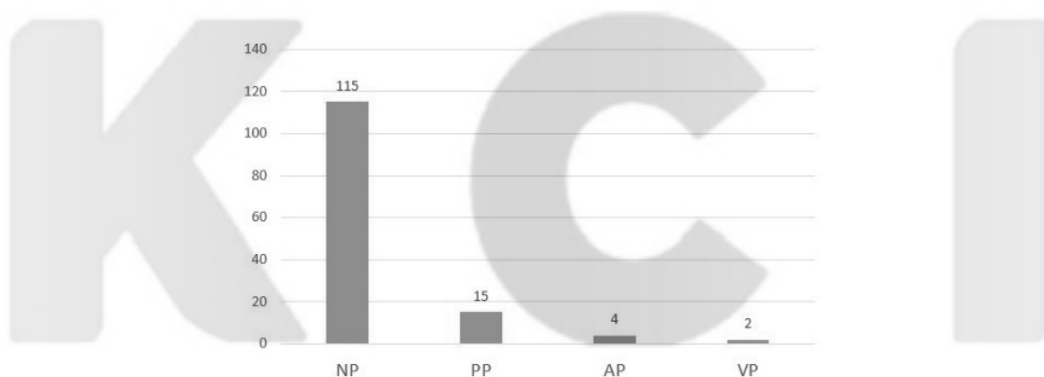

Figure 4: Frequencies of the content kernel types

Note that the verbal categories AP and VP are not impossible. This also hints that we may not be able to assume *it*-cleft sources for all amalgam clauses (see section 5).

3.7. Transparency effects of the content kernels

As noted earlier, the content kernel in the amalgam clause has a transparency effect. Consider the following examples with respect to agreement[3]:

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[3] In the corpus examples, the star marking, indicating the unacceptability, is our own.

(18) a. There **are**/*is [I think it's **ten columns and thirty one rows**]. (BNC: K6V)

    b. How **is**/*are [I think it's called **Lambic beer**] different from a regular beer? FLA-TOW: Doug, you're shaking your head. (COCA: 1999 SPOK)

As seen from the examples, the number feature of the content kernel depends on that of the matrix verb introducing the amalgam clause.

    Another transparency effect can be observed from the selectional restrictions.

(19) a. He gives a speech **in** [I think it was **Florida**/*Sunday/*Bread].

    b. **On** [I believe it was **Thursday morning**/*Florida/*Bread], less than ninety-six hours after the event I actually saw a building going back up. (COCA: 2011 SPOK)

The examples again illustrate that the possible type of content kernel depends on the selectional requirement imposed by the head expression *in* and *on*. For instance, in (19a), the preposition *in* requires a locative phrase, while *on* asks a temporal one. Such an s-selection (semantic selection) once again thus shows a transparency effect of the content kernel.

4. Semantic and pragmatic functions

Potts (2007, 2012) classify two different meanings, 'at-issue' and 'CI (conventional implicature)'. Consider the following example with a parenthetical *as*-clause:

(20)   Ames was, as the press reported, a successful spy.

    a. Entailment: Ames was a successful spy.

    b. Conventional implicature: The press reported that Ames was a successful spy.

The main clause and the *as*-clause here have independent truth values. Even if the proposition that the press reported it is false, the one that Ames was a successful spy can be true. The *as*-clause's message is thus not part of what is said, but it is implied from the utterance, the conventional meaning of the words involved, and the composition of words. This is what Potts (2005) calls 'conventional implicature'.[4]

    The amalgam clause also involves a CI meaning:

(21) a. John is going to [I think it is Chicago] on Saturday.
     b. John is going to some place on Saturday.   (at-issue)
     c. I think it (the place John is going to) is Chicago. (CI)

In the sentence (21a), the at-issue proposition is 'John is going to some place on Saturday.', while the CI is 'I think the place John is going to (*it*) is Chicago.'. The truth value of the CI message does not depend on the at-issue proposition. The CI presents the speaker's additional knowledge on the state of affairs involved.

The CI message also has to do with pragmatic functions of the construction. We have noted that Horn-amalgams typically play hedge functions, mitigating the speaker's involvement in a certain issue by telling others that the source of content is the speaker's belief (Lakoff 1974, Kluck 2009). Consider the following examples:

(22) a. She tried [I **think** it was heroin]. (COCA: 2009 SPOK)
     b. the Bush administration brought [I **believe** it was eight WTO cases against China]. (COCA: 2009 SPOK)

Verbs like *think* and *believe* express the speaker's thought or belief, or guessing process. If the speaker's thought or belief does not hold true, then the message of the amalgam clause could be false. By signaling this possibility, the speaker intends to lessen his or her commitment to the utterance.

Also, modals and raising verbs have a hedge function (Kluck 2009). Consider the following:

(23) a. Charlotte is going to [it **seems**/**appears** to be Paris].
     b. Charlotte is going to [it **must**/**could**/**may** be Paris].

Modals or raising verbs can be used as a predicate instead. Not surprisingly, the modals here should bring an epistemic interpretation, not deontic interpretation.

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[4] Since conventional implicature can follow from the composition and meaning of the words involved in the given utterance, it belongs to the class of entailments. See Potts (2005) for details.

5. Movement and deletion-based accounts

Lakoff (1974) posits two independent clauses (the matrix and the amalgam clause) in generating Horn-amalgams. In particular, his analysis involves the insertion of the relevant amalgam clause and the backward deletion. For instance, his analysis derives (24a) from (24b) and (24c):

(24) a. John is going to I think it is Chicago on Sunday.
     b. John is going to [NP] on Sunday.
     c. I think it is Chicago [John is going to on Sunday]

The cleft clause in (24c) undergoes ellipsis, and the remaining part is adjoined to the empty NP in (24b), resulting in a clausal embedding.

In a similar manner, Kluck (2011, 2014) proposes that the amalgamated sentences are derived by two steps, deletion and grafts. Consider an illustration:

(25) a. John is going to [I think it is Chicago].
     b. [John is going to] [I think it is Chicago (that John is going to Chicago)]. (Deletion)
     c. [John is going to [I think it is Chicago (that John is going to Chicago)]. (Graft)

Her key suggestion is that the Horn-amalgam involves two clauses: one matrix clause with a missing element and the other with a cleft clause to be elided. After the ellipsis process, the amalgam clause is grafted onto the matrix clause.

One claimed advantage of such an analysis may come from binding facts (data from Kluck 2011).

(26) a. *The professor$_i$ cites [I think it was him$_i$ (*the professor$_i$ cites _)] primarily.
     b. *He$_i$ cites [I think it was the professor$_i$ (He$_i$ cites _)] primarily.

The unacceptable coindexing relations here can be attributed to the binding conditions if the content kernels him and the professor are in the governing domain (clause).

One immediate issue of the *it*-cleft analysis is the nature of the pronoun *it*. As we have noted, different from the non-anaphoric uses of *it*, the pronoun *it* in the Horn-amalgam needs to have a context involved, which implies its anaphoric

nature. In addition, we have seen that examples like (27) cannot be taken to be derived from the *it*-cleft: the amalgam clause is simply a complete clause with no cleft-clause requirement.

(27)   I think the thing that most caught my attention was, [I think it was called the bow]. (COCA: 1997 SPOK)

Another issue that arises from a cleft-source analysis concerns the source sentence. One often observed constraint in *it*-cleft is that a verbal expression is in general not allowed in the focus position:

(28) a. *It is [AP very unhappy] that John is.
     b. *It is [VP clean the room] that John is helping.

However, as noted earlier, a verbal category is allowed in the seemingly focused position, whose example we repeat here:

(29) a. Now, people should find that sort of thing out [I think it's [AP **only helpful**]]. (COCA: 2007 SPOK)
     b. Kim was working for me and working another job nights also helping, [I believe it was, [VP **clean floors or something**]]. (COCA: 1993 SPOK)

6. A construction-based analysis

6.1. The pronoun *it* as a specificational subject

The pronoun *it* in the amalgam clause is not interchangeable with other demonstrative pronouns like *this* or *that*.

(30)   John is going to I think it/*this/*that is Chicago on Saturday.

This may support the *it*-cleft analysis, but as we have noted earlier, the pronoun it behaves differently from the cleft *it*. We have noted that unlike the cleft *it*, the amalgam *it* is rather anaphoric, introduced by the matrix clause. This is why it cannot be introduced in the typical NP subject position. We take the amalgam *it* is referring to a variable 'x' introduced by the matrix clause, which may

correspond to the empty NP in Lakoff's example, repeated here:

(31) a. John is going to [I think it is Chicago] on Sunday.
     b. John is going to [NP] on Sunday.
     c. I think it is Chicago [John is going to on Sunday].

When the expression *John is going to* is uttered, the situation introduces a variable about 'some place', and the amalgam clause tries to provide an answer to this variable from a speaker's point of view.

(32) a. John is going to some place 'x'.
     b. I think the value of this variable (*it*) is Chicago.

In this sense, the embedded clause of the amalgam clause is similar to specificational copular constructions (see Mikkelsen 2011)

(33) a. The guest of honor was happy, wasn't she/*it? (Predicational)
     b. The director of the movie is Otto Preminger, isn't it/??he? (Specificational)

As seen here, unlike the animate subject of a predicational copula construction, that of a specificational copular clause can be referred to by the pronoun *it*. The specificational subject sets up a variable and the postcopular expression provides the value for that variable (see Mikkelsen 2011 and Kim 2016a). This is why not only an animate NP but also a verbal category can appear in the postcopular position in the Horn-amalgam constructions:

(34) a. The fact that we wanted to stay connected with the people that we met in the communities **is**, [I think it's **pretty unusual**]. (COCA: 2006 SPOK)
     b. Kim was working for me and working another job nights also **helping**, [I believe it was, **clean floors or something**]. (COCA: 1993 SPOK)

6.2. Introducing hedging functions

Another key elements in the amalgam clause is the uses of personal pronouns (dominantly first person pronoun) and hedging verbs like *think*, *believe*, *guess*, and

so forth. The hedging function of these verbs seems to be shown by their independent tense information:

(35)   And I **got** a picture from, [I **think** it was a TWA pilot], ...(COCA: 2009 NEWS)

The tense information of the verbs in all cases are the present tense form. The present form is preferably used since the speaker conveys his/her opinions that come to mind at the time the utterance is being held.

6.3. The Horn-amalgam construction

With the anaphoric status of *it* and the requirement of a hedging verb in the amalgam clause, we assume that English employs the following as an independent construction:

(36)   Constraints on the Horn-amalgam Construction:
   a. It is introduced by a hedging verb (e.g., *think*) that selects a speaker-oriented pronoun (e.g., *I*) as its subject together with a special type of specificational copula construction as a sentential complement.
   b. The specificational copular construction has the pronoun *it* as its subject and an XP that provides its value.
   c. The categorical value of the XP, serving as the salient utterance, is the 'transparent' categorical value of the whole construction.

Note that, of these constructional constructions, we refer to the notion of 'salient utterance'. One similarity between *it*-cleft (e.g., *It is Chicago that John is going to*) and specificational copular (e.g., *Where John is going to is Chicago*) constructions is that the NP *Chicago* functions as an exhaustive listing of the element(s) to which the presupposed predicate applies, assuming some salient set of potential such elements. That is, when these two sentences are uttered, it is taken to mean that the speaker thinks it is Chicago and only Chicago that John is going to, not Chicago among other cities. In a similar manner, the content kernel serves as a salient utterance from the speaker's perspective. That is, when *John is going to I think it is Chicago*, the city *Chicago* serves as an exhaustive listing.

Following Ginzburg and Sag (2000) and Kim (2015), we take the salient utterance (SAL-UTT) information as discourse information and represent the constructional constraints in a SBCG (Sign-Based Construction Grammar) format
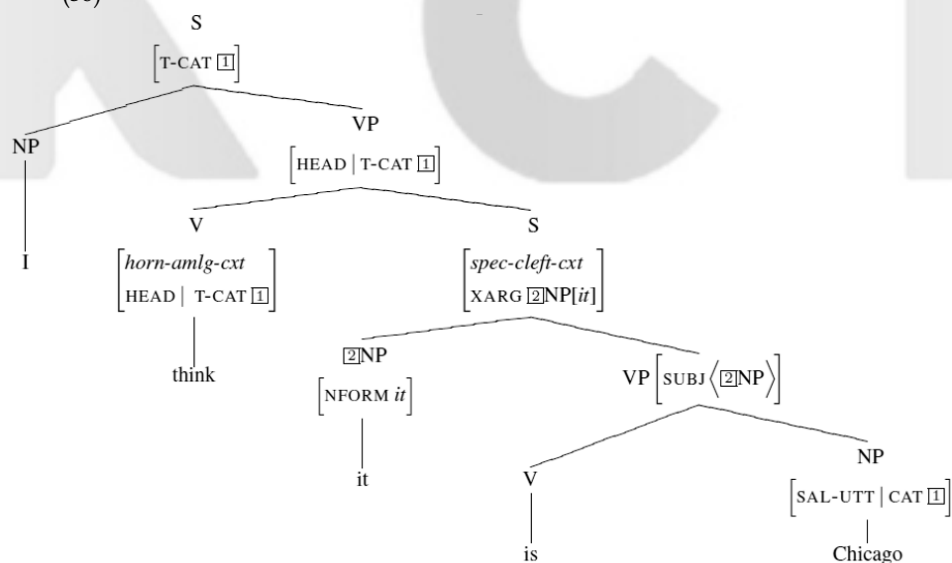
(see Sag 2012, Michaelis 2013, Kim 2016b):[5]

(37)   Horn-amalgam Construction:

$$
\textit{horn-amlg-cxt} \Rightarrow
\left[
\begin{array}{ll}
\text{SYN} &
\left[
\begin{array}{l}
\left[\text{HEAD} \,|\, \text{T-CAT}\ \boxed{1} \right] \\
\text{SUBJ}\ \langle\ \text{NP}[\textit{1st-pn}]\ \rangle \\
\text{COMPS}\ \left\langle
\left[
\begin{array}{l}
\textit{spec-cleft} \\
\text{XARG}\ \textit{it} \\
\text{SAL-UTT}\,|\,\text{CAT}\ \boxed{1}
\end{array}
\right] /
\right\rangle
\end{array}
\right] \\
\text{SEM} & \boxed{2} \\
\text{CI} & \boxed{2}
\end{array}
\right]
$$

This post-inflectional construction allows the system to license Horn-amalgam constructs that select a first pronoun subject as its subject and the specificational cleft construction as its complement. This construction would allow a structure like the following:

(38)

This simplified structure shows us how the present system can license a Horn-amalgam construct introduced by the hedging verb think. The verb's subject is the first person pronoun *I* and its complement is a specificational copular construction. The subject of this copular construction needs to be the pronoun it (external argument: XARG) linked to the variable provided by the previous context. Its value is the NP *Chicago* that serves as the exhaustive, salient information for its value (SAL-UTT). Note that the categorical information of the attribute SAL-UTT is identified with the transparent-categorical (T-CAT) information of the whole amalgam clause. This functions as a head feature to metaphorically pass up to the S so that it can be visible to the head selecting the S. This in turn means the syntactic subcategorization requirement of the head expression that triggers an amalgam clause can be satisfied either by the CAT value or by the T-CAT value. Also note that this construction evokes a CI (conventional implicature) meaning for the sentence in which it is embedded. The constructional constructions thus assign a *sui generis* status to the construction. The status is thus obtained from the tight selectional linkage between a head and the content kernel, whose example we repeat here:

(39)   Bea made [I think it was a lot of headway].

The verb *made* selects the NP *a lot of headway* as its syntactic complement and forms an idiomatic meaning. The system licenses this by allowing the verb to refer to the T-CAT value.

The present system also allows a verbal category like AP or VP to serve as the content kernel as long as it is selected by a head, as seen from the repeated data:

(40) a. People should find that sort of thing out [I think it's [AP only helpful]].
     b. Kim was working for me and working another job nights also helping, [I believe it was, [VP clean floors or something]]

The AP *only helpful* is selected by the verb *find* while the VP *clean floors or something* by the verb *helping*. These content kernels are interrupted by the expressions of the amalgam clause, but can be selected by the head verbs through the feature T-CAT. Note that since an AdvP hardly functions as a complement, we would not find examples where an AdvP functions as the content kernel. This is what we have observed from the data.

One may question the independent motivation of introducing a feature like T-CAT. As noted by Kim and Davies (2018) and the references therein, English allows constructions like transparent free relative clauses:

(41) a. Tom seduced [what appears to be **an underage girl**].
  b. John is [what you might call **a fool**].
  c. You're not [what anyone would describe as **ecstatic**].
  d. We started [what we call **picking corn**].

In these transparent free relatives, the content kernel is in the bracket clause but selected by the head expression in the matrix clause. For instance, the verb *seduced* in (41a) selects an NP object but it is in the embedded clause, while the copula verb in (41c) takes the AP *ecstatic* as its complement. The bracket clause, adjacent to the head, is an S that cannot serve as their complements. Given that the T-CAT value of the transparent clause is identified with the CAT value of the content kernel, the combination of the head verb and its complement here can be 'local', as we have seen in the Horn-amalgam. This justifies the postulation of the feature T-CAT.

Note that the present analysis also can offer a simple account for binding facts, whose data we repeat here:

(42)   *The professor$_i$ cites [I think it was him$_i$ (*the professor$_i$ cites _)] primarily.

Given that the binding constraints are controlled at the ARG-ST level, we could see that in both (43a) and (43b), the second argument is coindexed with the first argument.

(43) a. ARG-ST <NP$_i$, NP$_i$>
  b. *The professor$_i$ cites him$_i$.
  c. *The one$_i$ that the professor cites is him$_i$.

The coindexation relation then violates the Binding Principle B that specifies a personal pronoun must be locally a-free (argument-free) (see Sag et al. 2003). The present analysis thus requires no putative sentence source for binding facts, as did Kluck (2011).

This construction-based system also hints that the construction's meaning contribution is about a CI (conventional implicature). No expression in the

amalgam clause evokes this meaning since it is triggered by the construction itself.

(44) a. John is going to [I think it is Chicago] on Sunday.
   b. At-issue meaning: John is going to some place on Sunday.
   c. CI meaning: I think the value of 'some place' (the place where John is going to) is Chicago.

There are at least two implications here. Since the meaning of the amalgam clause is a CI one, it accompanies a hedge function. This is due to the fact that a CI meaning is basically speaker-oriented. Another implication is that in referring to the antecedent for the specificational value, the unmarked, neutral pronoun it is introduced. This is why the amalgam clause looks like an *it*-cleft.

Also note that the present analysis also account for examples like the following where a raising verb intervenes:

(45) a. John is going to [I think it seems to be Chicago] on Saturday.
   b. John is going to [I think it could be Chicago] on Saturday.

The verb seems and the modal could are all raising verbs whose subject value is identical to the subject of the following VP (see Kim and Sells 2008). The transparency effect thus still holds here.

7. Conclusion

English Horn-amalgams display a variety of grammatical peculiarities. We cannot take them as idioms or fixed expressions because of their syntactic flexibilities, which we have seen from corpus data. The Horn-amalgam construction involves several micro-constructions. For instance, it involves subtypes of the hedging and specificational copular constructions.

We have discussed the issues that movement analyses encounter in capturing idiosyncrasies as well as common properties of the construction. As an attempt to avoid these issues, we sketched a construction-based approach. The key difference from movement analyses is to take *it* as the subject of the specificational copular construction that refers to the variable introduced by the context (salient information). The content kernel functions as providing the value for this variable. The Horn-amalgam construction is headed by a hedging verb combining

with this subtype of specificational construction with the first pronoun. This is a way to assign a CI meaning rather than an at-issue meaning to the construction. The most *sui generis* property of the construction has to do with the categorical identity between the content kernel phrase and the amalgam construction itself. This is possible within a feature-based system where the categorical information is not primitive but encoded as part of the feature attributes that the traditional category bears. The Horn-amalgam construction clearly shows the role of grammatical interplays among different grammatical components such as syntax, semantics, and context.

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