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CO-PREDICATION IN RESULTATIVE CONSTRUCTIONS IN ENGLISH AND FRENCH WITH SPECIAL REFERENCE TO UNACCUSATIVE VERBS: TELICITY AND INTENSITY

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Abstract : In this article, our purpose is to examine resultative constructions in English with an unaccusative verb, i.e. an intransitive, change of state verb such as *freeze*. The verb is followed by an adjective (*freeze solid*) which we argue is in a relation of co-predication (the status of which we discuss). We compare the V-ADJ construction with V-ADV patterns (*freeze over*). We argue that there is a high degree of constraint in forming resultatives: *crack open* is licensed, but not **crack gaping*. A comparison with co-predication in French (*geler dur*) shows how semantic constraints greatly vary in the two languages. Our claim is that a syntactic explanation is not sufficient to account for the construction. The resultative reading is based on the lexical properties of the verb in the first predication while the second predication encodes high degree and modalization. As the verb in the main predication includes a telic orientation in its semantics, there is an apparent redundancy with the final state denoted by the adjective. We show that there is in fact no real redundancy and that the co-predication expresses both a high degree and an endpoint since it has an aspectual function (telicity) and a semantic function (intensity).

1. Introduction

Our purpose is to examine a certain type of resultative construction in English with a so-called unaccusative verb (Perlmutter, 1978; Pullum, 1988¹), i.e. an intransitive, change of state verb such as *freeze*. In such an intransitive structure, the affected element is the subject, in the nominative, instead of the common SVO structure in which the affected element is the object, in the accusative. One distinctive feature is that the adjective can be omitted (*the lake will freeze* vs *the lake will freeze solid*). In the construction under scrutiny, the verb is followed by an adjective (*freeze solid*) which we argue is in a relation of co-predication. Co-predication is defined by Cadiot and Furukawa (2000: 3) as “a type of sequence which, in spite of its syntactically integrated status, semantically expresses a sentential content within the sentence itself” [“un type de séquence qui, malgré son statut syntaxiquement intégré, exprime sémantiquement un contenu phrastique à l’intérieur même de la phrase”].

Our data in English is taken from the written sections of the BNC and COCA corpora and a personal corpus compiled from internet sites and from books in electronic form, irrespective of their British or American origin – the possible differences between varieties have not been taken into account at this stage. The French corpus is taken from *Frantext*

¹ We will not discuss further the term “unaccusative” compared to “ergative”, sometimes favoured by some authors (Winkler, 1997).

and the internet. We will compare the V-ADJ construction with V- ADV (adverbial particle) patterns (*freeze over*). We argue that there is a high degree of constraint in forming resultatives: *crack open* is licensed, in “his helmet cracked open” (BNC), but not **crack gaping*). A comparison with co-predication in French (*geler dur*) shows how semantic constraints greatly vary in the two languages. We have chosen to examine the construction in these languages as each exhibits different strategies to mark the result of the process denoted by the verb; this comparison confirms the typological distinction made between a satellite framed language (English) and a verb framed language (French).

Our hypothesis is that a syntactic explanation is not sufficient to account for this construction. The resultative reading is based on the lexical properties of the verb in the first predication while the second predication encodes high degree and modalization. As the verb in the main predication includes a telic orientation in its semantics, there is a redundancy with the final state denoted by the adjective. We show that the redundancy is only apparent and that the co-predication indicates both a high degree and an endpoint since it has an aspectual function (telicity) and a semantic function (intensity).

Our aim is to discuss the status of co-predication. We will attempt to show that it is in fact not secondary semantically but construed as a chunk in a preconstructed matrix.

2. Defining resultatives and co-predication

First of all, the following constructions are excluded from the study as their meaning is not resultative: a) deverbal adjectives in -ing + ADJ, e.g. burning hot, which have the same syntax as V + ADJ, but are adjectival present participles followed by adjectives having the function of amplifiers-maximizers; b) V-ADJ constructions in which adjectives are used as manner adverbs, such as deep (freeze deep), equivalent to deeply, or hard (“something twisted hard and painfully in Cole’s chest”, COCA), where the adjective hard is placed on the same level as the adverb painfully and is thus to be considered an adverb, c) adjectives not denoting a resultant state: no change from state1 to state2 can be identified. The sentence “the sleepers ran empty” can be equated to “the sleepers were empty”, d) passives which imply a transitive verb and therefore fall outside the scope of our study (e.g. shot dead – active counterpart: “X shot Y dead”).

Unaccusative verbs are intransitive verbs without an external complement, of the sink-type (one of the boats sank) whose argument plays the role of a direct object (the water boiled) and whose surface subject is therefore non agentive. In its intransitive use, the agent is erased and the object becomes the subject of the verb. It is a class that can be considered as “marginal”, the most common resultative pattern being transitive (She yanked open the door, BNC). Verbs of the yank/kick/prise type imply a strong agentivity blocking any possibility of an unaccusative use of the verb (*the door yanked open/kicked open/prised open). Conversely, a verb such as blow is weakly agentive and makes an unaccusative alternation possible (the door blew open, BNC). The very definition of what a resultative is raises many problems. Phrases in V-ADJ are not all resultatives. The possibility for an adjective to be used as an adverb makes the problem even more intricate. There is a thin line between a resultative interpretation and an adverbial interpretation as the following example shows:

- (1) A neon sign on the roof **blinked red** and then **yellow**. (COCA- David Everson, *False Profits*, 1991)

If the interpretation is adverbial it follows that there is either a total integration, “*the neon blinked and it was a red colour*” or a description of “manner”: “*in a red manner*”. The mention of a result “*it blinked and as result became red*” is excluded. With the following example, however, the interpretation is more complex:

- (2) I’d been asleep in my bunk. I **blinked awake**, kind of groggy (COCA- *Waterbot*, 2008)

There is either coordination: “I blinked **and** became awake” or construal of a result: “I blinked and **as a result** was awake”.

The second predication hypothesized in resultative constructions can be made metalinguistically apparent with glosses. In order to interpret the relation between the two predications, it is necessary to consider both the properties of the verb and those of the adjective. Co-predication induces a constructed relation, a localization relative to a result. The inference is therefore that there is causality. The concept of “co-predication” is mostly used in French linguistics. In the literature on the English language, this term has different acceptions, often differing from those pertaining to the French tradition. For Pustejovsky and Jezek (2008:185) co-predication belongs in the lexical field:

In co-predication, two distinct senses of a lexical item are simultaneously accessed, for instance by applying two apparent incompatible types of predicates to a single type of object (as in ‘the book I’m reading weighs one kilo’, ‘the speech was long but interesting’, etc.’).

In our analysis, the term “co-predication” has a larger acception than that of secondary predication. This might lead one to think that there is a linear order or a localization relative to a main predication, which does not seem to be the case in many of the examples we are looking at. In line with other authors (Melis 1988; Cadiot and Furukawa 2000; Havu and Pierrard, 2008), we find that this type of predication, although syntactically integrated, bears semantically on a phrastic content, but questions the assumption that there is a relationship of dependency towards a superior predication (“un rapport de dépendance envers une prédication supérieure”, Evrard *et al.* 2009: 12).

3. Constraints, potential formations and productivity

A small set of verbs used unaccusatively only can be used in the resultative construction and the number of candidates for the adjective slot is limited (the following list is not exhaustive): *bake (solid)*, *block (solid)*, *burn (black)*, *burst (open)*, *jam (solid)*, *worn (smooth)*. If potentially any adjective having a semantic link with the verb can occur in the construction, in fact, V-ADJ collocations are highly conventionalized:

- (3) Now with winter conditions the door **jams solid** in the frame.
(<https://www.trustpilot.com/review/tvwindows.com?page=16>)

An unexpected association such as *jam compact* would certainly require too much of an interpretative effort and the cognitive cost for this unusual formation would be too great. As shown by Capelle, Shtyrov and Pulvermüller (2010) for phrasal verbs, verb–particle sequences are accessed as a single lexical chunk. It seems to be also the case for the V-ADJ constructions studied here. When the association V-ADJ is unexpected or uncommon, the secondary predication must be made explicit: *He struggled to be sober*. This explains why *?collapse flat*, *?faded invisible* or *?freeze useless* are not attested. The resultative meaning appears in a coordinated phrase in (4):

- (4) With temperatures falling to minus 20 degrees Celsius, firearms and other equipment **froze and became useless**. (COCA-James Neal Harvey, *Sharks of the Air*, 2010)

The small number of examples of such co-occurrences probably comes from the semantics of the verbs: the meaning of a verb like *fade* seems to be too specialized to allow for the construction (the meaning of “disappearance” is already present). When a well attested collocation such as *freeze solid* does exist, we should expect associations on the same pattern with verbs belonging to the same semantic field, for example *melt + liquid*. There is however no example in our corpus of **melt + ADJ*. As *melt* implies a resultant state, mentioning an endpoint is superfluous. The corpus shows that the resultative-unaccusative construction is highly constrained and allows for little variation, outside atypical examples such as (5), in a particular style:

- (5) When the train turned east, the frosted mountains **flooded crimson** with the sunset. (COCA- Ridley Pearson, *The Pied Piper*, 1999)

The following stage of our study consisted in examining the classes of verbs categorized by Levin (1993) so as to identify tendencies in collocations. We checked whether potential constructions were actually attested in the corpus.

Verbs implying an agentivity (“cooking verbs” for example) can appear in the middle voice but cannot be used as unaccusatives (we noted a marked dissymmetry between middle verbs and unaccusative verbs): there are occurrences of *bake easily* but not of **bake golden*. Even when the process, once started, goes on its own momentum (*boil*, *bake*), there are only rare examples of an unaccusative verb with a co-predication:

- (6) After every injection, my mother boiled my sister’s glass syringe and metal needles to sterilize them. More than once, while Mother tended to the myriad needs of a family with three small children, the pan **boiled dry** and the syringe broke. (COCA-Rachel A. Gifford, *Saturday Evening Post*, 2008)

De-adjectival verbs with an –EN suffix, denoting a process ending in a resultant state, and which thus seem good candidates, do not however licence an unaccusative use either: **harden violent*. There is no occurrence of *darkened cold* (**the sky darkened cold*) or *ripened delicious* (**The strawberries ripened delicious*). The verb is made from a stem which is already adjectival and it is impossible to introduce a supplementary property in order to add a co-predication. Generally speaking, verbs derived from an adjectival or nominal stem do not allow a resultative construction.

Conversely, all the verbs denoting a movement, and especially “Roll verbs” (Levin 1993: 264-65): *bounce, coil, drift, drop, float, glide, move, roll, slide, swing, revolve, rotate, spin, turn, twirl, twist, whirl, wind*, being possibly non-agentive, can be used unaccusatively, as in for example, “*The door bounced open*” (COCA). However, most verbs in the list can only be associated to a result of an open/closed type, like *rotate open* (COCA, one example only of *rotate* + ADJ in the whole corpus). There is no occurrence of *revolve* + ADJ since no result can be immediately associated to this technical verb.

Metaphorical uses make the V-ADJ construction possible, *drift asleep* (COCA) for example. It is thus difficult to talk of a resultant state: *he drifted and as a result was asleep*. The construction cannot be dissociated as *drift* indicates the mode of passage from one state to another. “*Drifting asleep*” entails “*going gradually through the stages that lead to sleep*”.

Many verbs, for example sound/noise verbs such as *plop* (*plopped full of, plopped open*) do not point intrinsically to a change of state. It is the association verb + telos/ endpoint which is different from the initial state and which means a change of state. For Levin (1993:1): “the behavior of a verb, particularly with respect to the expression and interpretation of its arguments, is to a large extent determined by its meaning”. We will say that meaning is not a given but can vary according to the construction: a verb which does not include inherently in its semantics a change of state can become a change of state verb in the appropriate construction. The adjective then fulfils a lexical function of contributing a particular meaning. A verb such as *wobble* does not imply a change of state; it induces a kind of movement, rather in the order of imminent collapse than motion:

- (7) In those years that’s the way it has to go, fast as it can – and then one day it has to **wobble loose** and fall out, funny little dull pearls attached to bits of bloody root, the mild pink stain on the pillow. (COCA, “The Taxis in Spain”, *Antioch Review*, 2015)

The collocation “wobble loose” is uncommon, except in technical texts:

- (8) Check (or have your mechanic check) your battery connections and terminals on a regular basis. They can **wobble loose** over time and possibly begin to corrode. (<https://govicle.com/2022/02/28/ways-to-keep-automatic-cars-in-good-conditions/>)

In this kind of use, the adjective plays a role of “controller”. In non-technical uses, the speaker makes a creative, unusual lexical choice which, as a consequence, runs the risk of not being understood by the co-speaker, or demands from them too big an interpretative effort. The adjective facilitates the processing of the information. We can note, once more, the small leeway there is in the choice of adjectives (*free/open/shut/loose*), the pattern/model *break free/slam shut* gives the key to interpretation. In this case, when the association subject-verb is not usual and lexicalized (*door/wobble* for example), the interpretation might be wrong (*the door wobbled* does not include the meaning of “openness”, whereas *the door slammed* is interpretable, without any ambiguity as the trajectory is included in the semantics of the verb and prevents the use of an adjective not denoting the expected state (**the door slammed open* is not licensed). The adjective therefore appears as necessary for the comprehension of the construction. Its properties are

paramount in determining the possibilities of formation and can explain the reasons why some collocations are attested (*boil dry*) and not others (*cool solid* – which might be understandable in a geological context for example). The verb *cool* does not include the risk of “too much”, contrary to *boil* or *burn* for which an end-state can be indicated: *dry* for the former, *black* for the latter since the verbs include the semantics of excess.

The possibilities of verb-adjective associations are in theory open but not fully exploited. There is little innovation; collocations are well-established. The most frequent adjectives in the corpus are *open, shut, free, loose, wide, clear* (for example: *drift clear*). The semantic link between verb and adjective is all the more predictable that the meaning of the verb has become specialized. The semantics of a verb such as *bloom* includes a notion of colour; in resultative constructions in *bloom + ADJ*, the adjective has to be a colour adjective. It is worth noting that the corpus displays only few phrases of the type:

- (9) Given the right growing conditions, hydrangeas **bloom pink** rather than **blue**. For more on color, turn to page 86. (COCA, *Southern Living*, Vol. 34, Iss. 6; Jun 1999)

There is no occurrence in the BNC and two only in the COCA. The technical lexicon (*hairdressing* in example 10) provides a referential stability which makes the phrase V + ADJ interpretable:

- (10) Curly hairstyles are endless, as curly hair can be worn long, short, layered, pinned up or **straightened flat**. (<http://intersalon.com/videos/11968/hairstyle-ideas-for-curly-hair>)

As we have seen, unaccusative constructions are subject to a certain number of constraints in the selection of the adjective, the main constraint being that the adjective can only describe the property of the head noun and can only be appreciative. A sentence such as **The apples rotted bad* is not felicitous as “bad” is not a resultant state in which the object features but constitutes an appreciation/judgement that a speaker can pass on the state. The resultant state is included in the semantics of the verb *rot*.

4. V-ADJ in French

Crosslinguistic studies have focused on unaccusativity versus unergativity (the syntactic subject of an unergative verb is also its semantic subject), particularly in English, Dutch, French, German, Italian, Japanese (Achard, 2009). However, the kind of structure we are discussing here does not seem to have received much attention. It is interesting to compare English and French, since the Germanic type to which English belongs has certainly developed strategies based on the middle voice pattern (*The car drives well*) while this possibility was blocked in Romance languages, including French, by the recourse to impersonal constructions in “se” (*La voiture se conduit bien*). In fact, V-ADJ resultatives are quite rare in French. It is tempting to consider them as equivalent to the structures found in English although in the V-ADJ construction in French of the type *geler dur* [*freeze hard*], the adjective is usually described as an adjective used in the manner of an adverb (Grevisse 2016) or defined as an adverbial adjective (Noailly 1993). This reluctance to recognize the status of a full adjective to “dur” is perhaps attributable to the fact that

adjectives in French agree with the noun in gender and number, but not in this case. However, the paraphrase “geler durement” with a fully-fledged adverb is not licensed. Conversely, in the following example, the adjective agrees with the noun, and a phenomenon of co-predication can be hypothesized:

- (11) La pluie s’est mise à **tomber** de plus en plus **dru** (Michel Butor, *La modification*, 1957, www.cnrtl.fr)

The description above does not account for the heterogeneity of occurrences, displaying a transitive or an intransitive verb. The verbs below are culled from *Frantext*. Two main semantic features seem to appear, “intensity” and “manner”, although as usual with semantic criteria, there can be overlaps. For example, *tomber dru* can be interpreted as expressing intensity (“a lot of water” when describing rain, or “a lot of blows” when used metaphorically), or as expressing manner (the fact that the drops of water or the blows come very close together). The verbs in the following list have different syntactic behaviours: they can be transitive (*boire, frapper, manger, taper, tenir, travailler, tuer, risquer*), inergative intransitive (*s’arrêter, chanter, filer, marcher, parler, raisonner, voter*), or inaccusative (*tomber, pousser, sonner*):

intensity: *frapper fort* [hit strong]², *taper dur* [bang hard], *travailler dur* [work hard], *tomber dru* [fall thick], *pousser dru* [grow thick], *tenir ferme* [hold fast], *tuer raide* [kill stiff], *tuer net* [kill neat], *boire sec* [drink dry].

manner: *parler clair* [speak clear], *sonner creux* [sound hollow], *filer doux* [run smooth], *s’arrêter court* [stop short], *marcher droit* [walk straight], *chanter faux* [sing out of tune], *parler haut* (+ intensity) [speak high], *raisonner serré* (+ intensity) [reason tight].

with an “internal” object: *voter blanc* [vote blank] (un vote blanc), *manger léger* [eat light] (un repas léger), *boire frais* [drink cool] (une boisson fraîche).

Understanding the occurrences quoted above is immediate as they are formed by analogy with a stabilized form or feature in a paradigm: *voter utile* [vote useful] / *jeter utile* [throw away useful] / *chanter utile* [sing useful] / *lire utile* [read useful] / *boire utile* [drink useful] / *taper dur* [bang hard] / *souffler dur* [blow hard]. In these constructions, however, there is little variation and creation. Most of the phrases collected in *Frantext* or on the internet are more or less lexicalized and some are set expressions which have become archaic (*raisonner serré* [reason tight]). The phrase is thus understood as a chunk without having to grasp each of its constitutive parts. Confronted to a novel phrase (*nagez futé* [“swim smart”] for example), many inferences can be drawn, but the phrase does not appear agrammatical or impossible to understand. A resultative meaning cannot be inferred though (“Nagez et vous serez futé en conséquence” [“Swim and you’ll be smart as a consequence”]), only a “manner” meaning is possible: “swim in a smart way”. In this case, the co-predication (“futé”) is made on the main predication (“nagez” in the imperative).

There are then major differences between V- ADJ phrases in English and French. A resultative meaning can only be exceptionally present in French. In the list above, only *tuer*

² Translations are literal.

raide – “kill an insect which as a result becomes stiff i.e. “completely” dead – is without doubt a resultative structure, and is thus a rarity in French, whereas *tuer net*, on the same pattern, means “kill instantaneously” and hence refers to manner and not result.

From the point of view of the typology of languages, a parallel can be drawn with the distinction “verb-framing” languages, to which French belongs, and “satellite-framing” languages to which English belongs (Talmy 1985, 1991, 2000; Slobin 2004, 2006). We find the same way of processing information, with satellite-framing structures expressing the mode of motion and its direction (*swim across a lake*) in a compact way and verb-framing structures in an analytical way (*traverser un lac à la nage*).

5. Lexical properties of the verb in resultative constructions

Syntactic parameters alone cannot account for the construction. In this section, we examine the apparent redundancy between the lexical properties of the verb in the first predication and the final state denoted by the adjective, as shown in *freeze solid*.

5.1 Necessity for the verb to be completed by an adjective

Resultative constructions need the presence of a PP (*the snowball rolled down the hill*-COCA), an adverbial particle (*freeze over*) or an adjective. In the construction under scrutiny, we notice that the presence of an adjective following unaccusative verbs changes their meanings and modifies the semantics of the structure:

- (12) I can’t tell whether it’s her hand burning hot or my hand **growing cold**. (COCA-Ly Lan, *Singing Grass*, 2012)

Without the adjective, the verb *grow* retrieves its first meaning, which is not compatible with the subject, as shown by the gloss (12’) **my hand is growing*. The same phenomenon occurs in other expressions such as “*run short*” or “*fall mute*”.

5.2 “Transitory events”

Unaccusative verbs are or become “transitory events” as they express a change of state, like *grow* in *growing cold*. Achievement verbs such as *rip* also denote a transition since they imply that the initial state is different from the resultant state. In *rip loose*, which is construed with a second predication, *loose* highlights the resultant state. Among those verbs we find activity verbs and achievement verbs, according to Vendler’s classification (Vendler 1957:143-160):

“Activity verbs” like *grow* are “unbounded”³ as they have no maximal or minimal values (their scale remains open) and they are atelic since there is no upper boundary of maximal

³ This does not mean that they do not have “conceptual” boundaries. Jackendoff (1992, 17), discussing the process “sleep”, writes: “*Bill slept* expresses a process that is conceptualized as unbounded: the speaker’s focus for the moment lies within the process, excluding the boundaries from view”. For Gosselin (1996), an atelic process has extrinsic boundaries while a telic process has intrinsic boundaries.

values as such to be reached. They express the progression of a process deprived of inherent bounds.

“Achievement verbs” like *rip*, *snap*, *pop* or *twist*, have bounds that overlap as they denote punctuality; and they are telic because as a consequence of the overlapping their upper boundary of maximal values is immediately reached.

5.3 Verb denoting the cause of transformation

- (13) I pull out an energy bar, only to find that it’s **frozen solid**. Up here, it’s even colder than it was an hour ago, around 25 degrees Fahrenheit. It’s still snowing. (COCA-Peter Martin, *The Climb*, 2011)

The cause for change is inherent to the semantics of the verb *freeze*, as shown in the following gloss that makes its relation with the adjective *solid* explicit: (13) “*the energy bar has become solid because of the cold / because it is frozen*”.

6. Properties of the adjective entering high degree resultative constructions

In order to express high degree in resultative constructions, and not only an idea of result in constructions such as *boiled dry*, example (6), it is necessary to use a certain type of adjective that may create the bound inducing high degree by expressing maximality.

6.1 Adjectives providing appropriate bounds.

The “limit adjectives”, according to Paradis (2001)’s classification, are inherently bounded as they are associated with a limit and conceptualized in terms of “either-or”⁴, like the antonymic adjectives *dry/wet*. They have an absolute meaning and are not relative. *Dry*, as in *the linen is dry*, is interpreted in its standard, absolute meaning. It is not gradable (**extremely dry*) in this context but it can denote maximality on a scale, as the test of maximality shows in the acceptable use of *completely dry*. However, technical contexts can make its relative use acceptable (*extremely dry weather*, *extremely dry skin*).

Some scalar adjectives, like *stiff*, are unbounded but they denote a maximal degree on a bounded scale. Following Kennedy and McNally (2005)’s test of maximality⁵ using a modifier of maximality, *stiff* can be modified by the adverb *completely* (*completely stiff*), whereas an adjective like *long* cannot (**completely long*).

The deverbal adjectives that denote totally closed scales, like *closed*, *dried*, *exhausted*, refer to a maximal and a minimal element, so they can be modified with *completely*, *half*...

⁴ The ‘either-or’ concept is borrowed from Paradis (1997:49)

⁵ Kennedy, Christopher, Louise McNally (2005:13, note 8): “Modifiers of maximality like *completely* and *totally* have an additional use that is roughly synonymous with *very*; the true maximality use and this latter use are distinguished by their entailments.

A maximality use entails that the end of a scale has been reached, as shown by the fact that (ia) is a contradiction; a non-proportional use carries no such entailment, thus the contingency of (ib).

(i) a. #The line is totally straight, though you can make it straighter.

b. I’m totally intrigued by bowling, and Kim is even more intrigued by it than I am.”

6.2 Telicity: the role of the adjective

Telicity derives from the predicate composed of an incremental verb and the type of adjectives mentioned above. When the adjective is added to a property of the subject – as *hands* in example (14) – it brings telicity to the verbal predicate.

Beavers (2008:245) follows the argumentation of Hay, Kennedy and Levin (1999) when he gives this definition of telicity: “Telicity derives from constraints imposed on a *scale* that measures the change undergone by the incremental theme, patient or figure participant”. Let us turn to an example from our corpus:

- (14) They yanked him from the river onto an ice floe; almost instantly his trousers **froze stiff** and crackled whenever he moved. (COCA- Roger Long, “Out of a frozen hell”, *Civil War Times Illustrated*, 1998)

In *froze stiff*, telicity is due to: a) the use of an incremental verb, like *freeze*. Such verbs express progression, a change of state that is measured, graded, as shown in gloss (14’): “his trousers froze *so much* that they became stiff”; b) the use of a property of the subject affected by the change of state: the *stiffness* of the trousers.

The progression in the process *freeze* is correlated to the potential property of the subject (*the stiffness of the material of which the trousers are made*), which then makes it possible to bound it. The process of *freezing* reaches its end once the trousers are (completely) stiff.

Therefore, we notice that the addition of this type of adjective creates the upper bound of the scale associated with the progression of the event.

7. Setting an endpoint on an incremental process

One way to set an endpoint or upper bound is using a maximizer, for instance a totality modifier such as *completely* or *fully*, *perfectly*, *almost*, *quite*.

- (15) If a pond threatens to **freeze completely**, a water heater can be used; the fish can also be brought inside for the winter. (COCA-*Country Living*, Vol 22, 1999)
- (16) After Haywood-Sullivan is satisfied with the appearance and placement of her darks, she lets the work **dry fully**. (COCA-*American Artist*, Vol 71, 2007)

There is a correlation between a totally closed scale (here /coldness/, /dryness/) and the expression of a maximal degree on this scale of property. In (15) and (16) the upper degree on the scale corresponds to maximizers *completely* and *fully*.

In an intermediate conclusion we have noted that some adjectives make it possible to bound an incremental process. We may now wonder what parameters allow the phrase *frozen stiff* to express high degree in the same way as with a maximizer, which the phrase *twist free* cannot.

8. The principle of “harmonious affinity”

We will try to answer this question by applying the principle of “harmonious relation” that Paradis (2001: 47-65) postulates when an adverb and an adjective are combined. She states that, according to this principle, the choice of a scalar adverb or of an adverb of “totality” depends on the properties of the adjectives that it modifies. There is, for instance, a difference between the scale of height, which is an open-ended scale, and the closed scale of how full something is. Only the latter kind of scale is compatible with degree expressions like *half, completely...*, which is why something can be *half/completely full* (on the scale of fullness) but not **half/completely tall* (on the scale of height). In the same way, we suggest applying the principle of “harmonious relation” when a verb and a limit adjective are combined.

8.1 Constructing high degree

High degree is produced when you combine a « limit » adjective expressing maximal degree (*closed*, on the scale of /openness/) with a (punctual) verb denoting transition like *shut*:

- (17) The dopplerized whine of flycycle taxis, the sound of hurrying feet, the happy screams of children and the solemn chants of monks: it all disappeared. The gate **shut closed** behind them, and Susan found herself in a quiet, walled world. (COCA-Steven Bratman, “Deletion”, *Analog*, Vol 12, 2004)

Shut, inherently telic, is an achievement verb, whose lexical bounds overlap since the verb denotes punctuality. It has in common with the adjective *closed* the idea of closedness. We might think that their combination is a case of reduplication as their meanings are redundant. It actually is a case of correlation, of analogy between the maximal degree represented by the adjective *closed* and the upper bound of the semantic scale /openness/ denoted by *shut*. The addition of the maximizer *closed* to the verb *shut* brings about an idea of high degree, as further expressed through *quiet, walled world* in the right co-text of example (17). Conversely, there is no expression of high degree when the maximizer *closed* is combined with a naturally atelic process like *shudder* which has been made telic in the resultative construction:

- (18) The doors **shuddered closed** and there she was again. (COCA-New England Review, Vol 21, 2000)

Even if *closed* has a maximal value, it has no common semantic property with the process *shudder*. Therefore, it cannot represent a high degree associated to the overlapping lexical bounds of *shudder*.

8.2 Various cases of “harmonious relation”

Our corpus provides various high degree resultative constructions. Each time we notice that this type of adjective is combined with a telic verb and they both share a common property. In this combination we find verbs inherently telic because they are bounded, like *freeze*, *strip*; achievement verbs (with overlapping bounds and denoting punctuality) like *collapse*, *rip*; and verbs which are inherently atelic, unbounded, like *burn*, *bleed*, *evaporate*, *swear* but which are bounded in the resultative construction thanks to the presence of the adjective with a maximal value.

The adjectives that convey the maximal degree on the semantic scale associated to the process are *bare*, *black*, *dead*, *dry*, *exhausted*, *loose*, *motionless*, *naked*, *rigid*, *solid*, *stiff*, *still*.

8.2.1 When *freeze* is combined with *solid*, *rigid*, *still*

The adjectives in the following examples have common properties with the notion /freeze/. They are good candidates to represent the upper bound of the semantic scale associated to *freeze* because they imply a maximal degree on their respective scales.

- (19) The seas around Antarctica **freeze solid** enough every winter to support wheeled transport planes for several weeks in October and November. (COCA-Jack Cox, *Denver Post*, 1997)
- (20) In his bed the boy murmured something. He stirred beneath his sheet. The assassin **froze rigid**, a black statue in the center of the room. (BNC. Jonathan Stroud, *Ptolemy's gate*, 2006)
- (21) They raised and waved their hands like Beauty Queens, laughing, and as they did, their faces **froze still** as if the memory caught like a film in a movie projector. (BNC. Lee Montgomery, *We the Girly Girls from Massachussetts*, 2007)

The adjectives *solid* (19), *rigid* (20) and *still* (21) denote the maximal degree on their respective scales of /solidity/, /flexibility/ and inverted scale of /motion/, which allows them to express high degree in combination with the process *freeze*.

The inference can be drawn that the high degree is construed on the basis of, on the one hand, the correlation (due to a common property) between a process and a semantic scale; and on the other hand, the combination of the upper bound of the process with the maximal degree on this scale.

8.2.2 When *bleed* and *evaporate* are combined with *dry*

Although *dry* is not scalar, it represents a maximal degree, as **more dry* is not logically acceptable. This allows it to be related to the upper bounds of the processes *bleed* and *evaporate*:

- (22) Then he drew a knife from the folds of his clothing, cut the man's throat, and held him like a lover while his heart **bled dry**. (COCA- Sam Eastland, *Archive 17: a Novel of Suspense*, 2012)
- (23) Even in fairly humid east Texas, a stick house toilet bowl will **evaporate dry** in 5 months or so. (<http://www.rvnetwork.com/index.php?showtopic=117283>)

Therefore, we observe the correlation between a process that represents a dynamic and durative event (*bleed, evaporate*) and a non-scalar adjective (*dry*). The following combinations differ from those previously observed.

8.2.3 When *strip* is combined with *naked* and *bare*

- (24) Wearing a neoprene suit, gloves, boots and ski mask, he silently wished he could **strip bare**, feel the bite of cold air against his flesh, feel more alive, but that would have to wait. (BNC-Lisa Jackson, *Afraid to Die*, 2012)
- (25) I ran up to the guest room, **stripped naked** and washed myself with a wet rag. (BNC-Michael Clynes, *The White Rose Murder*, 1992)

Strip is an achievement verb, its bounds overlap, and it has thus necessarily a right bound. Here again *naked* and *bare* necessitate a maximal degree of realization because if we mention a degree like *half naked*, it implies *not (really) naked, still (partly) dressed*. *Bare* (24) and *naked* (25) posit a last point to the process of undressing.

8.2.4 When *collapse* combines with *motionless* and *exhausted*.

The adjectives *motionless* and *exhausted* represent the maximal degree on their respective inverted scales of motion and efficiency. *Collapse* is a verb of motion. It has in common with the correlated adjectives the idea of a movement being stopped.

- (26) Birds rarely employ death-feigning but sometimes a small bird held in the human hand has been seen to **collapse motionless** and lie very still. (BNC-Desmond Morris, *Animal Watching – A Field Guide to Animal Behaviour*, 1991)
- (27) Those [reforms] which limp into law may **collapse exhausted**, too enfeebled to struggle through the legislative tangle which now confronts them, and too damaged to attack the problems for which they were designed. (COCA-*The Washington Monthly*, 2010)

In (26) the collapse is the cause of the bird's sudden dead stop as it is expressed in *motionless* and in the co-text by *death-feigning* and *lie very still*. In (27) the collapse of the reforms is processed to the end with *exhausted*. It is expressed in the right co-text through the uses of *too enfeebled to struggle, too damaged to attack*.

We observe here the correlation between a process denoting punctuality (*collapse* as an achievement verb) and a non-scalar adjective.

8.3 Metaphoric use of high degree resultative constructions.

High degree in some combinations may be reinforced through metaphor but necessitates interpretation from the addressee:

- (28) Sweet heaven, you scared me witless. Get inside before you **freeze solid**. (COCA-Ann Downer, *The Books of the Keepers*, 1993)
- (29) No country is likely to stand by and wait for you to build your independence or your economy. I'm sure Mexico would **bleed dry** at the chance to regain Texas. (BNC-Americans in 15 states issue White House petitions asking, 2012)

Interpretation is needed to go beyond literal meaning: in (28) *solid* cannot usually be associated to a human being (*you*); in (29), associating *dry* and *bled* means literally being totally bloodless. Metaphorically *solid* and *dry* represent a hyperbole.

9. Conclusion

We have seen that in resultative constructions on the model of “intransitive verb – adjective”, the verb most of the time denotes a change of state (*boil dry*, *collapse unconscious*) and more rarely does not (*wobble loose*). In the latter example, it is the adjective that makes the construction resultative.

Among the verbs denoting a change of state, we have shown that in the *freeze solid* type, high degree is expressed by the combination of two maximal degrees on their respective scales, providing they share a common property.

As a last remark, if resultative constructions are well established in English, they are almost completely unknown in French.

We have used the term “construction” as it is the synthetic representation of two imbricated predications. In fact, rather than considering co-predication in terms of syntactic hierarchy of a second predication toward a first predication, we claim that co-predication is more obviously linked with two overlapping domains, which is in keeping with the true meaning of “co”-predication, inviting two predications to function “together”.

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