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Conventional combinations in pockets of productivity: English resultatives and Dutch ditransitives expressing excess

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1. Introduction

Google hits for “*sneezed the napkin off the table*” run into the thousands. The sequence of words has become common good, to the extent that we see it quoted with a range of different subjects (*Adele(!), Alex, Bob, Donna, Frank, Fred, Jack, Joan, Joe, John, Mary, Paul, Pat, Rachel, Sally, Sue, Tom, I, He, She, The baby...*) and often without reference to Goldberg’s (1995) original *sneeze* example.¹ The example is captivating to anyone who first hears or reads it, because in its simplicity it manages to capture the essence of the constructionist movement, in which argument structure constructions still adopt a central place. In true constructionist spirit, one might even consider [*X sneezed the napkin off the table*] a construction all by itself, with (i) an open slot preferentially filled by a mono- or bisyllabic, somewhat old-fashioned, all-American proper name, (ii) a specific genre restriction (viz. academic writing related to linguistics or cognitive science) and (iii) a conventionalized interpretation (‘a verb may be plugged in larger syntactic frames which provide arguments not directly associated with the verb itself’).² On a more serious note, however, this key example in present-day linguistics may have given rise to the idea that, provided there are no semantic clashes between word-level lexical constructions and the more schematic phrasal constructions which provide slots to them, ‘anything goes’ in grammar. And Goldberg (2003: 221) does little to nuance such a conception when she writes that “[c]onstructions can be combined freely to form actual expressions as long as they are not in conflict”.

This paper argues against this view, extending some of the corrective perspectives advanced by Boas (2003), Iwata (2008) and Kay (2012) and drawing on corpus-based and web-collected data about English and Dutch intensifying argument structure constructions. My argumentation is rather complicated, which is why I give a preview of the different steps here. In Section 2, I will discuss the caused-motion pattern in English (of which the now-famous *sneeze* example is an illustration), claiming that it is idiosyncratically constrained and that novel uses may be analysed as the result of analogical extensions from conventional three-argument verbs and hence do not prove that there is a productive, Goldbergian (i.e. maximally schematic) caused-motion construction. In Section 3, I will turn to a pattern in English which does seem to be very productive, namely the Body Part *Off* Construction (henceforth BPOC, e.g. *work one’s head off*). Here, I will argue that instances of this pattern are *not* understood by means of a pragmatic reasoning process which ought to allow us to infer that the literal scenario cannot be meant by the speaker. This pattern may share the syntax of the caused-motion pattern (and, more generally, of the resultative pattern), but its

¹ There *is* no one single original example, as Goldberg actually used it herself with a variety of subjects, objects and resultant positions in her 1995 book: “Pat sneezed the napkin off the table” on p. 3, “Sally sneezed the napkin off the table” on p. 6, “He sneezed the napkin off the table” on pages 9, 55 and 224, “Sam sneezed the napkin off the table” on p. 29, “Frank sneezed the napkin off the table” on p. 154, “Frank sneezed the tissue off the table” on p. 152 and “Frank sneezed the tissue off the nightstand” on p. 161.

² I did find some more ‘peripheral’ examples in which the subject used was *Gogol, Kim* or *Regina*.

semantics is action-intensifying rather than resultative. It is therefore a distinct pattern and cannot be served to prove the productive nature of the caused-motion pattern, let alone of the even more general resultative pattern. Speakers of English have to ‘learn’ the BPOC as a form-meaning pattern in its own right. In Section 3, I will use data from Dutch to support my claim that instances of the English BPOC are not formed or interpreted pragmatically, i.e. on the basis of the caused-motion pattern and general expressive or reasoning skills. If they were, we would have to find formally similar instances in Dutch. What we find in this neighbouring language, however, is a set of syntactically different patterns expressing excess, including a ditransitive one. In Section 4, I will take a more in-depth look at the BPOC, showing that it may best be analysed in terms of high-frequency learned instances and some creative extensions from these. In Section 5, I will show that the same kind of analysis should be adopted for Dutch intensifying double-object cases. Section 6 provides some contrastive observations about the two patterns, revealing more conventionality. Section 7 discusses the findings in the light of the tension between stored linguistic information and free application of constructional templates. Section 8 sums up the main points.

2. Absentees and occasional visitors in the English caused-motion pattern

2.1 *The caused-motion pattern seen as an argument structure construction*

There are some very persuasive arguments for the existence of a caused-motion construction (henceforth CMC) in English. Goldberg (1995), referring to an observation made earlier by Aske (1989), notes that several verbs which can be used in the CMC do not evoke change of location outside of the construction, which makes it implausible to posit a distinct motion sense for such verbs:

(1)

- a. *Frank squeezed the ball.* (no implication of change of location)
- b. *Frank squeezed the ball through the crack.* (implication of change of location)

It is apparently due to an independently existing CMC that the Path prepositional phrase is added, along with the interpretation of change of location. Besides, my own research on verb-particle constructions in English (e.g. Cappelle 2005) has not failed to convince me of the possibility of, indeed, *squeezing* words into a transitive verb-particle construction, thereby imparting it with a caused-motion sense that it doesn’t have by itself. Here is an authentic example, in which the quality of a household cleaning product is promoted:

(2)

Cif Actifizz. Fizzes Stains Away Fast.

The verb *fizz* is not even a motion verb, so the force-dynamic scenario evoked in (2) must be attributed to the CMC that the transitive phrasal verb construction can be an instantiation of.

Goldberg and Jackendoff (2004) describe the CMC as a member of the *resultative* family of constructions:

(3)

- a. Causative property resultative
e.g. *Bill watered the tulips flat.*
- b. Noncausative property resultative

- e.g. *The pond froze solid.*
- c. Causative path resultative (caused-motion construction)
e.g. *Bill rolled the ball down the hill.*
- d. Noncausative path resultative (intransitive motion construction)³
e.g. *The ball rolled down the hill*

2.2 *The caused-motion pattern as a 'pattern of coining' (Kay 2012)*

Despite the relative ease with which one might find occurrences of verbs whose syntactic behaviour in specific usage instances seems to be expanded beyond what could be readily expected on the basis of their inherent semantics, there is a feeling among some linguists working within the constructionist framework that schematic argument-structure constructions of the sort proposed by Goldberg (1995, 2006) are too general to account for unexpected gaps in their potential output. In a forthcoming (2012) paper called “The limits of Construction Grammar” which already circulated on the web since 2002 as the manuscript titled “Patterns of coining”, Paul Kay casts doubts on the productivity or even existence of the CMC. The same strong reservations have been formulated in Kay (2005). Below I refer to Kay (2012) because it conveniently brings together some counterarguments on just a couple of pages, but similar ideas have been formulated in a detailed and careful way by Boas and by Iwata in a number of publications on the resultative and other argument structure constructions (e.g. Boas 2003, 2005, 2010, 2011; Iwata 2002, 2008). In fact, Goldberg and Jackendoff (2004) themselves acknowledge that “there is also a great deal of idiosyncrasy involved in the resultatives, especially the property resultatives” (p. 564). For example, while it is grammatically perfectly fine to say that *Amy ran herself to exhaustion*, one wouldn't say that **Amy ran herself exhausted* (Goldberg and Jackendoff 2004: 560).

Kay (2012) notes that many verbs which appear with a direct object and a prepositional phrase do not require a CMC, since such expressions can be licensed by two independently existing constructions. For example, (4d) may be just the combination of a transitivity construction, which is needed anyhow to produce (4b), and of a construction which adds a path argument to an intransitive verb, needed to produce (4c):

- (4)
- a. *The top was spinning.*
 - b. *Kim was spinning the top.* (licensed by the Agent Adding Construction (AgAC))
 - c. *The top was spinning off the table.* (licensed by the Path Argument Adding Construction (PAAC))
 - d. *Kim was spinning the top off the table.* (licensed by a combination of AgAC and PAAC)
- (After Kay 2012)

As Kay points out, these two constructions obviate the need for a caused-motion construction, but not vice versa: even if the grammar of English were to have a caused-motion construction, which directly contained structural positions for agent, theme argument and path arguments, then a construction providing an extra agent argument would still be needed for many non-motion verbs such as *boil, evaporate, freeze, grow, melt*, etc.; we would also clearly need a construction which furnishes a path to intransitive motion verbs that do not necessarily express motion from one location to another, such as *hop, jump, roll, topple*, etc.

³ This construction is also sometimes referred to as the ‘self-motion construction’ or the ‘self-agentive motion construction’.

Moreover, Kay (2012) argues that the caused-motion pattern, conceived of as a productive construction as in Goldberg's (1995) treatment, inevitably over-generates:⁴

(5)

- a. **He bragged her out of the room.*
- b. **She screamed him under the bed.*
- c. **She smiled him to her.*
- d. **He screeched her hands over her ears.*

(Kay 2012)

Kay then suggests that verbs whose occurrence in this pattern cannot be explained on the basis of the constructions producing (4b) and (4c) should be analysed as either by themselves subcategorizing for a theme and path argument (e.g. {*laugh* / **snore*} *somebody off the stage*, {*let* / **allow* / **leave*} *something* (e.g. *water*) *somewhere* (e.g. *out of the pool*), {*show* / **demonstrate* / **reveal*} *someone to the door*, etc.) or as being given existence as nonce formations, created by analogy with existing caused-motion verbs. In the former case, verbs are by lexical convention associated with certain argument-structural configurations, the caused-motion pattern possibly being one of their conventionalized configurations. In the latter case, a verb is being used just for once with the argument structure that a semantically close verb is conventionally associated with. That caused-motion pattern is therefore not a regular, productive construction in the grammar of English, according to Kay, but a 'pattern of coining'.

The example in (2) above might illustrate such an analogical extension, even though one would not immediately consider *fizz* to be close in meaning to *wash*. Nevertheless, the formation of small bursting bubbles can make us think of the way a tablet dissolves in water, until the solid structure of the tablet is no longer there as such; a similar 'disappearing act' is also present in the semantics of *wash*, by which dirt is removed from a surface, often involving frothing foam of soap which resembles the gas bubbles on the surface of a fizzing liquid. So, clearly, there *is* some semantic overlap between *fizzing* and *washing*, which then provides the ground for analogy. Note that it is commercially quite clever to use *fizz* in a pattern which is lexically associated with *wash*: we know that *washing* something *away* typically requires force on the part of an external agent (often a human), while *fizzing* is a kind of self-instigated activity. The intended interpretation, which we naturally arrive at, is that the removal of stains will not require brute, mechanical force but will happen automatically, by some kind of microscopic chemical process, if we use the advertised cleaning product.

Similarly, the use of *sneeze* in the caused-motion pattern is made possible by its semantic resemblance with verbs such as *blow*, which can conventionally take the caused-motion pattern (cf. Boas 2005; Pulvermüller, Cappelle and Shtyrov to appear 2012).⁵ Such an analogical extension from *blow* to *sneeze* is not necessarily accepted by all speakers of a language. In a survey among 223 undergraduates, Boas found that the sentence *Frank sneezed the napkin off the table* was rated by most participants towards the bottom end of the acceptability scale, indicating that "that *sneeze* is not (yet) conventionally associated with the

⁴ Goldberg (1995: 164-174) does however constrain the CMC in a number of ways and while I assume that Kay is aware of these general constraints, I have checked whether they might explain away Kay's examples of overgeneration. As far as I can see, they do not.

⁵ It is possible, that *laugh NP off the stage* was initially also created analogically, before becoming a sequence listed in the lexicon. After all, *laugh* is also an air-emission verb; the overlap in frame-semantic information is larger for *laugh* and *blow* than for *snore* and *blow*; after all, *snore* produces most sound when air is being inhaled, not exhaled. So, in *laugh NP off the stage*, we can easily picture the situation, because it is as if the exhaled air impacts directly on the affected entity. The same is true for *boo NP off the stage*.

[NP V NP PP] frame for the majority of the population” (Boas 2005: 450, fn. 6). This is also how Herbst (2010: 244) looks at this and similar nonce formations: “Most (if not all) of the examples given of such creative uses seem to have a special stylistic effect, which can be interpreted as conscious violation of linguistic norms.”

Nonetheless, there is one subpattern of the caused-motion pattern which *is* very productive, the so-called *Body Part Off Construction* (henceforth BPOC, as in *John worked his head off*). I’ll turn to this pattern in the next section. My strategy is to show that this pattern is not just an expected instance of the CMC but should be treated as an altogether distinct pattern.

3. The Body Part Off Construction: a pattern distinct from the caused-motion pattern

3.1 Some semantic properties of the Body Part Off Construction

The Body Part Off Construction (or BPOC), exemplified in (6a-b), is a pattern which superficially looks like the CMC but which does not involve the idea of actual displacement of the object NP:

- (6)
- a. *Susan worked / swam / danced her head off last night.*
 - b. *Fred talked his head / his ass / his butt off, but to no avail.*
(Jackendoff 1997a: 551)

This pattern has received quite some attention in the literature (Cappelle 2005: 46-65; 453-455; 2007; 2008; Culicover and Jackendoff 2005: 32-38; Espinal and Mateu 2010; Glasbey 2003; 2007; Goldberg and Jackendoff 2004: 560; Jackendoff 1997a: 551; 1997b: 171; 2002a: 86-87; 2002b: 173-74; Kudo 2011; Sawada 2000). As I argued elsewhere (Cappelle 2005), the idiomaticity of the pattern involved can be appreciated if we consider the following web-attested examples:

- (7)
- a. *They work their ass off.* (www)
 - b. *It’s ten degrees and snowing its ass off.* (www)
 - c. *I laughed my proverbial ass off at that movie.* (www)

In (7a), the head of the object NP has no plural suffix, which it should take if it literally referred to the buttocks of the multiple agents involved (cf. subject *they*). In (7b), the subject *it* refers to the weather, so the object NP *its ass* obviously cannot be given a literal interpretation. In (7c), the speaker makes it explicit that the word *ass* is part of an idiom (perhaps to mitigate the taboo value of this word).

It has also been noted (e.g. Jackendoff 1997a: 551) that the BPOC construction has different aspectual properties from regular resultatives. Compare:

- (8)
- a. *... we’ve developed a whole new set of exercises that tone every part of your body, and **blowtorch the fat off in no time.*** (www)
 - b. *I have been **exercising my ass off for the past 3 weeks** and I think I have lost oh about **ONE POUND!!!! Discouraging much!!!!*** (www)

In (8a), *blowtorch* is used in the resultative (caused-motion) pattern, by analogy of such verbs as *burn* and *melt*. The direct object (*the fat*) is really a theme argument which is claimed to undergo motion (i.e. removal) off of one's body. The situation is therefore an 'accomplishment' in Vendler's (1957) terminology: a telic event allowing the use of an *in X time* adverbial adjunct. In (8b), *exercising* is used without a true theme argument. The postverbal sequence *my ass off* means 'intensely' and/or 'excessively'. The (excess fat of the) subject referent's *ass* has not been significantly removed from her body: the one pound mentioned can hardly count as the intended result expressed by the verb phrase, which is an 'activity' in Vendler's terminology. Such an event type allows the use of a *for X time* adverbial adjunct as in this example, but not of an *in X time* adverbial adjunct.

3.2 Kudo's (2011) pragmatic model of mental representation

In spite of these differences, Kudo (2011) analyses the BPOC as a pattern whose interpretation is parallel to that of (other) resultatives (e.g. *He cried his eyes red*; *She ate herself sick*). That is, Kudo suggests that sentences such as (4a-b, 5a-c, 6b) are made sense of by hearers as referring to intense events *only* because their literal interpretation (on which they refer to events in which a body part actually comes off as a result of the action) would not be feasible in the real world. The BPOC, according to Kudo, is thus interpreted by means of a general interpretive mechanism, one which we also use to interpret an utterance such as *The joggers ran the pavement thin* (Goldberg 1995: 184), whose form is that of a causative property resultative, as having an intensifying postverbal sequence.

It would seem, then, that we are dealing here with what Croft (1998) calls the 'pragmatic model of mental representation', which he defines as follows:

"There is one independently represented unit in the mind with a general meaning U, [a/U]; (a/U1) and (a/U2) are derived from the general meaning U and general cognitive principles relevant to the specific context of use." (Croft 1998: 154)

In the case of Kudo's proposal, [a/U] is then a general resultative construction, from which a literal reading and an excessive-event reading can be derived pragmatically, both for the caused property resultative and for the BPOC.

Croft (1998) proposes a fairly straightforward means of excluding this pragmatic model for any given linguistic unit. A linguist should check whether the translation equivalent of a supposedly pragmatically accountable use of that unit in another language is (*mutatis mutandis*, i.e. taking into account more general structural differences as well as trivial lexical differences) formally equivalent; if there is no formal equivalence, then the use of that unit must be considered to be stored as such in the first language, rather than being computed 'on-line'. As an example, Croft gives the noun-noun (NN) compound *water tower*, which in essence is indeed a tall structure supporting a tank of water. In French, however, such structures are referred to as 'water castles' (*châteaux d'eau*). Croft (1998: 159) concludes: "This cross-linguistic difference is strong evidence that the pragmatic model is not appropriate for the derivation of this particular noun compound; otherwise speakers of both languages would come to the same solution to the naming of this object".⁶

⁶ Of course, one might object that the French term is in fact a rather special and unexpected combination while *water tower* is a fully transparent NN combination, so that it is only the French term, not the English one, which requires storage in the mental lexicon. One might also point out, as Croft is in fact aware one might, that castles were culturally more salient (i.e. frequently occurring) structures in France when water towers made their appearance, so that when they were first dubbed *châteaux d'eau*, this made perfect sense, given the fortress-like

Crucially, Croft (1998: 159) further suggests that “[t]he same argumentation can be applied to more general grammatical patterns.” In the next section (section 3.3) I will indeed apply Crofts ‘test’ to the BPOC.

3.3 Excessive-semantics patterns in Dutch

As we mentioned above, Kudo (2011) proposes a parallel analysis for causative property resultatives and instances of the BPOC: both can be used literally (although this is extremely unlikely for the BPOC) and if they acquire an excessive reading, this interpretation is mediated by general rules of inference. But if this were all there was to the BPOC, we would have to find the same construction cross-linguistically. Indeed, the derivational rule linking the general meaning of the resultative to its intensification-expressing use would then have to be language-independent, rendering it unnecessary to store literal and excessive usages separately. As it turns out, however, excessive resultatives exhibit language-specific grammar patterns.

Dutch, like English, contains many conventionalised excessive cases of causative property resultatives, illustrated in (9a-c), but unlike English, it does not have a direct counterpart of the English BPOC; the closest Dutch equivalent is a caused-motion pattern allowing a more restricted set of body part objects and

abounds with conventionalised excessive double-object expressions with a reflexive pronoun and a full noun phrase (Cappelle 2011), illustrated in (10a-c):

(9)

- a. Het vriest de stenen uit de grond.
 it freezes the stones out the ground
 ‘It’s freezing very hard.’
- b. We betalen ons blauw.
 we pay us (= ourselves) blue
 ‘We’re paying an awful lot of money.’
- c. Ik lach me rot!
 I laugh me (= myself) rotten
 ‘I’m rolling on the floor laughing!’

(10)

- a. Ik schrik me een hoedje.
 I start me (=myself) a little-hat
 ‘I’m startled out of my wits.’
- b. We verveelden ons de tering.
 we bored us (= ourselves) the phthisis
 ‘We’re bored to death.’
- c. Ik lach me een bult!
 I laugh me (= myself) a hunch
 ‘I’m rolling on the floor laughing!’

appearance of the earliest water towers. The point is, though, that for present-day speakers of French and English, one cannot plausibly assume that *water tower* and *château d’eau* are coined anew on each occasion a term referring to the object in the world is called for; more likely, speakers in a given speech community, French or English, just re-use the conventional expression available to them to denote this object.

English does not have such excessive ditransitives.⁷ Given that excessives find different realizations in Dutch and English, we should posit them as distinct constructions in each of these two otherwise closely related languages. Figures 1 and 2 represent simplified constructional networks involving excessives in English and Dutch, respectively.

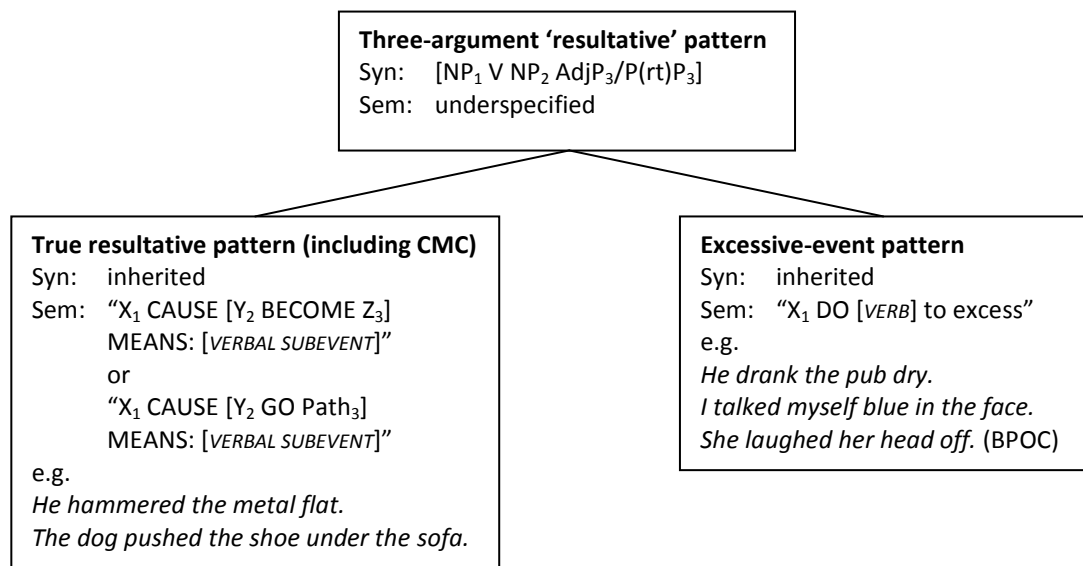


Figure 1. Simplified constructional network for the English three-argument ‘resultative’ pattern. Excessive ‘resultatives’, including cases of the BPOC, are represented here as distinct from true resultatives rather than as pragmatically derived from them.

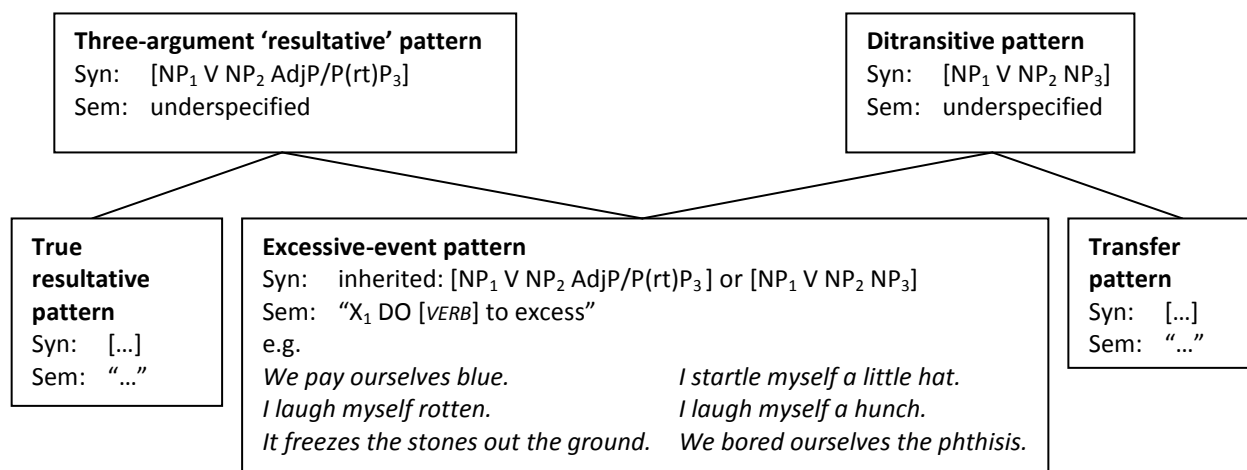


Figure 2. Simplified constructional network for Dutch excessives, which inherit their syntax from two different more general constructional patterns. Not shown in detail here are true resultatives and true transfer-expressing constructions, which also inherit their syntax from the three-argument ‘resultative’

⁷ An apparent exception like *Cry me a river* is best analysed as a non-excessive transfer ditransitive involving an “act of symbolic dedication” (Pinker 2007: 63):

- (i)
 - a. If you want my hand in marriage, first you’ll have to kill me a dragon.
 - b. Cry me a river!
 - c. God said to Abraham, “Kill me a son.” (Pinker 2007: 63)

pattern and the ditransitive pattern, respectively. The example sentences are direct English translations from Dutch.

In sum, the diagrammatic figures aim to represent the idea that excessives constitute a constructional pattern all by themselves in both English and Dutch, distinct from the constructions whose syntax they share. The reason is that their form is language-specific: in English, they inherit their syntax from a general three-argument ‘resultative’ pattern only, while in Dutch, they may also take the form of ditransitives. Such cross-linguistic differences exclude a pragmatic, derivational model of mental representation (cf. Croft 1998).

In the next two sections (Sections 4 and 5), I will argue with Kay (2005, 2012) and especially Boas (2003, 2005) that many instances of these excessive patterns in English and Dutch are conventionalized word sequences.

4. Conventionalization in the BPOC: evidence from the Corpus of Contemporary American English

Commenting on the BPOC, as well as on *V up a storm* (e.g. {*cook / curse / dance / party / sing / sweat / talk / tweet / ...*} *up a storm*), Jackendoff (2002a: 86) writes that the “the choice of verb seems totally open, whereas by contrast, the choice of NP is totally fixed”. Elsewhere I have shown that in actual language usage, there is quite a bit of variation in the choice of NP: every possible alternative word for *ass* and *butt* can make its appearance in the pattern, including *behind, fanny, rear, tail, tush* and any other term one could find in a good thesaurus. As for the verbs used in this pattern, Goldberg and Jackendoff (2004: 560) are more careful when they write that “the choice of verb is quite broad”. To examine *how* broad, I have conducted a corpus study, using the Corpus of Contemporary American English (COCA, Davies 2008-). Ten search strings were used, each time consisting of an open position (for a verb), followed by a possessive pronoun, a body part noun known to occur in the pattern (including a couple of the less frequently used alternatives for *ass* and *butt*) and the particle *off* or *out*. Table 1 shows the twenty most frequently used verbs in this pattern, with token frequencies for each post-verbal sequence.

[TABLE 1 ABOUT HERE]

Table 1 contains detailed information about the distribution of individual verbs and post-verbal sequences in the BPOC. It allows us to see (i) for each frequently used verb which post-verbal intensifier it takes and (ii) for each post-verbal sequence which high-frequency verbs may precede it and with how many verb tokens it is used. Verbs and post-verbal sequences are ordered by frequency from top to bottom and from left to right, respectively. Thus, *work* is the most frequently used verb in the BPOC and it is followed mainly by *one’s butt off, one’s ass off, one’s tail off* and *one’s heart out* in the corpus. Conversely, the ‘subpattern’ of the BPOC with the post-verbal sequence *one’s ass off* is used most frequently: it has the highest number of verb tokens (165), for which *work* (66 tokens), *freeze* (27 tokens) and *laugh* (25 tokens) are mainly responsible.

For each subpattern, Table 1 also gives the number of *hapax legomena*, or *hapaxes*, verbs which combine with that postverbal sequence only once in the corpus. The more hapaxes appear in the open slot of a pattern, the more lexical items may in fact be expected to be used on a one-off basis in this pattern *outside the corpus*. That is why hapaxes have been used as a measure of productivity of a pattern. One such measure, proposed by Baayen (1989) for morphological processes but perfectly applicable for above-word-level patterns as well, is formulated as the proportion of hapaxes in a corpus to the total number of words in the corpus

used in that pattern. Of all verb tokens used in the investigated subpatterns of the BPOC in COCA, it appears that 11% occur in a particular subpattern only once. This can be taken as evidence that the BPOC is indeed a “pocket of productivity” within the more general caused-motion construction or the yet more general resultative construction. The subpattern [V one’s *butt off*] is a representative one within the BPOC: 11 of the 100 occurrences of this subpattern contain a verb which is used just once in it, for instance *dance*, *sweat* and (not shown in the table) *bike*, *coach*, *compete* and *lip-sync*. If we ignore [V one’s *tush off*], which is found only once in the corpus (with the verb *freeze*) and which accordingly has full productivity, the subpattern [V one’s *guts out*] has the highest degree of productivity, with one fifth of the verb tokens found in it being hapaxes.

At the same time, it can also be appreciated that there is a high degree of conventionality within this productive area of English grammar. For example, while [V one’s *guts out*] is indeed quite productive, there is one verb, *puke*, which accounts for almost half of its occurrences in the corpus; besides, no other intensifying post-verbal sequence appears to be used with that verb, which tells us that *puke one’s guts out* is a strong collocation. Note, furthermore, that only one in twenty of the verb tokens used in the subpattern [V one’s *eyes out*] are hapaxes. This subpattern is used practically exclusively with *cry* and *bawl*.

Of course, there is some motivation why *puke* combines with *guts* and *cry* and *bawl* with *eyes*, rather than vice versa. The motivation is, of course, that if one *pukes*, contents of one’s *guts* are ejected, and that if one *cries*, tears flow from one’s eyes. Similarly, [V one’s *lungs out*] naturally attracts verbs denoting an activity of forceful air expulsion, such as *scream*, *cough*, *cheer* and *yell*. In each of these cases, the metonymical construal (container for contained), may be supported by a conceptual metaphor according to which an intense activity can be represented as an excessive change of location, *in casu* the exhaustion or detachment of a body part (Mateu and Espinal 2007; Espinal and Mateu 2010). An utterance such as *John cried his eyes out* may therefore be paraphrased most accurately not just as ‘John cried intensely’ (cf. Jackendoff 1997a, b, 2002a, b) but as ‘John cried so much that his eyes almost came out’, as represented in Figure 2.



Figure 2. Pictorial representation of a hyperbolic reading of *John cried his eyes out*, from Mateu and Espinal (2007)

The existence of a hyperbolic reading, in which the literal interpretation of a BPOC utterance is conceived of as depicting the actual event in an exaggerated (and therefore realistically unfeasible way), is compatible with Kudo’s (2011) analysis mentioned in Section 3.2 above. Crucial to that analysis is that BPOC utterances *could* in principle receive a literal interpretation, referring to an actual event in the real world. The encyclopaedic relatedness of the verb’s meaning and the denotation of the head noun helps explain why certain combinations have ossified as strong collocations while other combinations (e.g. *cough one’s*

butt off) have not. Most of these conventionalized sequences are therefore not ‘idioms of decoding’ in Makkai’s (1972: 47) sense: their meaning could easily be guessed on the basis of what we know about the words used, the meaning of the resultative pattern, the function of a possessive pronoun etc. I would like to claim that they are still ‘idioms of encoding’ (Makkai 1972: 57), however, since a speaker can’t be expected to realize that *cry one’s eyes out* is a conventional figure of speech in English without having learned that fact. In support of this, note again that in Dutch, whose grammar also provides its speakers to make use of the resultative pattern, one doesn’t say **Jan huilde z’n ogen uit*, the direct translation of *John cried his eyes out*.

There are some further surprising observations to be made on the basis of Table 1. First, note that while the subpattern [V one’s *head off*], with its hapax/token proportion of 9%, is about as productive as the BPOC pattern in general, it occurs with the verb *work* only once in the corpus, although this verb accounts for almost one fourth of all verb tokens in the BPOC. This suggests that the use of *work one’s head off* may be blocked by the frequent occurrence of e.g. *work one’s butt off* and *work one’s ass off*. Second, while *ass* and *butt* are synonyms with a comparable degree of informality, there are 25 occurrences of *laugh one’s ass off* but no occurrences of *laugh one’s butt off* in the corpus. (Remarkably, occurrences of *laugh one’s ass off* are not blocked by the common use of *one’s head off* as a post-verbal intensifier with this verb.)

In sum, what the corpus data reveal is (i) that subpatterns of the BPOC show varying degrees of productivity; (ii) that motivations based on the physical involvement of a certain body and the nature of the activity expressed by the verb exist but that these motivations do nothing to diminish the *conventionality* of some of the high-frequency combinations; and (iii) that some verbs occur with a range of post-verbal intensifying sequences but may still exhibit unexpected ‘gaps’ in this range, apparently due to blocking effects—though exactly *when* a blocking effect occurs is itself an unpredictable matter. In short, the usage patterns found in COCA suggest that native speakers of English make use of a great deal of knowledge about conventional combinations of individual verbs and particular post-verbal sequences. Native speakers apparently also know which combinations are to be avoided, even though they could have been perfectly possible given full productivity of the BPOC. Apparently, not anything goes.

5. Conventionalization in the Dutch intensifying ditransitive: web-based evidence

Table 2 below provides co-occurrence data for verbs frequently used with double-object intensifiers in Dutch. These data are based on an extensive web search carried out in the search engine Google in December 2011, restricted to a year leading up to the time of search. As the first object, *me* ‘myself’ was invariably chosen; fifteen different fake direct object NPs were selected, based on my own intuitions about which of these NPs occur with some frequency in Dutch (cf. also Cappelle 2011) and on data found in Hagers and Schutz’s (s.d.) online *Woordenboek van Nederlandse intensiveringen*. Searches were restricted to pages from the Netherlands, as many of the intensifications are not common in Flanders (the Dutch-speaking part of Belgium) at all.⁸ A subset of these NPs consists of colloquialism for (formerly) life-threatening infectious diseases such as *de pleuris* ‘pleurisy’, *de tyfus* ‘typhoid fever’ or ‘consumption’, *de tering* ‘tuberculosis’, *de pest* ‘(bubonic or pneumonic) plague’. Some terms refer to fictitious diseases (*het apezuur* ‘monkey acid’, *het schompes*) or are related to leprosy via the Biblical figure Lazarus (*het leplazerus*, in which *lep-* may be a

shortening of *lepra* ‘leprosy’ and *het apelarazus* ‘monkey leprosy’). Yet others refer to physical damage or deformations (*een breuk* ‘a fracture’, *een bult/kriek* ‘a hunch’), to a general mishap (*een ongeluk* ‘an accident’) or, in a nonsensical way, to a random entity (*een hoedje* ‘a little hat’, *een slag in de rondte* ‘a smash all around’, *een aap* ‘a monkey’).

[TABLE 2 ABOUT HERE]

For each search, all pages with search results returned by the Google search engine were carefully screened so as to retrieve relevant examples only. (Sometimes, this required consulting the actual website.)

As can be seen, *schrikken* ‘to be startled’ is the most frequently used verb and it occurs with most of the patterns, with some notable exceptions, namely *me een breuk* and *me een kriek*, both of which combine most frequently (or even exclusively) with *lachen* ‘to laugh’, and *me een slag in de rondte*, which combines most frequently with *werken* ‘to work’. Some other verbs also combine with most of the subpatterns, such as *lachen* ‘to laugh’, *zoeken* ‘to look for’ and *werken* ‘to work’. Other verbs are much more ‘picky’; this is especially clear for *vechten* ‘to fight’. Individual subpatterns also show considerable variation in productivity (measured here again using the hapax per token ratio). With some subpatterns, more than a fourth of the verb occurrences are one-offs ([V + *me het leplazerus*], [V + *me een slag in de rondte*]) while others have zero or near-zero productivity ([V + *me een kriek*], [V + *me een hoedje*]).

The pattern is syntactically ditransitive, which is semantically speaking in fact always a kind of resultative as well, insofar as the prototypical meaning is ‘cause NP₂ to receive NP₁’, with the reception being the intended result. The intensifying ditransitive pattern under investigation here allows the hyperbolic interpretation ‘V so intensely/excessively that one gets a NP (as a result of doing so)’. This literal meaning is hardly ever motivated by an inherent relation between the nature of the activity and the NP referring to an unwanted condition caused by it. An exception may be that an excessive case of *sjouwen* ‘carry, drag’ could in principle result in *een breuk* ‘a fracture’, more so than in an infectious disease. This may explain why *een breuk* is the favoured NP₂ with this verb. However, the rule seems to be that there is no obvious relationship whatsoever between the activity and the result. For instance, being startled never actually results in the subject obtaining a little hat. Some of the subpatterns can therefore be considered true ‘idioms of decoding’: supposing one did not have any general familiarity with other subpatterns of the intensifying ditransitive, then one wouldn’t normally guess their meaning on the basis of the meaning of the verb and the meaning of the noun in NP₂.

Note that the high frequency of some combinations may have given rise to analogical extensions. For instance, speakers may have been aware of the high frequency of *zoeken* ‘look for’ in a wide variety of intensifying ditransitive subpatterns and on the basis of these combinations have been inclined to use some of the subpatterns also with closely related verbs such as *google* ‘id.’ and *klikken* ‘click’. Still, one may wonder why *verschieten* ‘be startled’, which is a (somewhat regionally restricted) alternative to *schrikken* does not occur with *me een hoedje*, which combines so frequently (327 tokens) with the latter verb. It may be the case that the combination *zich een hoedje schrikken* ‘be frightened out of one’s wits’ is such a strong collocation that it practically blocks the use of *zich een hoedje* (i.e. the two complements) with other verbs than *schrikken*. As was mentioned above, there are hardly any hapaxes in this subpattern, although there are many tokens for it.⁹

⁹ Practically all the tokens for [V + *me een hoedje*] are accounted for by *schrikken*. Oddly enough, in my paper (three-volume) edition of the Van Dale dictionary (Geerts and Heestermans 1992), I find *zich een hoedje lachen*

In sum, what emerges from Table 2 is that while the intensifying ditransitive is generally quite productive (one in twenty of all verb tokens appears only once in a given subpattern, suggesting a fairly high degree of productivity overall for the pattern), individual subpatterns differ widely in how readily they combine with other verbs to form novel sequences. Again, we have found loci of convention within a productive area in the grammar.

6. Further contrastive observations

A comparison of the data for the English BPOC and the Dutch intensifying ditransitive is also revealing of the language-specificity conventionality of each of these constructions. Of course, there *are* some commonalities, not just semantically (which is why they are investigated here together in the first place) but also syntactically: both constructions involve two complements, one of which is a direct object; in neither construction can this argument appear as the subject of a related passive construction (**my ass was worked off*; **een ongeluk werd me gezocht* ‘an accident was looked for to me’). There are also some crucial differences: the BPOC involves an inalienable body part—I’m leaving out of the discussion cases like *laugh one’s socks/pants off*—followed by the particle *off* or *out*, while the Dutch intensifying ditransitive involves a reflexive pronoun followed by a full NP. This difference in how the same notion (intensification) is expressed in the two languages allowed us to exclude the possibility that the English BPOC is merely pragmatically derived from the caused-motion construction: if it were, we would also have to find it in Dutch.

The tables presented in the preceding sections allow us to compare the constructions in more detail. We can see that only five of the top twenty most frequently used verbs in the BPOC find their direct translation equivalent among the top twenty most frequently used verbs in the Dutch intensifying ditransitive: *work/werken*, *laugh/lachen*, *run/lopen*, *fight/vechten* and *sweat/zweeten*. These are verbs whose semantics easily allows for intensification, but this can be said for many of the other verbs as well. Surprisingly, for three of the top five most frequently used Dutch verbs, there is not even an equivalent in Table 1, nor in fact in the entire data set: *schrikken* (‘be startled’), *zoeken* (‘look for’) and (*zich*) *vervelen* (‘be bored’). A likely reason for this is that the English equivalents lack the required syntactic structure: they are used with *be* or with a fixed preposition.

Note that the presence of a preposition does not appear to pose a problem in Dutch. Compare:

(11)

- a. *?*I’ve been looking my ass off for a solution.*
 b. *Ik heb me een ongeluk gezocht naar een*
I have me-REFL an accident searched to a
oplossing.
solution
 ‘I’ve been looking everywhere for a solution.’

Apparently, the use of a prepositional complement in English hinders the use of intensifying complements (especially, I presume, the particle, which shares many similarities with PPs (cf. Cappelle 2004)).

(litt. ‘laugh oneself a little hat’) s.v. *hoedje*, while *lachen* is comparatively very infrequent in this subpattern. In the latest edition, however (Den Boon and Geeraerts 2011), the combination *zich een hoedje schrikken* is also given.

In any case, a comparison of the two tables allows us to see that, despite some overlap, the two different languages appear to intensify different kinds of verbs in the two patterns investigated. Not all differences can be attributed to selection restrictions or voice of the verbs involved. In the entire Dutch dataset, no verbs of forceful air expulsion such as *krijzen* ‘shriek’, *roepen* ‘call, shout’ or *schreeuwen* ‘shout, scream’ are used, while the counterparts of these verbs are frequent in the English dataset and could in principle have been used in the Dutch intensifying ditransitive pattern. In short, this brief contrastive analysis again supports my claim that there is considerable conventionality in both patterns.

7. Discussion

Communication systems need to meet two conditions to allow successful transfer of rich and varied messages. On the one hand, they have to provide their users with a sufficiently large number of agreed-upon or otherwise mentally shared form-function pairs, without which individual users would be trapped in their own private world of ideas. On the other hand, efficient communication systems need to have in-built flexibility so that senders can give audible substance to new entities and previously undescribed states or events. All languages (i.e. the human communication systems studied in linguistics, as opposed to forms of animal communication) meet these two conditions, as indeed any first-year student of linguistics is supposed to realize after the first few classes of an introductory course in the field. The reason I am re-pointing out this obvious insight here is that it puts the finger on one of the most crucial as well as hardest tasks for linguists: determining just how much of language use has to be analysed as part of the established form-meaning pairings, and how much of it can be treated as derived from grammar-internal combinatory rules and/or grammar-independent ‘pragmatic’ principles of generalization, reasoning, discourse and the like. In other words, linguists need to face this constant challenge: How can we know whether a part of an utterance is retrieved as such from the mental lexicon (or ‘construct-i-con’) or whether it is assembled “on the fly” (cf. Jackendoff 2010: 226)?

The present paper has provided evidence for the assumption that much of what could possibly have been created productively may already have been stored in the mind of the speaker. Both the BPOC and the Dutch intensifying ditransitive allow the insertion of any verb whose performance can vary in degree of intensity (provided, as we have seen in Section 6, that it is not used in the passive or that it does not already take a prepositional complement, in which case it is not compatible with the BPOC).

A crucial finding is that some of the subpatterns, within either construction, are hardly productive or not productive at all. As for the BPOC, for instance, speakers know that one wouldn’t ordinarily use *cough one’s tail off*, *lie one’s guts out*, or *sob one’s butt off*. Such combinations *are* attested on the web, but using them is flouting convention. As for the intensifying ditransitive in Dutch, speakers also know that *zich een kreek* only combines with *lachen*. The two general patterns are therefore halfway between productive and semi-productive constructions: new combinations are allowed but it might be safe to use some well-worn combinations rather than combine verbs and intensifying sequences at will.

8. Conclusion

This paper started out by arguing that Goldberg’s famous *sneeze* example does not convincingly prove that there is a general caused-motion argument structure construction which allows any verb, within certain general semantic constraints, to fuse with it. A verb’s

lexical entry may already subcategorize for a path argument or, if not, it may only be coerced into an argument-structure pattern *by analogy of* semantically related verbs which do subcategorize for the relevant type of argument(s) (Boas 2011). In the case of *sneeze*, the basis of analogy might be a verb such as *blow*, which commonly selects a theme and a path.

The chapter then focused on the Body Part *Off* Construction (BPOC), a pattern which is considered to be an area of productivity within the caused-motion construction—and hence, more generally, within the resultative family of constructions (Goldberg and Jackendoff 2004). I argued against the assumption (cf. Kudo 2011) that making sense of instances of this construction (e.g. *laugh one's ass off*, *cry one's eyes out*) involves a 'pragmatic' interpretive process aimed at deriving the excessive reading from the hearer's realization about the unfeasibility of the event actually taking place in the real world (i.e. a body part literally coming off). Following Croft (1998), I take the non-occurrence of a direct translation of the BPOC in Dutch, a closely related Germanic language which also has the caused-motion pattern, to be an argument against a purely pragmatic representation of the English BPOC. Its occurrence in English is not a given—speakers must *know* that it exists.

I then provided the results of an in-depth corpus-based and web-based investigation of the usage of the BPOC and of a semantically related but formally different construction in Dutch, namely intensifying ditransitives (whose direct English translations would sound like, e.g., *laugh oneself a fracture*). The results suggested that knowing that these constructions exist is not sufficient either to use them appropriately, as there are some highly conventional combinations which may prevent the use of combinations that could have been possible.

I fully agree with Jackendoff's (2010: 34) statement that "[i]nsofar as productivity is an issue not only for phonology and morphology but also syntax, in my opinion it must take a place as one of the central issues of linguistic theory for the coming years." The present study suggests that within generally productive constructions there may be semiproductive subpatterns: corners of convention in pockets of productivity.

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TABLES TO BE INSERTED:

	<i>one's ass off</i>	<i>one's heart out</i>	<i>one's head off</i>	<i>one's eyes out</i>	<i>one's butt off</i>	<i>one's tail off</i>	<i>one's guts out</i>	<i>one's lungs out</i>	<i>one's balls off</i>	<i>one's tush off</i>	
<i>work</i>	66	19	1		69	43			1		199
<i>cry</i>		17	4	80			2	1			104
<i>scream</i>	2	2	44				3	13			64
<i>laugh</i>	25		30					1			56
<i>bawl</i>	1	2	4	39			1				47
<i>sing</i>	1	43	1				1				46
<i>freeze</i>	24				8	1			8	1	41
<i>play</i>	2	16			5		3		1		27
<i>puke</i>							19				19
<i>dance</i>	8	8			1	1					18
<i>run</i>	4	5			3						12
<i>bark</i>	1		10								11
<i>sob</i>		9		2							11
<i>fight</i>		5			2		2				9
<i>talk</i>			8				1				9
<i>sweat</i>	2				1		1		4		8
<i>cough</i>	1							6			7
<i>lie</i>	3		4								7
<i>yell</i>			5					2			7
<i>cheer</i>	1	1						3			5
hapaxes	22	14	13	6	11	4	9	5	2	1	87
total tokens	162	145	136	129	100	47	43	31	14	1	807
hapaxes per tokens	14%	10%	10%	5%	11%	9%	21%	16%	14%	100%	11%

Grey-shade legend

tokens		1	2	≥ 3	≥ 5	≥ 8	≥ 11	≥ 17	≥ 26	≥ 38	≥ 57
hapaxes/tokens (%)	0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	≥ 28

Table 1. Token frequencies for the twenty most frequently used verbs and ten common post-verbal sequences appearing in the BPOC in the Corpus of Contemporary American English. The bottom row gives the hapax/token ratio for each post-verbal sequence, thus providing an indication of its productivity. Darker shades are used for easy identification of high token frequencies or high number of hapaxes as well as high hapax/token ratios (cf. legend).

	<i>me een ongeluk</i>	<i>me een hoedje</i>	<i>me de pleuris</i>	<i>me de tering</i>	<i>me een breuk</i>	<i>me een slag in de rondte</i>	<i>me de tyfus</i>	<i>me een bult</i>	<i>me een kriek</i>	<i>me het apezuur</i>	<i>me het schompes</i>	<i>me het apelazerus</i>	<i>me het leplazerus</i>	<i>me de pest</i>	<i>me een aap</i>	
<i>schrik</i> 'be startled'	101	327	106	122	1		35	34		28		22	12	3	15	806
<i>lach</i> 'laugh'	20	8	16	13	96	7	3	20	69	6		5		1	3	267
<i>zoek</i> 'look for'	83	10	32	10	30	17	3	12		5	11	7	3	1	1	225
<i>werk</i> 'work'	3		39	10	3	53	14			4	14	2	3	6		151
<i>verveel</i> 'be bored'	7	3	37	38			19			1		2		8		115
<i>sjouw</i> 'carry; drag'	1			1	42			2								46
<i>zweet</i> 'sweat'	12	1	2	6			1	1		3		1	2	2		31
<i>verschiet</i> 'be startled'	5							13								18
<i>hoest</i> 'cough'	6		4	3		2	1				1					17
<i>lees</i> 'read'	8		1		1	3	1				1					15
<i>loop</i> 'run'	2		5	2	1	1		1			2	1				15
<i>vecht</i> 'fight'						1					12	1				14
<i>poets</i> 'scrub'	3		1	1	2	3					2					12
<i>google</i> 'google'	2				1	4				4					1	12
<i>betaal</i> 'pay'			3	3	1		2	1		1		1				12
<i>erger</i> 'be irritated'	2		1	4		1	1				2					11
<i>ren</i> 'run'	3		2		1	2	2				1					11
<i>sleep</i> 'drag'	2				3						4					9
<i>eet</i> 'eat'	1				1	4	1						1			8
<i>klik</i> 'click'	4			1		2							1			8
Hapaxes	50	4	17	18	19	46	10	8		11	10	7	11	6	5	222
Tokens	365	354	263	231	225	176	90	89	69	61	61	50	38	25	23	2120
hapaxes per tokens	14%	1%	6%	8%	8%	26%	11%	9%	0%	18%	16%	14%	29%	24%	22%	5%

Grey-shade legend

Tokens		1	2	≥ 3	≥ 6	≥ 10	≥ 19	≥ 34	≥ 61	≥ 110	≥ 198
hapaxes/tokens (%)	0	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	≥ 28

Table 2. Token frequencies for the twenty most frequently used verbs (see verb stems, column left) with fifteen common intensifying double-object sequences (see top row) in the search result pages obtained from a Google search (December 2011) in web pages from the Netherlands spanning one year. The bottom row gives the hapax/token ratio for each intensifying sequence, thus providing an indication of its productivity. Darker shades are used for easy identification of high token frequencies or high number of hapaxes as well as high hapax/token ratios (cf. legend). See main text for translations and some explanation of the intensifying sequences.