The English Change Network
Acknowledgments

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Abbreviations

AdvP adverbial phrase
AB ablative
AL allative
AP adjective phrase
CC change construction
CE C determines E (causal ordering in the ECS)
CMC Caused Motion Construction
CP change phrase
d domain
DOR Direct Object Restriction
DP determiner phrase
E event (component)
E (as represented by the squiggly arrow)
EC E determines C (causal ordering in the ECS)
ECS Event Change Schema
EFCS Event Force Change Schema
F force (component)
F (as represented by the thick arrow)
FCS Force Change Schema
lm landmark
M manipulator
m manipulee
NP noun phrase
P preposition
path
PP prepositional phrase
RC resultative construction
RP resultative phrase
S source
SC small clause
Spec Specifier
T target
TH theme
Chapter 1
Introduction

1. Two constructions

This monograph deals with two construction types, mainly with the so-called resultative construction (see Boas 2000; Croft 1991, 1998a; Goldberg 1995, 1997; Rappaport Hovav and Levin 1999, 2001; Wechsler 2001 among many others), but also with what we could term the at-construction (usually called conative construction, see Pinker 1989; van der Leek 1996 among others), illustrated in (1a) and (1b) respectively:

(1) a. John hammered the metal flat.
   b. John kicked at the wall.

In (1a), the result of John’s hammering the metal was the state of flatness achieved by the metal. Interestingly, (1a) seems to be obtained from the transitive structure John hammered the metal by simply adding the resultative adjective flat to it. (1b) exemplifies the at-construction, which is paraphrasable as “John tried to kick the wall” (hence the term “conative” to refer to such a structure). In other words, the sentence predicates that the (possibly repetitive) event of kicking took place irrespective of success (i.e. whether John’s leg[s] made contact with the wall or not). Examples like (1b) seem to be obtained from their related transitive versions (e.g. John kicked the wall) by adding the preposition at before the transitive object.

The goal of this study is twofold. On the one hand, it aims to detail the behaviour of both constructions illustrated in (1). On the other, it poses the general question of whether the two constructions are related to each other. We note that they have both to do with the (intended) achievement of a condition, which can be a state (the metal’s flat state in [1a]) or a position (that of the subject referent’s leg making contact with the wall in [1b]).
1.1. The resultative construction

In order to appreciate the complexity of the issues involved, it is worth pointing out that at least five dimensions of variation are to be taken into account when dealing with so-called resultative sentences, namely causation (or causality), selection of the resultative phrase, orientation of the resultative phrase, transitivity, and temporal dependency. Consider the following sentences:

(2) a. John hammered the metal --- [flat].
    b. The river froze --- [solid].
    c. Frank sneezed --- [the tissue off the table].
    d. John limped --- [into the room].
    e. The truck rumbled --- [into the driveway].

We have already considered (2a), which reproduces (1a). We now observe that resultative sentences can also be intransitive, as shown in (2b). As in (2a), the resultant state, that of the river’s being solid, is expressed by way of an adjective (solid). (2b), based on Goldberg (1995), can also be said to be obtained by adding the adjective solid to the simpler structure The river froze, as was the case with (2a). (2c) may be paraphrased as “Frank sneezed, thus causing the tissue, which was on the table, to end up on the floor”. It differs from (2a) in that it contains a prepositional phrase, off the table, which refers to a position, and not to a state (if we interpret the latter term as excluding positions, of course). Further, the whole complex the tissue off the table seems to be added to the (intransitive) verb sneeze. Since the prepositional phrase in (2c) refers to a position, not to a state, some authors have regarded this and similar examples as instantiations of the so-called Caused Motion Construction (see Goldberg 1995 inter alia). Such a construction denotes the change of place (i.e. Motion) of an entity as a result of the action carried out upon it by another entity (i.e. Causation). In this work I will not distinguish between the Caused Motion Construction and the resultative construction as two separate constructions but, rather, say that resultative phrases are compatible with either a state-reading or a position-reading. The parallelism between phrases referring to positions and phrases referring to states also extends to the fact that a spatial prepositional phrase can be combined with an intransitive verb, as in (2d), which contains the verb of manner of motion limp, and (2e), which contains the verb of sound emission rumble.

The examples in (2) are not on a par as regards the notion of causality. (2a) clearly encodes a causal link between two events: the event of John’s hammering the metal caused the event of the metal’s becoming flat. (2c) is also based on the merger of two causally related subevents: the event of sneezing caused the event of the tissue’s falling off the table. On the other hand, it is debatable whether (2b) codes causation between the event of the river’s freezing and that of the river’s becoming solid (see Rapoport 1999 for a negative answer). The verb of change of state freeze in (2b) can be paraphrased as “to become solid”; hence, a causal rendering for (2b) would amount to a tautology. However, it makes sense to ask “Why is the river solid?” and answer “Because it froze”; thus establishing a causal link between the river’s freezing and the river’s becoming solid. Further, even if the causal paraphrase for (2b) were regarded as a tautology, one should motivate why apparent redundancy in the meaning of verb and adjective (i.e. both involve the property “solid”) does not result in an unacceptable sentence (as is the case in *He killed him dead, for example).

Going back to the examples in (2), we observe that, if we want to recognise some notion of causality in (2d), we cannot help concluding that causality obtains hypernymically. Causality holds between an event of movement, independently of the manner of its realisation (viz. limping, walking, jumping, etc., which can all be regarded as subordinates of move, see Ungerer and Schmid 1996: 103 for a similar point) and an event of telic displacement. Finally, (2e) does imply causation in a clear way: the event of the truck’s moving (in general or into the driveway in particular) caused the truck to rumble. Note, however, that the relationship between the two subevents is reversed compared to the one in (2a), where the event denoted by the verb is the source for (and not the result of) the change of state.

In conclusion, the notion of causality is a complex issue and, above all, intransitive examples cannot be treated as an undifferenti-
ated whole for which causality plays no role (as Goldberg’s 1995 analysis implies, see end of §5.1.4 and §5.2).

We can now move to the problems of selection (i.e. what are possible resultative phrases?) and orientation (i.e. of which entity is the resultative phrase predicated?)? Consider the sentences in (3):

(3) a. John hammered the metal --- *[beautiful].
   b. The river froze --- *[slippery].
   c. * Polly cooked the cookies --- [dirty].
   c'. I love you --- [to distraction].
   d. We played leapfrog --- [across the lawn].
   d'. It shocked us --- [to the core].
   d''. She rode the horse --- [to town].
   e. The two men laughed --- [into their drinks].

(3a) shows that not all adjectives are possible resultative adjectives; aesthetic adjectives such as beautiful seem to be banned from the resultative construction. (3a) cannot be used as a short paraphrase for “John hammered the metal and, as a result, it became beautiful”. Restrictions concerning the availability of resultative phrases also obtain in the case of intransitive examples such as (3b), which cannot be used to mean that “the river froze and, as a result, it became slippery.”

It is generally noted (see Levin and Rappaport Hovav 1995 among others) that a resultative phrase cannot be predicated of a transitive subject (the so-called Direct Object Restriction). (3e), for example, cannot mean that “Polly cooked the cookies and, as a result, she became dirty.” (3e) would be acceptable only if we devised a scenario where cookies can become dirty by being cooked. In other words, dirty can be predicated of the object referent only. Nevertheless, we do find sentences containing phrases that are both predicated of the subject referent (in transitive structures) and evoke the concept of change (via the preposition). Although (3c’) does not imply a causal relation between the event of drinking and that of becoming old (alluded to by the prepositional phrase into her twilight years) and hence does not seem to qualify as a resultative construction, we note that the ageing process is predicated of the subject referent. The prepositional phrase into her twilight years has a temporal interpretation based on the metaphor of the passing of time as linear motion, as indicated by the dynamic preposition into. Hence, such a prepositional phrase cannot be treated on a par with “ordinary” adjuncts such as in the garden in Chris fed the cat in the garden. In this example, in the garden can be predicated of the subject referent and does not involve motion (we have the static preposition in). Furthermore, (3c’’) demonstrates that even sentences coding a causal relation between two subevents (i.e. the event of loving someone and the event of becoming distracted in the relevant example) can contain subject oriented resultative phrases: it is I who ends up distracted in (3c’’).

Subject orientation in transitive examples is also possible with phrases referring to positions, as shown by (3d). Whereas the verb play in (3d) does not denote a forcible interaction (i.e. its object simply specifies the kind of playing activity we were involved in), the verb shock in (3d’) does: the object referent is an affected entity in relation to the action named by the verb. Interestingly, in some cases, such as (3d’’), the spatial prepositional phrase can be predicated of both the subject and object referents, as indicated by the two indexes i and j subscripted to the phrase to town.11 Finally, some sentences, such as (3e), are problematic because they contain a prepositional phrase headed by a motion preposition (i.e. into) which cannot be predicated of any element in the syntax (i.e. the two men in [3e]). The problematic orientation for the prepositional phrase into their drinks has been indicated by accompanying the prepositional phrase with a question mark in (3e).

Another dimension of variation concerns the notion of transitivity. Consider the following examples:

(4) a. John kicked [the door].
   a’. John kicked --- a hole in [the door].
   b. Zola headed [the ball].
   b’. Zola headed --- Chelsea level.
We noted in connection with examples such as (2a) that resultative sentences seem to be obtained by merely adding a (non-verbal) phrase at the end of the sentence. Nevertheless, such additive mechanism does not always work. The object of the verb *kick* in (4a), *the door* (given in square brackets), appears in the preposition’s object (or complement) slot in the resultative example (4a’). Still, (4a’) means that a hole was in the door as a result of John’s kicking the door, not of John’s kicking the hole, of course. Even more complex is sentence (4b’). *Head* is a transitive verb – the sentence *Zola headed* is unacceptable – and yet its object *the ball*, see (4b), does not appear in the resultative sentence (4b’). (4b’) means that Zola, a Chelsea player, headed the ball into the net (i.e. he scored a goal) and, as a result, Chelsea went level with their opponents. Clearly, the factors that regulate the displacement of transitive objects into the preposition’s complement slot and the possibility of leaving out transitive objects in resultative constructions must be investigated.

Finally, the fifth dimension of variation regards the notion of time. All the examples considered above imply temporal dependency between the verbal event and the event alluded to by the adjective or prepositional phrase. For example, (2a) implies that the event of John’s hammering the metal and the event of the metal’s becoming flat unfolded together (i.e. they were *homomorphic* in Wechsler’s 2001 terminology). Nevertheless, homomorphism does not always obtain. *Tom laughed himself out of the job* allows for a temporal gap between the event of laughing and the event of Tom’s being dismissed from his job.

1.2. The *at*-construction

The combination of an *at*-phrase with dynamic (i.e. non-stative) verbs does not always yield a unique interpretation. Consider the potential contrast in (5) ([5a] reproduces [1b]):

(5) a. John kicked at the wall.
   b. John chipped at the rock.

(5a) can have a conative interpretation. John tried to kick the wall but we cannot infer from (5a) whether he made contact with the wall. (5a) also has an allative interpretation in that John’s leg(s) moved towards the target represented by the wall. (5b), on the other hand, is only paraphrasable as “John went on chipping the rock.” In other words, the action named by the verb was successful and several instances of it were carried out. Further, whereas the verb *kick* in (5a) implies allative motion, *chip* in (5b) implies ablative motion: the latter verb refers to the fact that the rock got chipped, that is, (small) parts of the rock were removed from it. This does not mean however that verbs which imply ablative motion are incompatible with an allative reading. Consider (6):

(6) Sarah ducked her head to dodge low branches; brambles tore at her legs. (BNC: A0R 2245)

The verb *tear* in (6) suggests ablative motion either in the sense that bits of Sarah’s skin were removed from her legs or in the more abstract sense that Sarah’s legs underwent a change of state (as did the rock in [5b]). Still, the subject *brambles* can be viewed, by choosing an appropriate point of view (i.e. Sarah’s), as moving towards Sarah and attacking her. In other words, the sentence in question also codes an allative meaning. Clearly, we must analyse what principles help us select the correct interpretation (i.e. allative vs. ablative, or a mixture of both).

1.3. The notion of change

The resultative construction and the allative *at*-construction share the notion of change and contain phrases which can be predicated of some other element in the syntax, with the apparent exception of (3e), *The two men laughed into their drinks*. The resultative construction deals with changes of states and positions. The allative *at*-construction involves an intended change of position: either parts of an entity (e.g. “John’s leg” in *John kicked at the wall*) or a whole en-
ity (e.g. Sally in Sally ran at Tom) move towards the preposition’s object referent. Whereas the resultative construction predicates the attainment of a particular state or position, the allative construction specifies the possible attainment of a given position.

I will argue that the two constructions under scrutiny are both instances of a more general construction based on the notion of change phrase given in (7):

(7) The definition of change phrase
A nonverbal phrase XP, which is neither a subject nor an object, is said to be a change phrase (CP) if it refers to a state, position or circumstance possibly achieved by an entity a involved in an event E, provided that a can be postulated at the semantic pole of the relevant construction (to be called change construction).

By way of illustration, let us consider John hammered the metal flat, see (1a). Flat is a change phrase because it refers to a state (or property) achieved by the metal (i.e. the entity a in [7]), which is involved in a hammering event (i.e. E in [7]). Similarly, at the wall, in John kicked at the wall (see [5a]), is a change phrase because it refers to the position which John’s leg(s) (i.e. the entity a in [7]), is/are intended to reach. Let us now analyse (8):

(8) John rubbed wakefulness into his eyes.

Apparently, (8) contains two change phrases. Wakefulness is conceptualised as moving into John’s eyes as signalled by the preposition into (i.e. wakefulness “went” into his eyes). But we can also say that John’s eyes acquired the property of wakefulness or ended up in the state of being awake (cf. the related expression John rubbed his eyes awake, where his eyes “became” awake). In the former case, the entity a undergoing a change corresponds to wakefulness; in the latter, a is equated with eyes. The definition in (7) however is partly syntactic and partly semantic. It requires that the change phrase have a non-subject/object role; hence, wakefulness is not regarded as a change phrase because it functions as an object.

I view the definition in (7) as preventing sentences like (9) from being categorised as change constructions:

(9) a. Sally kept the car in the garage
b. The medication kept the patient alive.

(9a) and (9b) could be argued to involve force-dynamics in complementary fashion compared to (1a), John hammered the metal flat (see Talmy 1988 for extensive discussion). In (1a), the exertion of a force on an entity determines its change of state; in (9) the (metaphorical) exertion of a force on an entity prevents its change of state/position. However, the prepositional phrase in the garage in (9a) refers to a static configuration as does the adjective alive in (9b). The position and state which could be achieved are out of the garage and dead, respectively, that is, the opposite of what the prepositional and adjectival phrases in question predicate. The situation is reminiscent of (5b), John chipped at the rock, where the (removed) chips are not at the rock, so to speak. In sum, I regard the act of predication encoded by way of the change phrase in the definition above as involving direct predication only (i.e. alive cannot refer to the state of being “dead” and in the garage cannot be interpreted as referring to the position “out of the garage”). Similarly, the sentence He kept her at arm’s length, which is analysed as an instantiation of the Caused Motion Construction by Goldberg (1995: 162), is not regarded as a change construction here.

Admittedly, some cases appear to be more complex:

(10) a. Harry locked Joe into the bathroom.
b. Sam barricaded him out of the room.

Goldberg (1995: 162) considers (10a) and (10b) as instantiations of the Caused Motion Construction. In my analysis, (10a) and (10b) are viewed as inheriting features of both the change construction and the “keep construction” (i.e. they lie in-between the two constructional
types under discussion). Joe in (10a) was actually forced into the bathroom, hence *into the bathroom* qualifies as a change phrase on the basis of the definition in (7). Such an interpretation must be supplemented with the observation that Harry also prevented Joe from moving out of the bathroom by locking the door. Similarly, the object referent in (10b) can be interpreted as both having been forced out of the room (hence *out of the room* is a change phrase) and being kept in such a position by Sam’s barricading the room. The dual analysis proposed for (10a) and (10b) probably also extends to a sentence like *The medication prevented the patient from dying* since the patient can be conceptualised as having been removed from a potentially lethal state (cf. the sentence *The doctor talked [the patient] out of killing [herself]*, which contains the more “specific”, i.e. manner, verb *talk* in place of *prevent*).

Finally, the requirement that *a* must “be postulated at the semantic pole” will allow us to regard cases such as *The two men laughed into their drinks*, see (3e), as containing a change phrase (i.e. *into their drinks*). Such a phrase is predicated of an element (i.e. *laughs*) which is not realised syntactically as an independent unit, but is coded through the verb.20

2. Cognitive Grammar

The present investigation into change constructions presupposes a cognitive approach to language. In particular, the theoretical assumptions this work rests upon are those of Cognitive Grammar (see Langacker 1987, 1990, 1991, 1999). Further, I will also make use of insights from conceptual integration (or blending) theory (see Fauconnier and Turner 1996, 1998, 2002). Cognitive Grammar is sketched out below for the reader not familiar with it. Blending theory, for reasons of internal coherence, is briefly introduced and critically discussed in chapter 5, section 1.2.2.

The issue of motivation for the use of a given pattern (versus the concept of *l’arbitraire du signe*), however, is not neglected. The two sentences in (11):

(11) a. *He sent a letter to Susan.*
   b. *He sent Susan a letter.*

are synonymous but their syntactic structures are not arbitrary. (11a), which is an instance of the so-called prepositional dative construction, emphasises “the path traversed by the letter with Susan as a goal” (Langacker 1987: 39) by employing the preposition *to*. On the other hand, (11b), which is an example of the so-called double object construction, emphasises the possessive relation between Susan and the letter “by the juxtaposition and linear order of *Susan and the letter***” (Langacker 1987: 39; see also Harley 1999).

• Language is considered to be an integral part of human cognition, that is linguistic investigation cannot ignore cognitive processing...
in general (e.g. the ability to establish comparisons, categorisation [see J. Taylor 1995], temporal scanning [see below], the imposition of imagery [see below], etc.). Such a stance is deemed not to necessarily imply the existence of an independent “language faculty” (as is the case in the tradition of generative grammar), about which Cognitive Grammar remains agnostic.

- A fundamental tenet of Cognitive Grammar is the recognition that much in language is a matter of degree. Such a view significantly contrasts with the use of plus/minus values adopted in some theories of language (see the use of parameters in Government and Binding Theory). Take the concept [CAT] for example. Although cats are usually thought of as furry animals, this is not always the case: the cat known as Sphynx (see D. Taylor 1989) is virtually hairless (and the only one to be so, to the best of my knowledge). Hence, we cannot take the feature [+FURRY] as a defining (i.e. objective) feature for cats. All the same, we presumably continue to conceptualise cats as furry animals. Cognitive linguists say that cats are prototypically furry animals.

Passive formation is another case in point. The ability of a verb to passivise depends on how much the process described by the verb approximates a prototypical physical action (i.e. an energy transfer), as shown by the following examples (from Langacker 1987: 37):

(12) a. Sheila was kicked by her mother.
   b. *Sheila was wanted by her mother.
   c. ?Sheila was resembled by her mother.

Not only does the acceptability of passive formation vary with the chosen verb, but it also depends on the context. Consider the well-known contrast:

(13) a. This bed was slept in by George Washington.
   b. *This room was slept in by George Washington.

As is pointed out by Rice (1987), (13b) turns out to be acceptable if we know, for example, that George Washington was a sleep-walker and made a mess of the room in which he slept and sleep-walked.

- Cognitive Grammar recognises the systemic (and encyclopaedic) nature of language (see Halliday’s 1994 Functional Grammar for a similar position): linguistic items are interdependent units. The noun uncle, for example (see Langacker 1987: 185), activates (i.e. makes salient) a network of kinship relationships, as reflected in the notions [PARENT], [CHILD], [SPOUSE], without which uncle cannot be understood. Further, linguistic items are not defined in relation to a (supposedly) finite set of objective features, but are often organised around prototypes (see previous point) and also include pieces of knowledge that might seem of secondary importance to their definition. For instance, I (as well as many other speakers) can associate to the concept [CAT] the fact that cats usually climb up trees, that it is often difficult for them to climb down, and so on. There is no principled reason to exclude such pieces of knowledge about cats from my conceptualisation of what a cat is. Meaning in Cognitive Grammar is equated with conceptualisation, which is not limited to objective properties. This implies that some facets of a conceptualisation are more central than others and that there can be variation among speakers (or within the same speaker in different circumstances) as to what counts as a central feature.

- Cognitive Grammar warns us against two omnipresent fallacies in linguistic research, namely the exclusionary fallacy and the rule/list fallacy. The gist of the former is that “one analysis, motivation, categorization, cause, function, or explanation for a linguistic phenomenon necessarily precludes another” (Langacker 1987: 28). For example, if we take the noun stapler and say that this word is derived by rule (i.e. the suffix -er is added to the verb base staple), we cannot account for the fact that stapler means more than “something that staples”. On the other hand, if we re-
gard it as an item listed in the lexicon (on the assumption that the lexicon is an unstructured inventory of linguistic forms), we ignore the productive V (i.e. verb) + -er derivational pattern.

The rule/list fallacy is the assumption that “particular statements (i.e. lists) must be excised from the grammar of a language if general statements (i.e rules) that subsume them can be established” (Langacker 1987: 29). For instance, the fact that most plural nouns are obtained from the singular by adding an –s does not necessarily imply that “specific plural forms following that rule […] would not be listed in an optimal grammar” (Langacker 1987: 29). Hence, redundancy is an integral feature of the “architecture” of grammar.

- Cognitive Grammar does not assume discrete components. For example, conventional expressions such as take it for granted that, hold … responsible for, express an interest in, great idea, I don’t care, etc. clearly lie between the lexicon (traditionally thought of as the repository of idiosyncratic expressions no longer than a single word) and syntax (usually regarded as the component of grammar which deals with novel expressions longer than a word on the basis of a given set of rules).

- Cognitive Grammar contends that grammar embodies conventional imagery. In other words, “it structures a scene in a particular way for purposes of linguistic expression, emphasizing certain facets of it at the expense of others, viewing it from a certain perspective, or construing it in terms of a certain metaphor” (Langacker 1987: 39). We saw above that the two sentences in (11) reproduced here below

(14) a. He sent a letter to Susan.  
   b. He sent Susan a letter.

depict the same event (that of a book ending up with Susan) but differ in the sense that the former emphasises the transfer as a physical movement (a letter went to Susan), whereas the latter focuses on the ensuing control configuration (Susan had a letter). Similarly, the two sentences in (15):

(15) a. Sally climbed the mountain in seven hours.  
   b. Sally climbed up the mountain in seven hours.

construe the same event differently. The former conceptualises the event of climbing as an action carried out upon a patient (i.e. an affected entity). The latter sentence imposes a path construal: the event of climbing is conceptualised in terms of the path traversed by Sally as indicated by the presence of the spatial preposition up in the syntax.

- Grammar is viewed as a structured inventory of conventional linguistic units. A unit is a structure that a speaker employs in largely automatic fashion; in other words, no constructive effort is required for its use, although it is recognised that structures fall along a continuous scale of entrenchment.22 Linguistic units consist of a symbolic association between a semantic and a phonological structure which has unit status. Conventionality implies that something is shared by a substantial number of individuals. By the term “inventory”, it is meant that a “grammar is not a generative description, providing a formal enumeration of all and only the well-formed sentences of a language” (Langacker 1987: 63). Still, such an inventory is structured because linguistic elements are related to one another.

2.2. Predication

Before moving on to briefly illustrate how predication is dealt with in Cognitive Grammar, it must be pointed out that any predicate (i.e. the semantic pole of an expression) is characterised relative to one or more cognitive domains. For instance, the concept [KNUCKLE] presupposes the conception of a finger. We say that [FINGER] is the domain for [KNUCKLE] or that [FINGER] is the base for
[KNUCKLE]. Similarly, [HAND] is the domain for [FINGER], [ARM] for [HAND], [BODY] for [ARM]. [BODY] is finally defined with reference to three-dimensional space, which is regarded as a primitive or basic domain. Three-dimensional space seems to be hardly definable in terms of more primitive notions. The difference between domain and base is simply that a base is the immediate domain for a concept. For example, [BODY] is a domain for [KNUCKLE], but [FINGER] is the base for the latter.

Cognitive Grammar distinguishes between two classes of predicates: nominal predication, which designates (or profiles) a thing (i.e. a region in some domain, where a region is defined as a set of interconnected entities), and relational predication, which designates (or profiles) either an atemporal relation (such as red) or a process (such as sleep).

As a matter of illustration, consider the semantic pole of the noun circle, [CIRCLE] (see Langacker 1987: 184). [CIRCLE] has for its base the basic domain of two-dimensional space and its profile is a set of points in this domain. If we take the noun arc, we note that its semantic pole, [ARC], has for its base the thing (i.e. the set of points) profiled by [CIRCLE] since the notion of [ARC] presupposes the conception of [CIRCLE]. [CIRCLE] and [ARC] are schematised in Figure 1a and Figure 1b respectively. The profiled entity has been highlighted with a heavy line; the immediate domain in relation to which the entity is defined (i.e. its base) is indicated in the bottom right-hand corner.

Figure 1. The semantic poles of circle and arc

The crucial difference between a nominal predication and a relational predication is that a relational predication puts interconnections in profile. A nominal predication can be diagrammed as in Figure 2 (after Langacker 1987: 215):

![Figure 2. Schematic representations of a nominal predication](image)

In particular, Figure 2a can be taken as a visual representation for the concept [GROUP]. The component entities of a group are the dashed boxes in Figure 2a. Crucially, these entities are interconnected, as shown by the lines linking each to the other, because the notion of [GROUP] implies spatial proximity or common goals (as in the noun team), for instance. The region defined by the interconnected entities, depicted as a heavy circle in Figure 2a, is what [GROUP] profiles, an assembly of entities none of which has special prominence over the other. A simplified version of Figure 2a is offered in Figure 2b, where the region is only made up of two component entities.

Now consider the representation in Figure 3:

![Figure 3. Schematic representation of a relation predication](image)

Figure 3 differs from Figure 2b in that the line connecting the entities $e_1$ and $e_2$ (i.e. the line indicating the existence of a relation between them) and not the region defined by them is profiled (as indicated by the heavy line connecting $e_1$ and $e_2$ and the absence of a circle en-
compassing them). The entities $e_1$ and $e_2$ are also profiled (they are made heavy in Figure 3) because “one cannot conceptualize interconnections without also conceptualizing the entities that they interconnect” (Langacker 1987: 215). In other words, relations are conceptually dependent: the conception of a relation depends on the entities that are related. Figure 3 visualises the minimal form of a relational predication and could be taken as a representation for the predicate [NEAR], which denotes a relation of spatial proximity between two entities.

The notion of relation allows us to introduce the fundamental distinction between trajector and landmark. The trajector is defined as the figure in a relational profile, i.e. the entity that “stands out” in a relational profile. The relational predication near in Sally is near John, for instance, profiles a relation of spatial proximity in which a certain entity (the trajector, Sally) is located in relation to another (the landmark, John). Let us now consider the sentence Sally killed John, which contains the processual predication [KILL]. The trajector corresponds to Sally, which is given special prominence by virtue of being the subject of the sentence and the originator of the verbal process; the landmark is John, which is the recipient of the verbal event.

A schematic (i.e. simplified) representation for a process is given in Figure 4.

![Figure 4. Schematic representation of a process](image)

The trajector and the landmark are shown as two squares and the existence of a relation between them is depicted as a vertical line connecting them. The vertical arrangement of the trajector and the landmark is intended to visually represent the special prominence accorded to the former. The representation in Figure 4 also contains a temporal line because processes unfold in time (see below).

The landmark, as well as the trajector, does not always correspond to a thing, but can also correspond to a process. The verb want in He wants to experiment further has for its trajector the thing designated by the personal pronoun he and its landmark is the process designated by to experiment further. Before in She left before I arrived profiles a relation between two processes, namely the processual trajector She left and the processual landmark I arrived. Finally, the adverb fast in She works fast takes a process (i.e. working) for its trajector and a thing (i.e. a region along a scale of rate) for its landmark. Fast establishes a relation between a process and a scale that evaluates the speed with which processes take place; further, fast specifies that the process in question belongs to the “fast” region along such a scale.

Of particular interest is the distinction, among atemporal relational predicates, between simple relations and complex relations. Items such as red, above, broken all designate simple relations, that is, relations which are temporally stative. On the other hand, prepositions like into, to (as in Sally went into the house, Sally went to the cinema) involve complex relations in that more than a single configuration over time is activated. The preposition into implies that its trajector undergoes a change of position which will bring it to be placed inside the landmark. On the other hand, the preposition in lacks such a dynamic interpretation.

A problem then arises as to the difference between a verb like enter and a preposition like into. Both are relational predications and both are complex in the sense that they involve more than a single configuration in time. Cognitive Grammar distinguishes between the two by appealing to the (cognitive) notion of sequential versus summary scanning. Processes involve sequential scanning. This obtains when we watch something unfolding in real time, e.g. a ball flying through the air. We see the ball in one position at one instant, and in another position at the next instant, and so on (see Figure 5).
When a relation involves sequential scanning we say that the relation has a positive temporal profile. The temporal profile is indicated diagrammatically by way of a heavy time-line, as shown in Figure 5 for enter (see also Langacker 1987: 245).

Figure 5. Schematic representation of enter

Figure 5 shows three component states. The leftmost one depicts the trajector (i.e. the entity in motion) as being outside the landmark (i.e. the location which will be entered by the trajector). The component state in the middle visualises the instant in which the trajector is entering the landmark. The rightmost component shows the final configuration; the trajector is inside the landmark. The fact that the process enter is made up of an infinite number of states, each temporally following the other, has been indicated by using the three dots between the three components in Figure 5. Finally, the identity of the landmark/trajector of an arbitrary state in time with the landmark/trajector of any preceding or following state has been indicated by way of a dotted line connecting any instance of trajector/landmark.

Summary scanning obtains when, for example, we observe the flight of a ball and then describe its trajectory by drawing a line reflecting its perceived shape. To do this, we have to summarise over all the individual positions, mentally superimposing them to form the shape gestalt. Summary scanning is relevant to non-verbal relations (e.g. into) and nominal predication (e.g. fall in He took a fall). Figure 6 shows the difference between sequential scanning, Figure 6a, and summary scanning, Figure 6b, in the case of the vertical, downward motion of a ball (see also Langacker 1987:144):27

Figure 6. Sequential versus summary scanning

The contrast between summary and sequential scanning has not yet been the subject of psychological investigation (Langacker, personal communication) and, particularly in the case of motion prepositions like into and to, the notion of summary scanning may not be regarded as satisfactory by the reader: in what sense can we say that into (vs. enter) is linked to a gestalt perception? Since this question seems to me no trivial one, I will ignore the difference between summary and sequential scanning as the decisive factor underlying the contrast between complex atemporal relations and processes. More modestly, I will resort to the rather “traditional” criterion of separating verbs from prepositions on the basis of the ability of the former to be inflected for tense and/or aspectual features (i.e. a formal rather than cognitive criterion). Needless to say, such a property might be shown to be cognitively grounded (as hypothesised by Langacker), but research into this area is much needed.

27 More modestly, I will resort to the rather “traditional” criterion of separating verbs from prepositions on the basis of the ability of the former to be inflected for tense and/or aspectual features (i.e. a formal rather than cognitive criterion).
Introduction

2.3. Composite structures

When two or more symbolic structures combine to form a more elaborate expression (e.g. tall and man in tall man), Cognitive Grammar speaks of there being a grammatical valence relation between them. The structures that combine to form the more complex expression are referred to as component structures (e.g. tall and man) and the integrated entity that results as the composite structure (e.g. tall man). Hence, integration can be defined as "[t]he combination of component structures (effected by correspondences between their subparts) to form a composite structure" (from Glossary in Langacker 1987). The term grammatical construction is applied to both the component structures, their mode of integration, and the resulting composite structure.

Consider, for example, the complex noun the cat under the table. This expression results, among other things, from the integration (or composition) of under and the table to form the prepositional phrase under the table. The two semantic components are [UNDER], a relational predication, and [THE-TABLE], a nominal predication (for ease of discussion let us ignore the contribution of [THE]). Their integration is diagrammed in Figure 7:

The integration of the two predicates depends on correspondence, i.e. the relation established between substructures of the components. The (schematic) landmark of [UNDER] is put in correspondence with the profile of the detailed predicate [THE-TABLE] as indicated by the relevant dashed line. The integrated structure is shown as the upper box in Figure 7 (the straight dashed line indicates equivalence, the slightly arced ones correspondence). Since [THE-TABLE] is more detailed in its specifications than the landmark of [UNDER], we say that [THE-TABLE] elaborates the landmark of [UNDER]. Further, the composite structure [UNDER-THE-TABLE] profiles a relation as does [UNDER]; hence, [UNDER] is said to be the profile determinant in the correspondence relation (the heavy line for the [UNDER] box indicates this).

The composite structure (CAT-UNDER-THE-TABLE) results from the integration of [CAT] with [UNDER-THE-TABLE], as shown in Figure 8.

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Figure 7. The integration of [UNDER] and [THE-TABLE]

Figure 8. The composition of [CAT] and [UNDER-THE-TABLE]
The trjector of the relational predication [UNDER-THE-TABLE] is elaborated by the detailed nominal predication [CAT]. The latter is also the profile determinant in the correspondence relation, as shown by the heavy line employed for the picture of the cat in the diagram at the top of Figure 8. Profile determinacy is no automatic matter, though. In the example under discussion, [CAT], not [UNDER-THE-TABLE], is the profile determinant. On the other hand, in a sentence such as The cat is under the table the profile determinant is the relational predicate [UNDER-THE-TABLE]. In either case, cat elaborates the schematic trjector of the relational predication under the table, but only in the latter case is under the table the profile determinant.

3. Preview

The book is organised as follows. Chapter 2 discusses the “traditional” definition of resultative phrase (i.e. Levin 1993’s definition). Such a definition is shown to be unsatisfactory in that some constructions are difficult to categorise as resultative constructions (e.g. The door slid shut, The river froze solid, The truck rumbled into the driveway, Mary limped into the room) despite their showing (non-casual) similarities to Levin’s resultative construction. To obviate such problems, the notion of change phrase is introduced. Such a (broad) notion allows us to group together a variety of constructions with distinctive properties but sharing a common core; they contain a nonverbal phrase that specifies a change event, independently of the notions of causality (e.g. The river froze solid vs. The kettle boiled dry), lexical argument realisation (e.g. Mary limped into the room vs. Mary laughed into her drink), orientation (Sally pounded the metal, flat, vs. We played leapfrog [across the lawn] vs. She rode the horse [to town]), and the distinction between states and positions.

Chapter 3 offers an analysis of transitive causative change constructions (i.e. Levin’s transitive resultative constructions) in terms of subcategorised versus unsubcategorised objects. Building on Rivière (1995), I show that subcategorised objects are not necessarily realised in the constructional object slot (e.g. They frightened an admission out of him, which is called an asymmetric resultative construction). Further, the combination “object plus change phrase” (i.e. what I call the change complex) is shown to be the primary source of meaning in a change construction. Such a combination can have either an allative or an ablative meaning (e.g. They frightened him into an admission vs. They frightened an admission out of him).

Chapter 4 points out that subcategorised objects of transitive verbs may not be inherited at the constructional level at all (e.g. Vialli headed Chelsea in front). I propose that the relevant verb is construed as an emission verb. Further, it is underlined that restrictions on change constructions do not only depend on the activation of either a motion scenario (e.g. Sue kissed the anxiety away [from Tom]) or an emission scenario (e.g. Vialli headed Chelsea in front), but also on the choice of the change phrase. The selection of adjective phrases (in causal change constructions) is a matter of degree (see Verspoor 1997) and cannot be captured by a formal system à la Wechsler (2001). I propose that one of the relevant generalisations is the “part-whole affectedness generalisation”. Only those adjectives are used which potentially apply to every part of the affected entity (cf. John hammered the metal flat vs. ??John hammered the metal triangular). It is also suggested that temporal dependency between subevents depends on the notion of animacy and that resultative adjectives refer to objective properties (i.e. the objective affectedness generalisation).

In chapters 5 and 6 I propose that change constructions be linked to three schemas: the Force Change Schema (e.g. Sue kissed the anxiety away from Tom), the Event Change Schema (e.g. The clothes dried wrinkled), the Event Force Change Schema (resulting from the interaction, or blending, of the first two and appropriate for sentences such as Sally punched out at seven o’clock, Sally slammed off into her office, and The bullet tore into her leg). All three schemas are shown to have both causal and noncausal variants (contra Rappaport Hovav and Levin 2001), as well as to make use of different integration strategies (i.e. compositional flexibility). Chapters 5 and 6 also detail change constructions which are not usually discussed in the lit-
Chapter 2

Resultative constructions and change constructions

This chapter discusses the inadequacy of the “traditional” definition of resultative phrase (i.e. Levin 1993’s definition), see section 1, and argues for the need to introduce the notion of change phrase, see section 3. Further, it contends that so-called transitive resultative constructions (i.e. causative transitive change constructions) are cognitively grounded, being a variant of Langacker’s billiard-ball model, see section 2. This chapter also addresses the questions of temporal dependency (or homomorphism in the sense of Wechsler 2001) and causality between the two subevents making up resultative sentences. It shows that temporal dependency rests on the notion of visibility, see section 1.1, and causality (to be divided into superordinate and subordinate causality, see section 1.2) depends on the conceptual distance between the two subevents. Finally, it proposes that change phrases can be sublexically oriented, as with emission verbs (see section 3.2.1). It is argued that orientation for the change phrase depends on causality and animacy, see section 3.2.2.

1. Resultative phrases and constructions

The term resultative is usually employed in two senses, only one of which will be relevant to this work. On the one hand, it is used to refer “to those verb forms that express a state implying a previous event” (Nedjalkov 1988: 6). Hence, a sentence like John is sitting is categorised as a resultative construction because the verb form is sitting codes a state and implies the preceding event John sat down. On the other hand, linguists also regard the term “resultative” as referring to the notion of resultative phrase/construction as defined for example by Levin (1993). She terms resultative phrase (RP for short)
“an XP which describes the state achieved by the referent of the noun phrase it is predicated of as a result of the action named by the verb” (Levin 1993: 101). A resultative construction is therefore the construction in which the resultative phrase and the related verb appear. It is this sense of the term “resultative” which we will be dealing with here.

1.1. Transitive resultative constructions

Resultative constructions can be either transitive or intransitive. In this subsection I discuss transitive resultative constructions, deferring the analysis of intransitive resultative constructions to section 1.2.

Let us consider a well-known example of the resultative construction:

(16) John hammered the metal flat.

The resultative phrase in (16) is the adjective phrase (AP) flat since it is predicated of the noun phrase (NP) the metal and describes the state (of being “flat”) achieved by the metal as a result of the action expressed by the verb (i.e. “hammering”).

We can give an informal representation of the semantics of sentence (16) as follows:

(17) \text{SUBEVENT}_1: \text{John hammered the metal} \Rightarrow \text{SUBEVENT}_2: \text{the metal became flat}

The action of hammering the metal caused the metal (as indicated by the thick arrow “⇒”) to become flat. Therefore, resultative constructions such as (16) encode complex events; they result from the merger of two subevents, one causally related to the other. In (16), the two subevents in questions are the hammering-event, \text{SUBEVENT}_1, in (17), and the metal’s becoming flat, \text{SUBEVENT}_2 in (17).

(16) can also receive a temporal paraphrase, as in (18):
nal dependency obtains if the constructional object is a subcatego-

rised object.

(20) a. He ate himself sick.
b. *He fed the cat sick.

Sickness does not need to manifest itself during the process of eating. In other words, no temporal dependency is required between the eating event and the becoming-sick event. Since \textit{himself} in (20a) is not the object of the verb \textit{eat} used in isolation, at least under the intended interpretation, the temporal dependency requirement is satisfied and the sentence is acceptable. In (20b), on the other hand, the \textit{cat} is the object of the verb \textit{feed} in isolation, hence the construction inherits the temporal profile of the verbal event. This means that the coming about of sickness must unfold together with the feeding process. Since this is not (necessarily) the case, the sentence is not acceptable. If we replace \textit{sick} with the adjective \textit{full}, as in (21):

(21) He fed the cat full.

we obtain an acceptable example: the event of the cat’s becoming full is homomorphic to that of eating.

Not all authors agree on the optional character of temporal de-
pendency for resultative constructions with unsubcategorised objects. Goldberg (1995) states that temporal gaps are never allowed between two subevents and, commenting on (20a), writes that

[w]hen eat occurs in the resultative construction, the eating is necessarily inter-
preted as extending over the period of time leading up to the change into a state of being sick. That is, [(20a)] necessarily implies that the agent’s continuous eating made him sick; it cannot imply that the meal he ate made him sick. (Similarly, (22))

(22) Sam cut himself free.

cannot be used to mean that Sam cut himself, causing his captors to release him in order to clean him up. It must mean that he cut whatever bonds were preventing him from being free, thereby immediately gaining his freedom. (Goldberg 1995: 194)

Therefore, we seem to be left with a paradox. On the one hand, analysts like Rappaport Hovav and Levin (1999) and Wechsler (2001) argue that temporal dependency is not required for unsubcategorised-object cases; on the other, Goldberg (1995) seems to make the opposite claim. Note also that if the temporal dependency requirement is not correct, the explanation for the unacceptability of (20b) fails since the unacceptability of (20b) was motivated on grounds of the optional character of temporal dependency. Some observations are in order.

First, native speakers agree on judging sentences such as (20b) the more acceptable, the more they are employed or heard. This might hint at the problem of finding a plausible link between the event denoted by the verb and the event evoked by the adjective (see the end of this subsection for more details). If we agree on the (potential) acceptability of (20b) and the optional temporal dependency between feeding somebody and such an entity’s becoming sick, the temporal dependency requirement is contradicted. The use of a subcategorised object does not always imply temporal dependency.\footnote{The event described by the verb must be carried out in an above-the-norm fashion.}

Second, soreness, see (19a), and sickness, see (20a), refer to conditions which we know may take some time to develop and are not necessarily visible (versus flatness, see [16]).

Third, Goldberg’s reading of (20a) (i.e. the action of eating necessarily extends up to the coming into being of the state of being sick) is not agreed upon by any of the native speakers I have consulted. Rather, (20a) simply implies that the eating event took place in an excessive way. The \textit{above-the-norm} interpretation also holds true of (19a): the subject referent danced too much (according, of course, to some scale such as the dancer’s physical condition). Although a temporal gap between the event of eating or dancing and the event of one becoming sick or one’s legs becoming sore is possible, Goldberg is right in stressing that it is not the action of eating (or dancing) \textit{per se} that causes the resultant state.\footnote{Goldberg 1995: 194}
Fourth, there are unsubcategorised object cases where temporal dependency clearly does not obtain:

(23) Sam laughed himself out of his job.

The fact that Sam was sacked can have taken place some time after he laughed. (23) simply implies that the event of laughing was carried out in an above-the-norm fashion. On the other hand, it is undeniable that (16) and (22) both satisfy the temporal dependency requirement. But note that (16) contains the adjective flat which refers to a visible property and (22) contains the adjective free which ultimately refers to a position.

From the preceding observations we can conclude that the crucial factor for the existence of temporal dependency is not the use of a subcategorised versus unsubcategorised object but the (semantic) notion of visibility. In more detail, visibility requires temporal dependency:

(24) The temporal generalisation

If the resultative phrase refers to a position (e.g. free in [22]) or visible state (e.g. flat in [(16)]), such a position or state is attained, at worst, immediately after the end of verbal event (as in [22]). If the resultative phrase does not refer to a position or a necessarily visible state (e.g. sick, out of one’s job, which are, respectively, an internal state and an interpersonal state), then the attainment of such a state can take place after the end of the verbal event.

In the latter case, it seems that the verbal event is interpreted as having been carried out in an above-the-norm fashion. Such a reading is not only limited to negative contexts (e.g. to dance one’s feet sore, to eat oneself sick, etc.) but also occurs with positive results. Consider the following example:

(25) Sally danced herself to fame.

The natural interpretation of (25) is that Sally danced much better than other dancers (i.e. in an above-the-norm fashion).

Having shown that the notion of temporal dependency is not crucial for motivating the problematic status of (20b), *He fed the cat sick, we must propose an alternative explanation. (20b) may be unacceptable because we are forced to reinterpret the verb feed as indicating the giving of an excessive amount of food to some entity, which is very likely to correlate with such an entity ending up sick. We thus cancel the inference that one feeds somebody in order for the latter to be full, see (21), *He fed the cat full.* That is, feed is conventionally associated with the property full rather than the property sick. If we know that someone always gives too much to eat to their cat (so that feed becomes synonymous with overfeeding), then examples such as (20b) become acceptable.* I will refine on the temporal generalisation later on (see §4.3.1.3.1). For the moment, it is important to bear in mind that visible states and positions do not seem to be attained later than the instant when the causal action ends.

1.2. Intransitive resultative constructions

I now move on to examine the intransitive resultative construction, which is exemplified by Levin (1993) through the two sentences in (26):

(26) a. The door slid shut.
   b. The river froze solid.

Although the examples in (26) are classified as resultative constructions, it is not obvious whether they satisfy Levin’s (1993) definition, as it will emerge from the following two subsections. In particular, I will show that we need to distinguish between superordinate (or hyponymic) causality and non-superordinate (or hypernymic) causality in order to account for the variation in acceptability of causal paraphrases.
1.2.1. Verbs of manner of motion

Let us first consider the example in (26a), which contains the manner of motion verb *slide* (see Levin 1993 for a comprehensive list of verbs of manner of motion). It must be observed that the adjective *shut* is ambiguous as to the distinction between states and positions implicit in Levin’s definition. Intuitively, *shut* can be said to refer to a state (i.e. that of being shut), as required by the definition of resultative phrase. Nevertheless, we could also argue that it describes the position achieved by the door (i.e. the position “shut”). Still, the fact that *shut* can refer to a state suffices to qualify it as a potential resultative construction. More importantly, can we say that the door got shut as a result of the action of sliding? Levin’s definition seems intuitively to relate the verbal event and the final state expressed by way of the resultative phrase in causal fashion. If this is so, we note that a semantic representation for (26a) along the lines of (17), as in

(27) \[ \text{SUBEVENT}_1: \text{the door slid} \Rightarrow \text{SUBEVENT}_2: \text{the door became shut} \]

does not seem to express the meaning of (26a) satisfactorily. It is not the action of the door’s sliding *per se* that causes the door to become shut. Insofar as a causal link is perceived between the verbal event and the state expressed by *shut*, it is the fact that the door moved translationally, independently of the particular kind of movement involved (i.e. “sliding” in the example under discussion), that caused the door to become shut. This is illustrated in (28):

(28) \[ \text{SUBEVENT}_1: \text{the door moved} \Rightarrow \text{SUBEVENT}_2: \text{the door became shut} \]

In other words, a causal interpretation, even though it may not be the default one, can be perceived by the speaker on the basis of a taxonomic hierarchy. *Slide* is a hyponym or subordinate of *move* (translationally), to which *SUBEVENT}_2, being interpreted as referring to a change of state, is ultimately related causally. I will therefore say that causality obtains hypernymically or superordinately since *move* is a hypernym or superordinate of *slide*.

Of course, for superordinate causation to obtain, *SUBEVENT}_2 must be interpreted as referring to an abstract change, from the configuration “open” (i.e. “non-shut”) to the configuration “shut”. If *SUBEVENT}_2 were interpreted as referring to a change of position, we would have a tautology and, hence, no possible causal interpretation (“The fact that the door moved caused the fact that the door moved to the shut position”, where both the verb and the change phrase refer to the spatial domain). Consequently, under the interpretation of *shut* as denoting (movement towards) a location, the relation between the verbal event and the location expressed by *shut* is to be regarded as non-causal. *Shut* simply denotes, or specifies, the endpoint of a path.

Consider now the example in (29):

(29) Mary limped to the swimming pool.

(29) is similar to (26a), *The door slid shut*, in that it also contains a verb of manner of motion, although the phrase following the verb clearly denotes a position (i.e. it is not a resultative phrase in Levin’s 1993 sense). Nevertheless, it is important to analyse (29) alongside (26a) because it can shed some light on the notion of causality.

A paraphrase along the lines of (27) for (29) (i.e. *Mary limped ⇒ Mary ended up at the swimming pool*) is virtually unacceptable. On the other hand, a paraphrase along the lines of (28) (i.e. *Mary moved ⇒ Mary ended up at the swimming pool*) is acceptable. Finally, the reading in which *to the swimming pool* specifies the endpoint of a path depends on the categorisation of the verb *limp* as a verb of directed motion (i.e. as a verb indicating translational motion).

There is an important difference between *slide* and *limp*. The former necessarily implies translational motion, the latter does not. *Limp* ultimately refers to a property of its subject describing his or her way of walking (cf. the expressions *to have a limp*, *to walk with a limp*). The fact that *slide* is connected to directed motion may motivate the plausibility of a paraphrase such as (27) and, conversely, the lack of such a (strong) link for *limp* may explain the unavailability of
a similar paraphrase for the latter verb. The non-perfect status of (27) can be justified on the basis of the fact that slide focuses, anyway, on the manner of motion. Interestingly, verbs such as walk and run, which are often associated with directed motion, seem to be placed between slide and limp as far as the acceptability of paraphrases such as (27) is concerned. Walk seems to behave more similarly to slide than to limp and run appears to resemble limp more than slide.43

Figure 9. Degree of acceptability of causal paraphrases such as (27)

In conclusion, subordinate causal paraphrases of the type in (27) depend on the relative weight of the manner component implicit in the verb. The more a verb specifies a property of its subject referent (cf. limp), the less acceptable the subordinate causal paraphrase is. Both subordinate and superordinate causality, see (28), depend on the interpretation of the resultative phrase as referring to an abstract change (from “state A” to “state non-A”). Otherwise, the resultative phrase is interpreted as a specifier. The situation is summarised in (30):

(30) a. subordinate (or hyponymic) causality (cf. [27], the door slid ⇒ the door became shut):
   verb interpreted as denoting translational motion;
   RP denotes abstract change (i.e. change of state);

b. superordinate (or hypernymic) causality (cf. [28], the door moved ⇒ the door became shut):
   verb interpreted as subordinate or hyponym of move;
   RP denotes abstract change (i.e. change of state);

c. specifier interpretation:
   resultative phrase interpreted as referring to change of position

Directed uses of manner of motion verbs can sometimes be paraphrased with a temporal clause (e.g. Mary ran until she reached Tom’s house for Mary ran to Tom’s house). However, the unacceptability of *She limped until she reached the store (for She limped to the store) and the non-perfect status of ?She walked until she reached Tom’s house (for She walked to the store), if uttered out of the blue, demand some explanation. The acceptability of the until paraphrase probably depends on the implication that the action named by the matrix verb (i.e. limp, walk) will no longer be performed after the event named by the until clause has come to an end. For example, John stopped hammering the metal after it became flat, see (18), implies that John ended hammering the metal after it became flat. But this cannot usually be the case with limp and walk since the former focuses on a (relatively non-transient) property and the latter describes the default (i.e. non-transient) way in which people move. Nevertheless, if we imagine a competition whose stages involve (among other things) different ways in which its participants must move, sentences such as She limped until she reached the store and then walked until she reached Tom’s house are perfect. Incidentally, the temporal paraphrase underlines the directed use of manner of motion verbs in Romance languages such as Italian:

(31) Ho camminato fino alla stazione.
     (I)-have walked until at-the station
     ‘I walked to the station.’

(31) shows that, contrary to what is commonly reported (see Talmy 1975, 1985), manner of motion verbs can be used as directed motion verbs in Romance languages (see Slobin 1996); the location is combined with the verb by resorting to a temporal nexus (see also Filipovic 2001; Morimoto 2001; Stringer 2001 for a similar point). Italian uses the complex temporal preposition fino a (roughly corresponding to English until), which takes for its trajector the process named by the verb (i.e. walk) and for its landmark the location (i.e. station) reached by the subject referent.45
1.2.2. Verbs of change of state

The notion of causality between subevents is also problematic when we deal with examples such as (26b), *The river froze solid*, which contains the verb of change of state *freeze*. Rappaport Hovav and Levin (1999) and Rapoport (1999) point out that a semantic representation like (32) does not capture the meaning of (26b):

(32) SUBEVENT₁: the river froze ⇒ SUBEVENT₂: the river became solid

Since *freeze*, in the context of (26b), already means “to become solid”, the causal relation illustrated in (32) does not seem to work properly, amounting to a tautology. This observation also prevents (26b) from being satisfactorily paraphrased by means of an *until* clause (cf. *The river froze until it became solid*), which can only mean *The river froze until it all became solid*). Rather, *solid* specifies the degree of freezing the river was subject to and, indeed, it can be paraphrased as *completely*. I will therefore say that *solid* in (26b) is a specifier (see also [30c]) in that it specifies the point up to which the action named by the verb took place. In (26b), the whole river was affected by the freezing process. Support for such a semantic nuance comes, for example, from a phrase like *to be booked solid*, which means *to be fully booked*, and from the observation (see §5.1.3.2) that redundant information is avoided in resultative constructions (so that apparently redundant resultative phrases are interpreted as adverbial intensifiers). Still, (32) cannot be ruled out completely since it makes sense to ask “Why is the river solid?” and answer “Because it froze”. The availability of (32) seems, therefore, to depend on our world knowledge. (32) becomes acceptable if, for example, rivers become solid in ways other than by freezing or if we are not familiar with the effect(s) of freezing. In sum, the specifier/intensifier interpretation for the adjective in (26b) seems to be the default one but a causal interpretation in relation to the verbal event cannot be excluded *a priori*.

We conclude that despite Levin’s (1993) claim that (26a), *The door slid shut*, and (26b), *The river froze solid*, constitute instances of the intransitive resultative construction, such examples are, at best, difficult to reconcile with her definition of resultative phrase because the notion of “result of the action named by the verb” does not seem to apply satisfactorily to *shut* and *solid*. Nevertheless, in some cases such as (33)

(33) a. The kettle boiled dry.  
    b. Sally bled to death.

it may be more reasonable to envisage a causal (or resultative) relationship between the event expressed by the verb and the state coded by way of the adjective phrase *dry* in (33a) and the prepositional phrase (PP) *to death* in (33b). Admittedly, these examples are amenable to temporal interpretations such as “The kettle boiled until it became dry” and “Sally bled until she died”. However, we can also paraphrase them by saying that “the fact that the kettle boiled caused it to become dry” and “the fact that Sally bled caused her to die”, thus emphasising a causative interpretation for (33a-b). This is so because *dry* does not specify the change of state implicit in the verb *boil*, as was the case with *shut* in (26a), *The door slid shut*, and *solid* in (26b), *The river froze solid*. This also holds true of (33b), *Dry and to death point at possible, but not necessary, consequences of the actions associated with the verbs. A kettle can boil without becoming dry and one can bleed without ending up dead, but a sliding door will necessarily undergo a change of position and a freezing river a change of state. Hence, *shut* tends to be interpreted as a specifier and *solid* as a specifier/intensifier. On the other hand, *dry* and *to death* in (33) are not necessarily implicit in the scenarios associated with the verbs in question (i.e. their *activation potential* is weaker), thus not restricting the plausibility of the causal interpretation between the two relevant subevents, boiling and becoming dry in (33a) and bleeding and dying in (33b).
1.3. Conceptual distance

Not all intransitive sentences containing an additional phrase (i.e. a phrase not required, or subcategorised, by the verb) which expresses a state appear to be classifiable as resultative constructions in the sense of Levin’s (1993) definition. In particular, the problematic cases involve verbs of manner of motion and verbs of change of state. As far as the latter group of verbs is concerned, the notion of causality (versus that of temporality as expressed by the paraphrases with until, see [19b] for example) seems to be particularly apt if the conceptual distance between the meaning of the verb and that of the nonverbal expression is great (e.g. the latter does not rephrase the meaning of the verb). Put differently, the verb can be a change of state verb and the resultative phrase may not receive a specifier interpretation. Consider (34):

(34) a. The vase broke into pieces.
   b. The kettle boiled dry. (= [33a])
   c. The clothes dried wrinkled.

In (34a), the prepositional phrase into pieces specifies that the pieces into which the vase broke were numerous (vs. The vase broke into two). The adjectives dry and wrinkled in (34b) and (34c), on the other hand, make explicit two possible consequences of the events of the kettle’s boiling and clothes’ getting dried, but are not implicit in the verbs’ meaning. Interestingly, the verb dry is a change of state verb as much as break is and yet it can be combined causally with an adjective phrase because of the conceptual distance between the adjective and the verb.

The notion of conceptual distance deserves further scrutiny. One might argue that the conceptual distance between limp and to the swimming pool in Mary limped to the swimming pool is greater than that between slide and off the table in The ice cube slid off the table because the event of motion denoted by limp evokes translational motion more weakly than does slide. Hence, a causal paraphrase might be expected to be more appropriate for limp than for slide. As a matter of fact, I pointed out (see section 1.2.1) the need to distinguish between superordinate and non-superordinate causality. Superordinate causality obtains if the alleged resultative phrase is interpreted as referring to a transition (from a state A to a state non-A) and the verb is regarded as an instantiation of move. A paraphrase such as “The fact that the ice cube moved caused the fact that the ice cube moved off the table” does not make any sense if the verb move is interpreted spatially in both cases (cf. “The fact that the ice cube moved caused the fact that the ice cube moved”). On the other hand, the paraphrase “The fact that the ice cube moved caused the fact that the ice cube moved from a position on the table to a position off the table” does. This is so because the second instance of move in the paraphrase is taken to refer to an abstract change, not to motion itself (cf. “The fact that the ice cube moved caused the fact that the ice cube moved”). We conclude that in terms of superordinate (or hypernymic) causality no difference exists between the two examples under examination. Both limp and slide can be taken as subordinates of move and the prepositional phrase can be interpreted as referring to a(n abstract) transition.

Subordinate (or hyponymic) causality also requires that the prepositional phrase be construed as denoting an abstract transition (if not, the prepositional phrase is analysed as a specifier). But if the notion of causality is relevant, the verbal event must have a sufficient (i.e. default) potential for bringing about a change of state. This, of course, obtains easily if the verb already codes a change (e.g. slide, dry) because one change can be associated with another without much difficulty. On the other hand, it is harder to causally relate a static property (such as limp) to a change of state. Hence the difference in acceptability for subordinate causality.

Finally, as already hinted at above, if the non-verbal phrase is taken as referring to translational motion, the causal paraphrase is blocked by the fact that both the verbal event and the non-verbal phrase refer to the same domain (i.e. physical space).
1.4. Paraphrases for the resultative construction

We have observed that the potential for a causal relationship between two subevents in syntactic structures of the type in (16), John hammered the metal flat, and (26a-b), The door slid shut and The river froze solid, depends on the conceptual distance between the two: the greater the distance, the greater the potential for a causal interpretation. It has also been pointed out that (some) resultative sentences are amenable to a double interpretation, in terms of both causality and temporality. For example, the meaning of (35) has been paraphrased in two different ways in the two dictionaries quoted in (36).

(35) to cry oneself asleep (e.g. He cried himself to sleep)

The temporal interpretation is of course available when the verbal event is non-punctual and the non-verbal phrase does not merely restate the meaning of the verb, as with solid in (26b). Hence, a sentence like He shot him to death can be paraphrased with He shot him until he died only if more than one instance of the shooting event took place. Finally, the temporal interpretation can occur independently of the plausibility of the causal relationship between the verbal event and the non-verbal event (cf. The door slid until it got shut).

Some resultative sentences are also amenable to a consecutive interpretation. For example, (33a) and (33b) can be rendered, respectively, as “The kettle boiled for so much time that it became dry” and “Sally bled so much that she died”. Of course, the consecutive interpretation is a subcase of the causal one. On the basis of the discussion in section 1.1 and the examples in the previous subsections, we can conclude that the consecutive reading obtains by default in un-subcategorised object cases (with the above-the-norm meaning) and with intransitive constructions containing change of state verbs. Still, the consecutive reading can also be appropriate for subcategorised examples, as in (37):

(37) ... but not before the bird had been hunted to extinction. (Siân Rees, The Floating Brothel, 2002: 192)

This is so because the bird in (37) stands for a replicate mass (see Langacker 1991: 76-80 on the use of this term) to which the event of hunting is applied.

1.5. Summary

Resultative constructions can be either transitive or intransitive. In the former case, if the resultative phrase refers to a visible condition (i.e. either a position or a state), temporal dependency between the verbal event and the change of state seems to obtain (cf. John hammered the metal flat, Sam cut himself free). If the resultative phrase does not refer to a visible condition, temporal dependency does not seem to be strictly required and the verbal event seems to refer to an action carried out in an above-the-norm fashion (cf. He ate himself sick, Sally danced herself to fame). We can add that, at least on the basis of the example considered above – see (33), The kettle boiled dry and She bled to death, and (34) (e.g. The clothes dried wrinkled) – visibility implies temporal dependency also for intransitive examples.

The discussion of intransitive examples containing verbs of manner of motion has shown that the availability of a (non-superordinate) causal paraphrase for such cases is a matter of degree and that the hypothetical resultative phrase is perhaps best interpreted as a specifier of the verbal event.

The implausibility of the causal reading also involves examples containing verbs of change of state (such as break). Note that this observation also regards transitive examples (cf. He cut the meat into two) as we will see later on in §5.1.3.1. Still, sentences containing
verbs of change of state can receive a causal interpretation if the conceptual distance between the verb and the alleged resultative phrase is great. Finally, it has been argued that three paraphrases may be relevant to resultative constructions: the causal paraphrase, the consecutive paraphrase (a subcase of the former), and the temporal paraphrase (which may, in some cases, be more appropriate than a causal one).

2. The billiard-ball model

In this section, after having considered the syntactic realisation of the resultative phrase (see section 2.1) and the problematic distinction between states and positions (see sections 2.2 and 2.3), I contend that the notion of manipulability is crucial in order to satisfactorily characterise the conceptual integration of subevents in resultative constructions (see section 2.4). In more detail, I introduce the Force Change Schema, which captures the semantics of the transitive resultative construction in a Cognitive Grammar format (see section 2.5). The Force Change Schema is analysed as a variant of Langacker’s archetypal model dubbed billiard-ball model.

2.1. The syntactic realisation of the resultative phrase

English allows for various options as regards the syntactic realisation of the resultative phrase. A resultative phrase can correspond to an adjective phrase, a prepositional phrase, a noun phrase, and an adverbial phrase (AdvP) as illustrated in (38), (39), (40), and (41) respectively (the relevant resultative phrases have been put in square brackets). (38a), (39a), (40a), and (41a) are transitive resultative constructions; (38b), (39b), (40b), and (41b) are intransitive resultative constructions.

(38) RP=AP
a. He danced his feet [sore].
   b. The kettle boiled [dry].

(39) RP=PP
a. She rocked the baby [to sleep].
   b. He bled [to death].

(40) RP=NP
a. He painted the house [a beautiful shade of green].
   b. The door opened [a crack].

(41) RP=AdvP
a. Tom painted the room [beautifully].
   b. The river froze [beautifully].

(38) and (39) have already been discussed. In (40a), the house became green because the subject referent painted it; (40b) implies that the door ended up in the state of being slightly open. (41a) has two possible interpretations. The room may be regarded as beautiful as a result of the fact that Tom painted it. Alternatively, beauty is ascribed to the paintwork alone (i.e. the room might still be ugly). Finally, the river in (41b) was judged beautiful as a result of its freezing.

In this monograph I will consider mainly those cases where, given a resultative phrase XP, paraphrases such as “a (for an arbitrary argument) is/goes XP” are possible. In other words, (40b) is excluded because *The door is a crack is impossible; the same holds good of (41a) and (41b): *The room was beautifully and *The river was beautifully.

2.2. States and positions

Levin’s (1993) definition excludes changes of position. This means that the bracketed phrases in (42)
(42) a. Frank sneezed the tissue [off the table].
b. The audience laughed me [off the podium].

cannot be analysed as resultative phrases since they refer to positions, rather than states. As a matter of fact, Goldberg (1995: 152) takes sentences like (42) as instantiations of what she calls the English Caused Motion Construction (CMC): “[t]he basic semantics of this construction … is that the causer argument [i.e. the subject in (42)] directly causes the theme argument [i.e. the object in (42)] to move along a path designated by the directional phrase”. In (42a), Frank sneezed, thus causing the tissue to end up off the table. In (42b), I got off the podium because I could not stand being laughed at by the audience. The distinction between states and positions leads Goldberg (1995, chapter 3) to view the resultative construction as a metaphorical extension of the Caused Motion Construction. In other words, states are analysed as metaphorical positions.

Goldberg’s Caused Motion Construction, similarly to Levin’s resultative construction, has also an intransitive variant, where only the theme argument and the path are coded, as in (43):

(43) a. John limped into the room.
b. John ran into the room.
c. The fly buzzed out of the window.

(43a-b) illustrate the directed (or directional) use of manner of motion verbs and (43c) shows that verbs of sound emission can be coupled with a directional phrase. The question of causality must also be addressed here as we did in connection with (26) and (33) above. We have already noted (see section 1.2.1) that it is not the verbal event per se which is causally linked to the displacement subevent alluded to by the prepositional phrase in (43a) and (43b). John ended up in the room because limp and run can be associated (via a taxonomic relation) with translational motion, in similar fashion to the interpretation of (26a). More complex is the case of (43c). Insects can buzz even without moving. Still, we might perceive a strong link (up to causality) between motion and the sound emitted by the fly. Interest-

ingly, if a causal link is supposed to exist between the verbal event and the motion event (i.e. the subevent coded via the prepositional phrase), their relation is the opposite of the one implicit in (16), John hammered the metal flat. In (43c), the motion event determines the verbal event; in (16), the verbal event determines the motion event.

Although Goldberg (1995) distinguishes between resultative constructions and Caused Motion Constructions, there are various reasons to suspect that the whole issue is more complex than this sharp distinction might imply.

2.3. Reverse causal ordering

Slobin (1996) observes that cross-linguistically there seems to exist a correlation between directed uses of motion verbs (which take positional prepositional phrases) and the availability of resultative constructions. For example, all Germanic languages have both resultative constructions and Caused Motion Constructions, whereas Romance languages do not.

As a matter of fact, some analysts do not distinguish between the resultative construction and the Caused Motion Construction. For example, Tortora (1998) uses the term “resultative” to simply refer to an endpoint, independently of the dichotomy state versus position, so that a sentence like (44)

(44) We arrived at the airport.

is classified as a resultative construction. Quite interestingly, Levin herself in a work co-authored with Rappaport Hovav, namely Rappaport Hovav and Levin (1999), regards (45a) and (45b), her (26a) and (26b) respectively,

(45) a. Tracey danced out of the room.
b. The truck rumbled into the driveway.
as resultative constructions, thus contradicting both her 1993’s definition and Levin and Rappaport Hovav (1995). (45a) contains a manner of motion verb and involves the notion of causation only indirectly, via the association established by the conceptualiser between dancing and translational motion, as noted above for (26a), The door slid shut, and (43a), John limped into the room. (45b) illustrates the directional use of a sound emission verb, see (43c) above, and codes a reverse causal ordering: the truck’s motion into the driveway caused the rumbling sound.

The distinction between states and positions is sometimes a matter of degree. The prepositional phrases in (46) denote spatial configurations that do not describe actual spatial positions but must be interpreted metaphorically as states: “I was angry” in (46a) and “The soles were worn out” in (46b).

(46) a. He drove me up the wall.
b. We ran the soles off our shoes.

Further, I will show (see §5.1.4) that the constraints to which both the (transitive variants of the) resultative construction and the directed uses of motion verbs are subject (see Goldberg 1995) are similar, in that they evoke a force dynamics scenario (in the sense of Langacker 1991, see section 2.5 and §5.1.4). We conclude that we need to develop a representational system able to capture the similarities existing between resultative examples in the sense of Levin (1993) and spatial examples such as (45). The postulation of a metaphorical link between the two (from the latter to the former) is not sufficient for at least two reasons. First, examples such as (45b) show a reverse causal order for their constitutive subevents if compared to sentences such as (16), John hammered the metal flat. Second, although a metaphorical link may be what historically motivated the rise of resultative (i.e. abstract) constructions, there is no reason why (or, at least, it has not been demonstrated so far that) speakers still perceive it. I will therefore not distinguish between the Caused Motion Construction and the resultative construction as two separate constructions, but rather regard them as being arranged along a continuum, although clear-cut cases (i.e. states vs. positions) obviously exist and may give rise to schematic units in their own right (as we proceed from the general, highly schematic notion of what I will call change construction to those cases which employ specific verb classes and/or specific non-verbal phrases).

2.4. Causality and manipulable entities

An interesting difference between Levin’s (1993) definition of resultative construction and Goldberg’s (1995) definition of Caused Motion Construction lies in the fact that the former appeals to the notion of “action named by the verb” (i.e. the verbal event) as the source for the state achieved by the affected entity, whereas the latter ascribes the resultant position predicatated of the affected entity to a causer. Since an event cannot be thought of independently of the entities involved in it (see §1.2.2), we can take the two definitions as reflecting a difference in emphasis as far as the notion of causal event is concerned. On the one hand, Levin focuses on the verb as encoding an event which causes another event to occur; on the other hand, Goldberg highlights the role of the entity which carries out the event described by the verb and she refers to such an entity as a causer since it is responsible, by carrying out the event in question, for another event to occur. Still, I would like to contend that, leaving aside the conceptual difference between states and positions (that is, interpreting both the resultative construction and the Caused Motion Construction as instantiations of the same pattern), neither view is correct. Consider the following examples (from Levin and Rappaport Hovav 1995):

(47) a. *During the spring thaw, the boulders rolled the hillside bare.
(intended meaning: “The boulders caused the hillside to become bare by rolling” or “The fact that the boulders rolled caused the hillside to become bare”)

The billiard-ball model
b. *The rice slowly cooked the pot black.
(intended meaning: “The rice caused the pot to become black by cooking slowly” or “The fact that the rice cooked caused the pot to become black”)

c. *The snow melted the road slushy.
(intended meaning: “The snow caused the road to become slushy by melting” or “The fact that the snow melted caused the road to become slushy”)

The examples in (47) are impossible even if, as shown by the intended reading paraphrases, either the verbal event can be construed as a cause for the event associated with the resultative phrase (i.e. the adjective at the end of each sentence) or the subject of each sentence can be viewed as a causer. The impossibility of such sentences boils down to the fact that causality is not a sufficient condition for a resultative construction to be used. Let us consider (47a) as a matter of exemplification. In theory, the verb \textit{roll} in (47a) could be predicated of either the subject or the object. The latter case is excluded since it is not what the sentence is intended to signify. If \textit{roll} is predicated of the subject, then the object is not construed as a manipulable entity: the manipulable entity is the subject referent itself, which is subject to some force (i.e. gravity) causing its displacement. Although we can envisage a causal relation between the two subevents in question (the subevent of the boulders’ rolling and the subevent of the hillside’s becoming bare), the association of a force scenario (i.e. the exertion of force by an entity onto another) with the subject rather than with the object seems to be crucial in prohibiting the acceptability of (47a). In other words, the problem with (47a) is the fact that the object referent cannot be construed as an entity manipulated by the subject referent, that is, the object referent cannot be construed as an affected entity. Indeed, resultative constructions and Caused Motion Constructions are possible only if the object referent can be construed as an affected entity. Consider:

(48) a. She frightened me into action.
b. *She loved me into action.
c. I love you to distraction.

(48b) is not possible because one can love someone without the latter’s knowing about it and, therefore, being affected by it. If this is the case (i.e. we do not usually conceptualise love as a force acting upon the loved person), the object referent, contrary to what happens in (48a), cannot be construed as a manipulable entity, thus rendering the sentence impossible. Interestingly, the lack of object orientation allows suitable nonverbal elements (such as \textit{to distraction}) to be predicated of the subject, as in (48c). Similarly, the contrast in (49) (from Halliday 1994: 148)

(49) a. *They crossed the field flat.
b. They trampled the field flat.

can be motivated by relying on the observation that \textit{trample} implies that something is done to an entity (i.e. \textit{the field}), whereas \textit{cross} does not. The latter verb simply denotes (a particular kind of) movement, without implying the exertion of any force. Its object, \textit{the field}, simply “measures out” the event of crossing (i.e. it specifies the path traversed by the subject referent).

Going back to (47), we note that verbs of the \textit{roll} class (i.e. middle or ergative verbs, see Kemmer 1993), when used in a transitive resultative construction, refer to what happens to the constructional object, in keeping with the observation that causality between subevents in a resultative construction must be based on an energy transfer from subject to object:

(50) I rattled out a box of candles […]. (Iris Murdoch, \textit{The Sea, The Sea}, 1999: 221)
(meaning: “I pulled out a box of candles, thus making it rattle”)

\textit{Rattle} in (50) describes the sound emitted by the box (or the candles) as it was moved out of the location elliptically alluded to by \textit{out}.
In sum, causation between subevents is not a sufficient condition for the licensing of resultative constructions and Caused Motion Constructions. The object referent must be construed as a manipulable entity in relation to the verbal event and (hence) the subject referent.

2.5. A first schematic representation

The observations made in the previous subsection concerning the notions of causality and manipulability are an integral part of the schema I propose to describe the basic semantic import of transitive resultative constructions such as *John rocked the baby to sleep*. Such a schema is called the Force Change Schema (FCS) and is illustrated in Figure 10.

![Figure 10: The Force Change Schema](image)

The semantic pole of the Force Change Schema is a composite structure which results from the integration of two components, the event component (E or E component) and the change component (C or C component). The phonological pole of the Force Change Schema corresponds to a phonological realisation of NP₁ V NP₂ XP, where NP₁ is the constructional subject, NP₂ is the constructional object, and XP is what is usually known as a resultative phrase.\(^{56}\)

The E component in Figure 10 is a force component (F or E component). It shows an entity exerting a force onto another. Since the forcible interaction between the two is construed as a unidirectional\(^{57}\) energy flow, represented as a thick arrow,\(^{58}\) I will refer to the energy source as a manipulator (M) and to the energy sink as a manipulee (m).\(^{59}\) In the example given in Figure 10, the unidirectional energy flow from M to m corresponds to the rocking carried out by the subject referent (the manipulator) upon the baby (the manipulatee). The C component depicts an entity, which I will call theme (TH), as moving literally or metaphorically, as indicated by the simple arrow (for path), from a location S (source) into a location T (target). This is intended to express the fact that TH undergoes a change of either state or position – the distinction between states and positions is ignored in the FCS – from the initial state/position S to the final state/position T. In Figure 10, TH is the baby and T is the state of being asleep (S being the state of not being asleep).\(^{60}\) Both the source and the target have been depicted as circles with an "X" inscribed in them so as to make them neutral as regards the distinction between states/positions conceptualised one-dimensionally (that is, as points, which is what the "X" stands for) and states/positions conceptualised two- or three-dimensionally (which is what the circle stands for). The object referent of to (i.e. *sleep* in the example under examination), for example, usually implies a "point" construal, whereas into implies the existence of at least two dimensions. Interestingly, if *sleep* is modified by an adjective, the preposition which introduces it is into, as in (51):

\[(51)\] She rocked him into \{a deep sleep/an easy sleep\}.

It seems that the expression *to sleep* simply indicates a transition towards a state (that of being asleep). If *sleep* is modified, the idea of transition gives way to that of movement into a particular region or space (i.e. the one qualified by the adjective). It must also be noted that *to sleep* is hardly ever replaced by *into sleep* with the verb *rock*,\(^{61}\) but frequently alternates with the latter option in conjunction with the verb *lull*. In other words, the association of a prepositional
phrase with a verb may be a matter of lexicalisation (but see §4.3.1.3.2 and §4.3.2 for some general principles).

In sum, the diagrammatic representation for \( S \) and \( T \) is neutral as regards dimensionality. If one wants to express dimensionality, one has simply to select either the circle for states/positions conceptualised as having more than one dimension or the X for states/positions conceptualised as having no dimensions. Hence, the difference between *John rocked the baby to sleep* and *John lulled the baby into sleep* can be visualised as follows:

![Figure 11. The target as a point](image)

In Figure 11 *sleep* is conceptualised as a point; in Figure 12 the selection of the preposition *into* imposes a non-zero dimension construal.

Going back to the description of the Force Change Schema, we note that the identity of \( m \) and \( TH \) has been represented by connecting the two through an integration line (the dashed line), which allows for the merger of the \( F \) component and the \( C \) component. The upper box in Figure 10 depicts the resulting structure: \( M \) exerts a force onto \( m \) thus causing it to change state/position. \( S \) has been omitted for simplicity’s sake because it is not directly mentioned in the syntax. Moreover, \( S \) in the change component has not been emboldened. This is intended to visually represent the fact that the example in question focuses on the final state achieved by the theme, without explicitly specifying its previous state.

Neither the event component nor the change component are represented as a rectangular with a perimeter line heavier than the other (cf. Figure 7 in chapter 1). This is intended to reflect the fact that both components contribute equally to the semantics of the construction. Neither is intrinsically the profile determinant since both are relational predicates, although the \( F \) (i.e. \( E \)) component may be more prominent than the \( C \) component and hence be taken *a posteriori* as the profile determinant (see the discussion of *killer bee* in chapter 1, note 32, and the discussion of *throw* below).

The reader may also have noted that I have omitted the dotted (or dashed) line indicating, for example, the identity between the manipulator in the force component and the manipulator in the upper box in each of the diagrams above. This has been done for simplicity’s sake. Similarly, for ease of representation, I have ignored the temporal profile of the components of the Force Change Schema (see section 1.1 and §4.3.1.3.1 for discussion of this topic).

The linear order of the two boxes below in each diagram is also to be taken into account because it captures the fact that it is the \( E \) component that determines the \( C \) component, as was pointed out in the discussion of the sentence *John hammered the metal flat* at the very outset of this chapter.
Langacker himself hints at the conceptual necessity of distinguishing between an event component and a change component (what he calls subtrajectories).

Dealing with the semantic pole of the verb *walk*, Langacker observes that

> [if we refer to the actions carried out by its trajector as a trajectory, it is readily seen that this trajectory is complex and resolvable into two component subtrajectories [emphasis mine]. One subtrajectory is reflexive: the trajector’s legs move relative to one another in a characteristic, cyclically repetitive manner. The other subtrajectory, nonreflexive, consists of the trajector’s motion through space relative to his surroundings. (Langacker 1987: 268)\]

He then observes that the predicate 

> [THROW] can also be analysed in terms of two components, [X R₁ Y] and [Y R₂ Z], where R₁ and R₂ are two subtrajectories. They differ from the subtrajectories for

> [WALK] in that the former imply different subtrajectors. [X R₁ Y] involves an energy transfer from subtrajector X to Y, [Y R₂ Z] has to do with the motion of subtrajector Y in relation to its surroundings (Z) as a result of the energy transfer from X to Y. Crucially, [X R₁ Y] is regarded as being more prominent than [Y R₂ Z]. For example, one can describe [X R₁ Y] as an ongoing event, but not [Y R₂ Z]. One can say *X is throwing Y* even though Y has not left X’s hand yet, but one cannot use such a sentence to refer to the scenario where Y has left X’s hand but is still in midair (see Langacker 1987: 268).

The difference in prominence of the two subtrajectories is reflected in the difference in prominence of their participants. Subtrajector X is more prominent than subtrajector Y in that X functions as the overall trajector for the predicate. On the other hand, Y, even though it can be analysed as a trajector with respect to Z, is only a landmark in [X R₁ Y]. Similarly, it has a secondary role in the whole predicate (see Langacker 1987: 268).

The discussion above therefore makes it clear that Langacker’s [X R₁ Y] component can be equated to the event (i.e. force) component in Figures 10 to 12, whereas the [Y R₂ Z] component can be equated to the change component in Figures 10 to 12.

It is worth pointing out that the head of the prepositional phrase *to sleep* (i.e. to in Figure 11) has been mapped onto P and *sleep* is taken as an instantiation of T. The representation for the change component, in other words, is meant to be isomorphic to physical motion by way of the distributed mapping *to* P and *sleep* T.

It must also be underlined that the Force Change Schema is reminiscent of, and indeed can be thought of, as an abstract variant of the archetypal cognitive model dubbed *billiard-ball model* by Langacker (1991: 13). He suggests that

> [we think of our world as being populated by discrete physical objects. These objects are capable of moving about through space and making contact with one another. Motion is driven by energy, which some objects draw from internal resources and others receive from the exterior. When motion results in forceful physical contact, energy is transmitted from the mover to the impacted object, which may thereby be set in motion to participate in further interactions. Let us refer to this way of thinking about the world as the billiard-ball model. (Langacker 1991: 13)]

Therefore, I will say that the Force Change Schema is a cognitively grounded schema\(^6^2\). Of course, the force component abstracts away from a detailed description of the forcible event in question. For example, the event of rocking a baby (usually) involves (a) the baby’s being positioned in a cradle or held in our arms and (b) the use of our hands to move either the cradle (in a non-telic way) or the baby directly if it is in our arms. Such fine-grained distinctions are ignored in the event component within the Force Change Schema. What needs to concern us here is the existence of an energy flow from an entity to another, i.e. an entity is doing something to another entity.

Finally, the Force Change Schema does not simply establish a causal relationship between two components (i.e. F, the rocking event, determines C, the baby’s falling asleep, as indicated by their linear arrangement), but also requires, by being linked to the billiard-ball model, the relevant scene to be construed in terms of a forcible interaction between two entities (see the E component). This observation turns out to be crucial in explaining the unacceptable examples in (47) above. We have seen that the causal relationship existing
between two events (e.g. the rolling of boulders and the becoming bare of the hillside in [47a]) is not a sufficient condition to motivate the use of a resultative structure. The causing event in the Force Change Schema must be construed as a forcible interaction between two entities; given our world knowledge, however, the subject referents in (47) cannot be interpreted as manipulators.

It is important to spell out clearly the status of constructions such as the Force Change Schema within the “architecture” of grammar. It is well known that much recent research has focussed on the notion of construction. Section 2.2, for example, introduced Goldberg’s (1995) proposal concerning the existence of both a Caused Motion Construction and a Resultative Construction, illustrated again for convenience’s sake, in (52) and (53) respectively (examples from Goldberg 1995).

(52)  a. The wind blew the ship off course.
    b. The bottle floated into the cave.

(53)  a. She coughed herself sick.
    b. It broke apart.

The Caused Motion Construction implies a change of position (whether actual or intended, as in Pat asked him into the room) of either the constructional object, in the transitive variant (as in [52a]), or the constructional subject, in the intransitive variant (as in [52b]). The Resultative Construction, which is regarded as a metaphorical extension of the Caused Motion Construction, implies a change of state and also has transitive and intransitive realisations, see (53a) vs. (53b).

Goldberg points out that independent evidence can be provided for the existence of such constructions. She notes that in some cases, like (54), the meaning of the whole is more than the sum of the meaning of the parts.

(54)  a. Sue squeezed the rubber inside the jar.
    b. Sam urged Bill outside of the house.

Neither the verbs nor the prepositions in (54) “independently code motion” (Goldberg 1995: 158) and yet the object referents in (54) can be understood as (potentially capable of) moving along a path leading to the spatial configuration designated by the stative prepositional phrases inside the jar and outside of the house. Yet not all English speakers find a directional meaning possible for (54), regarding it, at best, as marginal. This does not imply, however, that constructions cannot be postulated within the linguistic system (because, the argument goes, the meaning of the whole corresponds to the sum of the meaning of its parts). In fact, the view that grammar includes constructions not as a by-product of the projection of lexical items but as independently existing units is a common assumption in cognitively oriented approaches to language theory (see Croft 2001 in particular). Within the framework of Cognitive Grammar, grammar is regarded as a structured inventory of conventional linguistic units (see §1.2.1). Conventional units (i.e. structures that a speaker employs in largely automatic fashion) include schemas which express the commonality of a given set of linguistic items and are not restricted to lexical elements. This also amounts to saying that grammar may include both a general schematic pattern, or constructional schema (e.g., a schema for the Resultative Construction), and some of its instantiations. Indeed, many resultative examples are lexicalised as pointed out by Verspoor (1997), from whom the examples in (55) are taken.

(55)  a. He danced himself to fame/*famous.
    b. He danced his feet to sore/*soreness.

In (55a) a prepositional phrase is used, whereas in (55b) an adjective phrase is selected even if the same verb appears in both cases.

2.6. Summary

Levin’s (1993) definition implies the distinction between states and positions and the existence of a causal link between the verbal event
and the event hinted at by the resultative phrase. We have seen, however, that, in analogy with what happened with the notion of causality, the distinction between states and positions may be a matter of degree (see sections 2.2 and 2.3). Further, we must distinguish between causality and manipulability (see section 2.4). Only those cases in which both relations obtain can be regarded as instances of what Levin (1993) calls *resultative construction*. I have also introduced the Force Change Schema, which describes, in a Cognitive Grammar format, the semantics of the resultative construction and which can be taken as a variant of Langacker’s (1991) billiard-ball model. Finally, I have pointed out that constructions need not be recognised as units within the grammar of a language only if their meaning is more than the sum of the meaning of their parts.

3. The change phrase

Section 2.3 underlined the fact that there seems to exist a relationship between the existence of resultative constructions in the sense of Levin (1993) and directed uses of manner of motion verbs (e.g. *limp*). If we compare Italian and English, we note in fact that there appears to be a whole of (English) constructions which do not occur in Italian (see sections 3.1, 3.2.1, and 3.3). On the basis of the similarities existing between such (English) constructions (i.e. the predication or specification of a change of state/position via a nonverbal element), I introduce the notion of change phrase (CP for short), see section 3.1, in order to account for their shared semantic content. In other words, the constructions to be dealt with in this section will be regarded as instantiations of a rather general schema comprising a phrase that predicates a change of state/position.

3.1. A host of constructions

Resultative constructions and directed uses of both manner of motion verbs and manner of sound verbs are generally impossible in Italian with the same syntax as in English (see Napoli 1992 for some exceptions and also Merlo 1989), as is shown in (56):

(56) a. Bill hammered the metal flat.
   a'. Bill ha appiattito il metallo a furia di colpi di martello.
   a''.*Bill ha martellato il metallo piatto.
(b. Bill limped into the room.
   b'. Bill è entrato nella stanza zoppicando.
   b''. *Bill ha zoppicato nella stanza.
   b'''. *Bill ha/è zoppicato nella stanza.
   (meaning [56b'])
   c. The fly buzzed out of the window.
   c'. La mosca è uscita dalla finestra ronzando.
   c''.*La mosca ha/è ronzata fuori della finestra.
   (meaning [56c'])

Such contrasts are descriptively captured by the well-known distinction proposed by Talmy (e.g. Talmy 1985) between *satellite-framed languages* and *verb-framed languages*. The former (e.g. English) do not code the directional component by way of the tensed verb, which incorporates the manner of motion or sound emission (e.g. *limp* in [56b] and *buzz* in [56c]). The latter languages express directionality via the tensed verb (e.g. Italian *è entrato in* [56b'], *è uscito in* [56c']) and specify the manner of motion or sound emission by way of an adjunct (e.g. *zoppicando in* [56b'] and *ronzando in* [56c']). Word-by-word translations of the English examples into Italian yield ungrammatical sentences, see (56b''), (56c''), independently of auxiliary selection (i.e. *essere ‘to be’ or avere ‘to have’*). The dichotomy between satellite-framed languages and verb-framed languages also
resultative and change constructions

manifests itself in the case of resultative constructions as shown by the contrast between (56a) and (56a'). Although Talmy’s analysis is primarily concerned with examples like (56b) vs. (56b'), the contrastive paradigm given in (56) clearly shows that the different behaviour of English and Italian involves both changes of position and changes of state. Hence, we are led to postulate that the English constructions exemplified in (56) are linked to one another as realisations of a more general structure. As a matter of fact, all the three constructions under scrutiny are “resultative” in a broad sense because the phrases flat in (56a), into the room in (56b), and out of the window in (56c) designate states or locations arrived at by an entity at some point in time: the metal ended up in a flat state, Bill was in the room, the fly was outside the window.

If we want to use the term resultative only to refer to those constructions satisfying Levin’s (1993) definition – which (a) implicitly distinguishes between states (e.g. flat) and positions (e.g. out of the window) and (b) requires a causal link between an event expressed by a verb and a state – and, at the same time, acknowledge the similarities between (56a), (56b), and (56c) – they all have to do with a position or a state achieved by an entity even though no clear-cut causal relation exists in (56b) and (56c) between the verbal event and the final position achieved by the entity in question – we can view (56a), (56b), and (56c) as realisations of a more general construction, which I term change construction. In other words, (56a), (56b), and (56c) instantiate a construction which contains a change phrase, which is defined in (57).65

(57) Definition of change phrase

A nonverbal phrase XP, which is neither a subject nor an object, is said to be a change phrase (CP) if it refers to a state, position, or circumstance achieved by an entity a involved in an event E, provided that a can be postulated at the semantic pole of the relevant construction.

The definition in (57) is a very broad one since it does not distinguish between (a) states and positions and (b) causal and non-causal links between actions and states/positions. In (56a), E corresponds to the hammering event, a is the metal, and CP is the adjectival phrase flat. In (56b), E corresponds to the limping event, a is Bill, and CP is the prepositional phrase out of the room. In (56c), E corresponds to the buzzing event, a is the fly, and CP is the prepositional phrase out of the window. (56a) describes a state and codes a causal link between E and such a state. (56b)-(56c) have to do with positions and code causal links only in a derivative sense, as was observed in section 1.2.

3.2. Sublexical change

An important, although largely ignored, (change) construction obtains when emission verbs are used (see section 3.2.1). They may combine with the preposition into, whose use is motivated on the basis of the notion of sublexical change. This section also studies how animacy and causality influence orientation for the change phrase (see section 3.2.2). The change phrase can be predicated of either the subject referent or a sublexical entity (or “null object”). The former case usually obtains if the subject referent is low in animacy and a causal link exists between motion and emission. Otherwise, the change phrase is sublexically oriented.

3.2.1. Emission verbs

The definition of change phrase in (57) implies that a may not be realised syntactically, that is, it may be present only at the conceptual level (i.e. postulated at the semantic pole). Consider the following examples:

(58) a. The man was sobbing [into his hands]. (Ian McEwan, The Child in Time, 1992: 133)

b. The family rejects have ceased to weep [into their make-do pillows]. (William Trevor, Felicia’s Journey, 1995: 102)
c. She cried at mealtimes. She kept snivelling [into a lace handkerchief]. (SOED)
d. ... who is now snoring [into the next pillow]. (Kate Atkinson, *Behind the Scenes at the Museum*, 1996: 9)
e. ... the two men laughed [into their drinks]. (Ian McEwan, *The Child in Time*, 1992: 39)
f. ... the Chawla family clacked about, shouting [up into the leaves]. (Kiran Desai, *Hullabaloo in the Guava Orchard*, 1998: 53)
g. Finally I ... clasped her, peering awkwardly [into her face]. (Iris Murdoch, *The Sea, the Sea*, 1999: 279)
h. I looked [into the rocky recess where she had left the car]. (Iris Murdoch, *The Sea, the Sea*, 1999: 147)

Sentences like (58) are again impossible in Italian, as the word-by-word translation of (58a), for example, makes it clear:

(59) a. *L’uomo singhiozzava nelle sue mani.*
    the-man was-sobbing in his hands

a’. *L’uomo singhiozzava coprendosi il viso.*
    the-man was-sobbing covering-to-(him)self the face
    con le mani.
    with the hands

‘The man was sobbing with his hands on his face’

The examples in (58) cannot obviously be analysed as resultative constructions in the sense of Levin (1993). The prepositional phrases in (58) are not predicated of any syntactically expressed entity (i.e. the subject). It must be noted, however, that the embedded verbs in (58) can all be categorised as verbs of emission. By this term, I mean verbs that denote the emission or movement out of an entity of another entity (for example, sobs in [58a], tears in [58b], laughs in [58e], etc.) that can be conceptualised as belonging (or being related) to the former (e.g. our body). In some cases, they imply a naïve view of physics; the faculty of sight, for example, is taken as the ability to direct imaginary rays coming out of our eyes towards the observed object, as in (58g)-(58h). Since the verbs employed in (58) belong to the class of emission verbs, they allow the use of a telic prepositional phrase (headed here by into) which specifies the endpoint of the path traversed by the emitted substance. In other words, the prepositional phrase is predicated of a sublexical entity (i.e. an entity not symbolised, for example, as an object in the syntax, that is a “null object”) which can be retrieved on the basis of the meaning of the verb. However, the emitted substance can sometimes be realised as an object of the verb, as in (60):

(60) John laughed a silly laugh.

(60) exemplifies the so-called cognate object construction (see Massam 1990 among others). The syntactic pattern illustrated in (60) can generally be used only if the emitted substance specified as a noun is, for example, combined with an attribute (e.g. *silly* in [60]). A sentence like *He laughed a laugh* is not (usually) acceptable since no additional information is conveyed compared to the simpler structure *He laughed*.

Apart from the cognate object construction, another case in which an emission verb takes an object is illustrated by a phrase like *shout a message up into the leaves*, cf. (58f). Since the emitted substance is already coded through the verb, the object position can be employed to specify some other (non-physical) aspect of the (verbally described) emitted substance. For example, a *message* specifies the meaningful aspect of the emitted shouts. This observation crucially implies that verbs of emission can also be categorised, in some instances, as verbs of manner of motion in the sense of (56b), thus providing further conceptual evidence for the need for a unified treatment of the various constructions under examination. Since verbs of emission can reflect emotions associated with their subject referents (e.g. *shout* may imply anger and *weep* sorrow), the object can also specify a feeling, as in (61):
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(61) Bunty ... was looking forward to sobbing out her misery into a familiar pair of arms. (Kate Atkinson, *Behind the Scenes at the Museum*, 1996: 196)

In (61), the emission verb *sob* takes as its object *misery*, which expresses the feeling experienced by the subject referent.

In sum, the examples in (58) include change phrases which are predicated of entities postulated at the conceptual level but not realised phonetically independently of the verb (I do not assume any generative model à la Baker 1988). It could be argued (see O’Dowd 1998: 112) that the prepositional phrases in (58) refer to the verbal event, not to the conceptual object. For example, in (58a), it is the sobbing that goes into the hands, not the subject referent. But since we have noted that a verb like *shout* allows for the addition of a direct object (one can shout a message up into the leaves), of which the prepositional phrase can be taken to be predicated, the present analysis based on sublexical entities cannot be dismissed. In fact, O’Dowd’s view and the proposed conceptual treatment of sentences like (58) are compatible, amounting simply to different paraphrases of the same semantic structures.

In order to see this, consider an example such as (62):

(62) He fired a machine gun into the supermarket.

At first sight, the prepositional phrase in (62) seems to refer to the firing event, not to the gun (i.e. the gun did not go anywhere). But let us now consider the following (simplified) semantic representations for (58a) and (62) (which also apply to the other examples in [58]):

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<table>
<thead>
<tr>
<th>the man</th>
<th>into</th>
<th>his hands</th>
</tr>
</thead>
<tbody>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
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was sobbing

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<table>
<thead>
<tr>
<th>he</th>
<th>gun</th>
<th>into</th>
<th>the supermarket</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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</tbody>
</table>
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fired

Figure 13. Intransitive and transitive use of emission verbs

A verb of emission is represented through a series of small circles – they represent what is emitted (e.g. a series of sounds) – originating from an entity (the trajector, the leftmost circle). The construction in (58a) also specifies a telic path, which has been represented in Figure 13a as the arrow connecting the smaller circles plus the circle towards which the small circles move. Figure 13a captures the intuition that the change phrase seems to refer to a null object (i.e. the emitted substance) and the fact that what is emitted is produced by the subject. Note that the small circles in Figure 13a can also be interpreted with reference to a different conceptual domain from the one evoked by the verb. As far as the structure *shout a message up into the leaves* is concerned, for example, the small circles can represent both “shouts” in the conceptual domain alluded to by the verb (i.e. sound emission) and verbal content in the conceptual domain of communication.

The schema in Figure 13b shows the semantic pole of (62). Figure 13b differs from Figure 13a only in that it contains a force component. The verb lexicalises both the force (the thick arrow) exerted by the subject (the leftmost circle) upon the object (the big circle between the other two, corresponding to the *gun* in [62]) and what is emitted by the gun (the smaller circles corresponding to bullets for example). In analogy with Figure 13a, it is the emitted substance that moves towards the location represented as the big circle on the left. This explains why the prepositional phrase in (62) is apparently not object oriented, i.e. why it is sublexically oriented. But since there is a container-contained relation between the gun and the bullets, the object *the gun* also counts as a metonymic object (i.e. it stands not only for the entity acted upon by the subject referent but also for the bullets in it) so that object orientation for the prepositional phrase can also be said to obtain (cf. *He fired a full machine gun into the supermarket*, where the adjective *full* explicitly refers to the bullets in the gun).

To sum up, the postulation of conceptual objects (or sublexical entities) reconciles the present view with O’Dowd’s claim that the prepositional phrases in (58a) may be analysed as referring to the verbal event. They refer to the verbal event because the verbs under

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66 Resultative and change constructions

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The change phrase

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67
3.2.2. Orientation and sound emission verbs

Change phrases combined with verbs of emission can be predicated of a sublexical entity (i.e. the emitted substance) both when the syntactic pattern is intransitive (i.e. it lacks a syntactic object), as in (58a), *The man was sobbing into his hands*, and when the object slot is filled, as in (62), *He fired a machine gun into the supermarket*. It must be noted, however, that a change phrase associated with a *sound emission verb* may also be predicated of the subject referent, cf. (56c), *The fly buzzed out of the window*, vs. (58c), *She kept sniffling into a lace handkerchief*. The subject versus sublexical orientation of the change phrase (i.e. its being predicated of the entity which emits the substance versus its being predicated of the emitted substance) depends on the existence of a possible causal link between the emission event and the motion event. As has been observed by Levin and Rappaport Hovav (1995: 190), this does not imply that the subject of a sound emission verb causally related to a displacement event is always inanimate:

(63) a. *... Sedgwick often clanked into town in sabre and spurs from the cavalry camp.* (E. Thane, Yankee Stranger, cited in Levin and Rappaport Hovav 1995: 100)
   b. *... as the three of them rumbled to their destination on the top of the 52 bus...* (Zadie Smith, White Teeth, 2001: 162)

Both Sedgwick in (63a) and *the three of them* (63b) are maximally animate in that they refer to people. However, the sound emission verb is predicated in either case of an inanimate entity linked to the subject (via a part-whole relation and a container-contained relation, respectively) to the subject: it is Sedgwick’s armour that clanked and the bus that rumbled. Incidentally, this situation (where the verb and the change phrase are, strictly speaking, predicated of different, though related, entities) may also obtain with non-emission verbs:

(64) *The kettle boiled dry.* (= [33])

*Dry* is predicated of *the kettle* as a container since it signals lack of water in it. On the other hand, *boil* is actually predicated of the water itself (i.e. the contained entity). For the moment being, it is important to observe that the integration of the constitutive subevents of a change construction does not necessarily imply identity of their respective tracers (e.g. the tracer of *clank* is the armour and the tracer of the causing event [move] into town is Sedgwick).

In sum, subject orientation in sound emission constructions seems to rely on the construal of the subject referent as a moving entity (by being low in animacy by itself, as was the case with [56c], *The fly buzzed out of the window*, and/or by virtue of links with inanimate entities such as means of transport, see [63b]) and the establishment of a (virtually) causal link between the motion event and the sound emission event. As for the latter observation, it must be pointed out that the causal association between two events is always a matter of degree. Consider (65):

(65) a. *The car screeched to a halt.*
   b. *The train screeched into the station.*
   c. *The fly buzzed out of the window.* (= [56c])
   d. *The train whistled into the station.*
   e. ?? *The train whistled into the tunnel.*

The examples in (65) show that the linking of subevents is influenced by the existence of associations established by the conceptualiser on the basis of conventionalised scenarios. In (65a), it is the fact that the car moved to a halt that caused the screeching sound (of the tyres) to occur. (65b), however, relies on some additional piece of knowledge; it is not the train’s movement into the station *per se* that caused the screeching sound. Rather, the conceptualiser may know that trains stop in (or brake as they move into) stations, so that moving into a
station can be interpreted metonymically as moving to a halt (or braking). Therefore, (65b) is identical, as for its mode of subevent integration, to (65a) except for the (metonymic) substitution, motivated by the conceptualiser’s world knowledge, of the prepositional phrase into the station for the prepositional phrase to a halt. (65c) may be interpreted either as the result of a causal association between a (nontelic) motion event and a sound emission event or as a simple association between a sound emission event and a motion event; after all, flies can also buzz without moving. Similarly, (65d) sounds natural if a strong association exists between the train’s moving into the station and its whistling, up to the creation of a (quasi-)causal link between the two events. I will use the term mild causality to refer to this and similar cases (e.g. The fire trucks wailed out of the firehouse, cited in Radden and Kövecses 1999: 39) in which a given event may be construed as the cause of another event. Finally, (65e) shows that, even if entering a tunnel and whistling may be two aspects of the same scene (cf. The train entered the tunnel whistling), they cannot (usually) be both targeted (i.e. expressed) in a change construction. This is so probably because entering a tunnel is not (usually) linked with whistling.

In sum, the availability of subject-oriented sound emission constructions depends on a highly entrenched association between the subject referent’s motion and the sound emission event. Such an association usually occurs when the subject referent is low in animacy (or is interpreted as such with respect to the sound emission event) and a (quasi-)causal association between the sound emission event and the motion event obtains.

### 3.3. LIKE change constructions

It has been argued so far that resultative constructions, directed uses of manner of motion verbs and emission verbs can all be analysed as instantiations of a general construction termed change construction, which seems to be peculiar to Germanic languages in general as opposed to Romance languages. There seems to be (at least) one more group of sentences which shares features with the constructions considered up to now. Consider the following examples:

(66) a. He **beetled** off to London.
    b. She couldn’t **bitch** up the relationship of two people she liked. (CPV)
    c. We had a row, and I **clammed** up and said nothing for a complete half-hour. (CPV)
    d. They are used by adults to **duck** out of their responsibilities. (CPV)
    e. ... you’re not thinking of **chickening** out of the job now, are you? (OPV)
    f. He is not the kind of man who is likely to be **cowed** into submission. (OPV)
    g. He **ferreted** out my address from somewhere, and wrote to ask how I was doing. (OPV)
    h. There was a certain amount of **horsing** about in the dressing-room after the game was over. (OPV)
    i. ‘**Stop monkeying** about with those matches!’ (OPV)
    j. **Why should I rat myself out?** (from the film There’s Something about Mary)
    k. He ... **wolfed** down a pie. (OPV)

(67) ‘**Why must you always come barging** into the conversation?’ (OPV)

Word-by-word translations of these examples, which, crucially, all involve motion, are impossible in a Romance language like Italian, in analogy with the other constructions considered above. Italian in general lacks verbs formed from nouns denoting animals or movable entities such as barge (see Dirven 1999 inter alia on zero conversion in English).

I term constructions such as (66) and (67) LIKE change constructions because the emboldened particles or prepositions imply a change of position of one of the entities involved in the event (as in the other change constructions) and, moreover, the verb establishes a
comparison between such an entity and either an animate entity, as in (66), or an inanimate one, as in (67). In other words, we have a *metaphorical* mapping between human beings and other animate or inanimate entities on the basis of some perceived similarity. A more accurate definition of what happens with the LIKE change construction is offered in (68):

(68) The subject or object referent is metaphorically compared to an entity whose properties describe the constructional event.

In (66a), for example, the rapid movement of the subject referent is, metaphorically, that of a beetle. Such a link is established on the basis of our world knowledge, which attributes to this insect the ability to move rapidly. In (67), the subject referent, interrupting other people’s conversations rudely, is, metaphorically, a barge. The entity which is singled out for metaphorical categorisation can be either the subject (as in all examples above) or the object, as in the transitive variant of (66f). The generalisation underlying the establishment of the metaphorical link between two entities seems to be as follows. If we have two animate entities involved in an event, as in the transitive variant of (66f), then the LIKE link concerns the patient. If only one animate entity is involved in the event, then the LIKE link concerns such an entity, of course.

It must be observed that the frequent use of constructions such as those in (66) (i.e. their entrenchment) may blur the perception of the rationale behind the metaphorical mapping. Still, the crucial point here is that constructions such as (66) are compatible with the notion of change construction.

3.4. Prepositional phrases and phrasal verbs

For the sake of simplicity, the syntactic category prepositional phrase is used here as a convenient label so as to include both so-called particles, such as *up* and *out* (see Lindner 1981 and Morgan 1997 for detailed analyses), and elements of difficult syntactic categorisation like *away* and *home* (as in *He walked home*). The reason behind this choice simply lies in the fact that items such as *up*, *out*, *away* and (trivially) *home* always (in more or less transparent fashion) either evoke or can be traced back to the concept of “location”, albeit, admitted, a metaphorical one in some cases. As a matter of illustration, I will briefly discuss some examples with *up*.

*Up* can sometimes take an optional complement as indicated by the noun phrase the stairs in parentheses in (69):

(69) He went up (the stairs).

In other cases the particle cannot be combined with a complement in the syntax but the intended complement can be easily inferred, as in (70), see also Figure 14 below.

(70) I didn’t know whether to tart myself up or just go in my normal clothes. (CPV)

At the conceptual level (i.e. at the level of meaning), *up* in (70) implies that its trajector (the entity referred to by the personal pronoun *I*, or, more exactly, a part of it (i.e. the dressing standards associated with it), is to be located in a position higher than that associated with

![Figure 14. The relation profiled by *up* in I didn’t know whether to tart myself up](image-url)
“normal” dressing standards (the landmark). Of course, we must imagine such standards as points along an upward oriented arrow whose zero point (“0”) coincides with normal dressing standards. The oriented relationship between (part of) the trajector (the subject’s dressing standards) and the landmark (the reference dressing standards) is what the particle up profiles. In Figure 14, positions above “0” stand for improved or more attractive dressing standards. Further, I have indicated the fact that the trajector is not, strictly speaking, I but a part of it by connecting the former (inscribed in a circle) to the latter via an arrow which stands for the existence of a metonymic relationship between the two. Langacker (1999: 62) calls the relevant part(s) of the entity which enter(s) into a predication relation with another entity, or its part(s), active zone(s). Hence, the subject referent’s dressing standards in (70) can be described as the active zone relative to which the resultative predication obtains.

Going back to the discussion of the particle up, we should note that its meaning can become progressively more and more opaque. The analyst may well be able to motivate its use but such motivation may no longer be present in the speaker’s mind (see Sandra and Rice 1995; Croft 1998b; Sandra 1998; Tuggy 1999). An example of this kind is given in (71):

(71) He really botched up the last job he did for us. (CPV)

At first sight, it may be puzzling to understand why up and not, say, down came to be used with botch (which, incidentally, can occur on its own with the same meaning). What the analyst can do is observe that up also appears in combinations expressing a semantic value opposite to that of (71). In (70), for example, the phrasal verb tart up denotes improvement, whereas the combination batch up in (71) implies disruption. The analyst can then conjecture that the particle, by evoking, in its physical (i.e. spatial) use, a position above what is perceived to be the default (spatial) reference region (e.g. the sky vs. the ground), came to acquire, by metaphorical mapping, an “above the norm”/“not in the conventional way” (or similar) meaning. In other words, up was (or, possibly, still is) perceived as an element which specifies that the activity (or the consequences of the activity) expressed by the verb with which it is conjoined brings the entity of which it is predicated into a (metaphorical) above-the-norm/non-default region. If someone brushes up their Chinese, for example, their competence becomes better than usual. Similarly, if someone botches up a job, they do it in the non-default way.

Interestingly, the negative connotations linked to up in the last example depend on the verb itself. This shows that the metaphorical “above-the-norm” region postulated (at least for the cases under discussion) as an integral part of the meaning of up is intrinsically free from positive (vs. negative) nuances. In many cases, however, we may be biased to associate an upward position with positive characteristics (e.g. in medieval cosmology, Paradise was imaged to be up in the sky, whereas Hell was thought of as occupying the region beneath the Earth’s surface; see also Lakoff and Johnson 1980: 14-21).

Leaving aside the case of home, the difference between the elements under discussion and full prepositional phrases amounts to the absence, in the former case, of a specific landmark, which is provided either by contextual information (cf. [70], where it corresponds to normal dressing standards) or is to be retrieved metaphorically (cf. [71], where it corresponds to the default way of carrying out an action).

As far as home (as in He walked home) is concerned, it can be viewed, for the present purposes, as a reduced prepositional phrase (i.e. a “zero-headed” prepositional phrase) because of permissible patterns such as I was (at) home last night.

In sum, phrasal verb examples are (usually, see note 76) regarded as change constructions, although it is recognised that their semantic transparency is a matter of degree, ranging from very clear cases like (69), He went up (the stairs), to opaque ones like (71), He really botched up the job. Example (70) also showed once more (see, for example, [64] above, The kettle boiled dry) that the relation between the resultative phrase and the entity of which is predicated can involve active zones (or metonymy).
3.5. Summary

A host of English constructions (such as the resultative construction, directed uses of manner of motion verbs and of manner of sound verbs, LIKE change constructions) predicate a change of either state or position. In order to account for their shared semantic content (i.e. the notion of change), I have proposed to regard them as instantiations of a (very abstract) construction to be termed change construction. The change construction contains a change phrase which does not evoke, as Levin’s (1993) definition of resultative phrase does, the notions of causality, the dichotomy between states and positions, and the distinction between lexical and sublexical arguments. Of particular interest is the analysis of emission verbs (see section 3.2.1), that is, verbs such as weep and laugh which indicate the emission of a substance. They can be combined with prepositional phrases introduced by the motion preposition into. The use of such a motion preposition can be motivated by viewing the prepositional phrases as being predicated of the emitted substance. The crucial point is that the emitted substance is not realised as an argument in the syntax (where it is “incorporated” into the verb) but can be postulated at the conceptual level. Hence, I say that the change phrase headed by into is predicated of a sublexical entity and the construction is referred to as a sublexical change construction. Finally, it has been pointed out that phrasal verbs can be regarded as change constructions, although their “transparency” (i.e. the motivation for the combination of verb and particle[s]) may be a matter of degree.

4. Conclusion

In this chapter I have introduced the classic definition of resultative phrase (i.e. Levin’s 1993 definition), which refers to an XP that “describes the state achieved by the referent of the noun phrase it is predicated of as a result of the action named by the verb”. Resultative constructions can be either transitive (e.g. John wiped the table clean) or intransitive (e.g. The kettle boiled dry) and derive from the causal combination of two subevents (e.g. the event of John’s wiping the table caused the event of the table to become clean; the event of the kettle’s boiling caused the kettle to become dry). If the resultative phrase refers to a visible condition, then no temporal gap is allowed between the two subevents. The state of cleanness in John wiped the table clean refers to a visible property of the table and necessarily obtained at the end of the action named by the verb. If the resultative phrase does not refer to a visible condition (e.g. soreness in John danced his feet sore), then a temporal gap between the two subevents is allowed and the verbal event is interpreted as having been carried out in an above-the-norm fashion (e.g. John danced too much in the example above).

The plausibility of a causal reading for allegedly resultative constructions such as Levin’s The door slid shut (which contains the verb of manner of motion slide) and Levin’s The river froze solid (which contains the verb of change of state freeze) is a complex issue. The hypothetical resultative phrase seems to be better interpreted as a specifier. Shut specifies the endpoint of the path traversed by the door and solid specifies that the river’s freezing was complete. More in general, the causal reading improves if the conceptual distance between the meaning of the verb and that of the hypothetical resultative phrase is great (e.g. the latter does not rephrase the meaning of the former). I have also introduced the notions of superordinate or hypernymic causality and non-superordinate or non-hypernymic causality to account for the plausibility of causal paraphrases involving manner of motion verbs such as limp and walk. The former obtains when such verbs are analysed as equivalents of move and the change phrase is interpreted as denoting an abstract transition. The latter obtains when such verbs can be analysed as denoting translational motion on their own (rather than some property of their subject referent, as is the case with limp) and the change phrase is analysed as referring to an abstract transition. Finally, I have underlined (see section 2.3) that constructions containing verbs of sound emission (such as screech in The car screeched round the corner) can code a causal relation, but one which relates the relevant subevents in complementary fashion compared to John wiped the ta-
ble clean. It is the motion event that caused the sound emission event.

Further, it has been argued (see section 2.4) that the notion of causality between subevents is not sufficient to license resultative constructions. The notions of manipulability is also needed (cf. the contrast between *They crossed the field flat and They trampled the fields flat). The theme, that is, the entity that undergoes the change of state, must be conceptualised as an affected entity (i.e. a Patient). I have shown that both the notion of causality and the notion of manipulability are an integral part of the Force Change Schema (see section 2.5), which describes the semantics of the resultative construction in a Cognitive Grammar format. The Force Change Schema is said to be a cognitively grounded unit of grammar because it can be thought of as a variant of the archetypal cognitive model called billiard-ball model by Langacker (1991: 13). The billiard-ball model describes energetic interactions between entities which result in their motion.

Intricacies do not only involve the notion of causality but also the conceptual distinction between states and positions. Scholars (cf. Goldberg 1995 vs. Rappaport Hovav and Levin 1999) do not agree on the status of constructions containing phrases which refer to positions (and not states), but are nevertheless causally related to the verbal event (e.g. John kicked the ball out of the window). I have proposed we introduce the more general notion of change phrase, which abstracts away from the notion of causality and the distinction between states and positions. A change phrase refers to a state or position achieved by an entity a involved in an event E, provided that a can be postulated at the semantic pole of the relevant construction. Consequently, sentences like The man was sobbing into his hands are said to contain a change phrase (into his hands). Such a phrase refers to the motion of an entity (sobs) which is not realised as an independent unit in the syntax but can be postulated at the semantic pole of the construction (i.e. sobs are a sublexical entity). If we did not pursue this line of reasoning, we would be at a loss when trying to motivate why the motion preposition into is used.

Chapter 3
Asymmetric resultatives and the change complex

This chapter begins to tackle the issues of transitivity and change phrase selection, which will also be dealt with in the next chapter. It offers an analysis of transitive causative change constructions (i.e. Levin’s transitive resultative constructions) in terms of the traditional distinction between subcategorised versus unsubcategorised objects (see sections 1.1 and 1.2). I show that lack of inheritance of the subcategorised object as the constructional object does not only occur with optionally transitive verbs. It also takes place with “obligatorily” transitive verbs such as frighten (see Rivière 1995 and section 2.1). In such cases, the subcategorised object can be realised as the constructional preposition’s object in so-called asymmetric resultatives. Further, since the same verb (viz. frighten) can be used to indicate either “removal” or “creation”, I contend that the difference in meaning does not necessarily depend on the re-categorisation of the verb as a verb of removal and/or creation (contra Levin and Rappaport Hovav 1995). Rather, it results from the interpretation of the complex formed by the affected entity and the “resultative” phrase (i.e. the change complex, see section 1.3). The change complex is the primary source of meaning for the resultative construction, involving how we conceptualise (or construe) things and processes.

In more detail, the change complex can have either an allative or an ablative meaning, depending on whether it predicates (possibly abstract) motion into/to a location or motion out of/from a location (see section 2). Accordingly, an in-depth analysis of the uses of such prepositions is offered (see section 2.1), many of which have been ignored in the literature so far, such as movement into “visual perception” and “emission” locations. Further, it is argued that the notions of transition and transformation account for many cases of prepositional selections (see section 2.2).

Finally, the richness in the interpretation of prepositional change phrases is contrasted with the restricted range of adjectival change
Asymmetric resultatives and the change complex

It is observed that aesthetic adjectives are banned from change constructions and that change constructions require adjectives which refer to objective properties (i.e. the objective affectedness generalisation).

1. Transitivity

We now move to a closer inspection of change constructions on the basis of the grammatical status of the verbs involved (i.e. transitivity, unergativity, unaccusativity). In order to do this, I will first sketch out Levin and Rappaport Hovav’s (1995) description of permissible resultative patterns and then show that actual data are much more complex than Levin and Rappaport Hovav’s (1995) neat and tidy picture suggests, thus posing new and serious challenges to the analyst.


If we consider the sentences in (72)

(72) a. Bill pounded the metal.
   b. Bill pounded the metal flat.

we observe that (72a) contains a transitive verb, \textit{pound}, and that (72b), an example of the resultative construction,\textsuperscript{41} seems to be obtained from (72a) by adding the resultative phrase \textit{flat}.

Let us now analyse the paradigm in (73):

(73) a. The bears frightened *(the hikers).
   b. The bears frightened *[the campground].
   c. The bears frightened the hikers {away/out of the campground}.
   d. *The bears frightened the campground empty.

The verb \textit{frighten} is transitive; its object, \textit{the hikers} in (73a), cannot be left out.\textsuperscript{53} (73b) shows that \textit{the campground} is not a permissible object for \textit{frighten} (as indicated by the star preceding the noun phrase in question). In keeping with current linguistic usage, I will say (see §2.1.1, note 37) that the direct object \textit{the campground} is not subcategorised by the verb \textit{frighten}, without subscribing, however, to the theoretical implications underlying the use of such a term (i.e. the generative paradigm in any of its variants). The contrast in acceptability between the resultative constructions (73c) and (73d) apparently depends on the use of a subcategorised versus unsubcategorised object. The use of the former leads to an acceptable sentence, whereas the choice of the latter does not. We may conclude that subcategorised objects must be “inherited” at the constructional level. In other words, if we use a transitive verb in a resultative construction, then we must also use its subcategorised object as the constructional object.

Let us leave this matter aside for the moment and turn to (74) and (75), which illustrate, respectively, the behaviour of unergative verbs (i.e. intransitive verbs whose subject does not undergo a change of state or position, see unaccusative verbs below) and unspecified object verbs (i.e. verbs like \textit{eat, drink, cook}, which are optionally transitive, see Brisson 1994 among others).

(74) a. Sally shouted.
   b. Sally shouted herself hoarse.
   c. *Sally shouted hoarse. (with the meaning of [74b])
   d. *Sally shouted herself.

(75) a. They drank (beer).
   b. *They drank the pub.
   c. They drank the pub dry.

With intransitive verbs like \textit{shout} an object is needed in the resultative construction, cf. (74b) vs. (74c). Such an object is a reflexive (called “fake reflexive” after Simpson 1983), as in (74b), if the entity that undergoes the change of state corresponds to the subject. As
(74d) makes it clear, herself in (74b) is an unsubcategorised object: it is the object of shout in the resultative construction, not the object of shout as a verb used in isolation. It can also be the case that the unsubcategorised object corresponds to a part of the subject, as in He danced his feet sore. 

(75) shows that unspecified object verbs also allow unsubcategorised objects to be used in resultative constructions. Hence, we conclude that both unergative verbs and unspecified object verbs can be used with unsubcategorised objects in resultative constructions.

The last group of verbs we have to take into account is that of unaccusative verbs (i.e. intransitive verbs whose subject undergoes a change of state or position, see also unergative verbs above):

(76) a. The river froze.
   b. The river froze solid.

As (76b) demonstrates, no (unsubcategorised) object is needed for an unaccusative verb to be used in a resultative construction; the resultative phrase is simply “added” to the existing material (i.e. the river froze in the relevant example).

1.2. The Direct Object Restriction

It is a well-known fact (see Levin and Rappaport Hovav 1995 among others) that resultative phrases cannot be predicated of an oblique object, as demonstrated by the contrast in (77).84

(77) a. Bill hammered the metal flat.
   b. *Bill hammered on the metal flat.85

Analysts have also observed that in a sentence like (78) (from Levin 1993) the adjective dirty cannot have a resultative reading, that is, it cannot refer to the subject. (78) does not mean that Polly became dirty by cooking the cookies. The adjective dirty can only have a depictive meaning (see Legendre 1997; Cormack and Smith 1999 among others); it describes the state in which Polly was when she cooked the cookies. Further, the “usual” resultative interpretation of structures like (78) – Polly cooked the cookies and as a result they became dirty – is excluded on the basis of our world knowledge: cookies do not become dirty when we cook them. Obviously, if the conceptualiser can envisage such a scenario, then the sentence becomes acceptable.

By coupling the observations made in connection with (77) and (78), we can conclude that a resultative phrase can be predicated only of direct objects. Such a restriction is usually labelled Direct Object Restriction.

Two potential counterexamples to the Direct Object Restriction are (74b), Sally shouted herself hoarse, and (76b), The river froze solid. In both cases the change of state is predicated of the subject. In (74b), however, we need an object, a fake reflexive, for the sentence to be acceptable. Hence, the change of state is predicated of the subject via the reflexive object, in keeping with the Direct Object Restriction. More problematic seems to be (76b), where solid is predicated of the constructional subject (the river) and the sentence contains no object whatsoever. Still, the Direct Object Restriction can be salvaged if we clarify what counts as an “object” in the Direct Object Restriction. Two lines of attack are possible, according to one’s theoretical assumptions.

Let us first examine the problem from a generative point of view. The category object, within generative approaches, includes underlying objects. Since subjects of unaccusative verbs are analysed as underlying objects (see Burzio 1981), the Direct Object Restriction holds good: the Direct Object Restriction applies to the elements of a sentence prior to Spell-Out (see Chomsky 1995 on this notion) or, in an alternative formulation, at the level of deep-structure (D-structure). A simplified account of the generative view is given in Figure 15 (S-structure stands for surface-structure).86
In Figure 15b I have offered a representation of the resultative phrase *solid* in terms of the Small Clause (SC) analysis defended by some researchers in the past (see Kayne 1985; Hoekstra 1988 among others). We note that, at the level of D-structure, the Small Clause *the river solid* occupies the same position as the object of a transitive verb (i.e. *Chris*, as illustrated in Figure 15e). If no small clause were present in Figure 15b, the Complement of V would be the NP *the river* (see Figure 15a), that is, *the river* would occupy the same underlying position as the object of a transitive verb. If the sentence *Mary beat Chris* were coupled with a resultative phrase, as in *Mary beat Chris senseless*, the Complement of V would be the small clause *Chris senseless*, see Figure 15f. Hence, we conclude that the position of the (underlying) subject of an accusative verb and that of the object of a transitive verb are the same irrespective of the presence of a resultative phrase. This means that the underlying subject of an accusative verb and the object of a transitive verb can be treated as equal, as far as the Direct Object Restriction is concerned.

Later on in the derivation, *the river* is moved into the Specifier position for Case reasons (as indicated by the pointed arrows in Figure 15a and Figure 15b): unaccusatives verbs do not assign (or check) Accusative Case; hence, the derivation crashes unless *the river* is assigned Nominative Case (or its Nominative Case is checked) in [Spec, IP], see Figure 15c and Figure 15d.

Within semantically oriented accounts the notion of object corresponds to that of Patient (see Van Valin 1990; Dowty 1991; Goldberg 1995), that is an entity that undergoes a change of state. The river can be analysed as a Patient because it undergoes a change of state (i.e. it freezes). Hence, the Direct Object Restriction is tantamount to stating that a resultative phrase can be predicated only of Patients, i.e. entities that undergo changes of state/position (see also note 87).

It goes without saying that the semantic account is more appealing than the generative one since the latter merely offers a “structural description” of verbs in terms of the position of surface subjects in the D-structure representation. However, no reason is adduced for such a
position. Only by considering the meaning of a verb can we conclude that the subject of unaccusative verbs has properties which make it similar to a (prototypical) object (i.e. an energy sink, see Langacker 1991: 292) rather than a (prototypical) subject (i.e. an energy source).

1.3. Some problematic data

The following examples based on Rivière (1995) show that, contrary to what was stated in section 1.1, subcategorised objects may not be inherited as constructional objects, see (79) vs. (73), or, to put it differently, unsubcategorised objects of transitive verbs can appear as constructional objects, see (80).

(79) a. She beat [her children].
    c. She beat the Ten Commandments [into [her children]].

(80) a. *They frightened [an admission].
    b. They frightened [an admission] out of him.
    c. *They frightened [an admission] into him. (intended meaning as in [80b]: “They frightened him and, as a result, he admitted something”)

In (79), the subcategorised object her children, see (79a), indicated in square brackets, cannot be used as the object of the resultative construction (79b) but must be expressed as a prepositional complement, see (79c). (80) shows that the unsubcategorised object an admission can appear in a resultative construction based on the verb frighten only if the preposition out of is used in the resultative construction, cf. (80b) vs. (80c). The paradigm in (80) can be contrasted with that in (81) below, where the resultative construction (81b) contains the subcategorised object him. The intended meaning of “to frighten somebody so that they admit something” applies only to (81b). (81c) just means the opposite: the entity referred to by him was frightened and, as a result, he did not admit anything. The subcategorised object of frighten (i.e. him) can be used in a resultative construction having the meaning of “to frighten somebody so that they admit something” only if the resultative phrase is headed by the preposition into, (81b) vs. (81c), in exactly complementary fashion with the data in (80).

(81) a. They frightened him.
    b. They frightened him into an admission.
    c. *They frightened him out of an admission. (intended meaning as in [81b]: “They frightened him and, as a result, he admitted something”)

To be fair with Levin and Rappaport Hovav (1995), we must recognise that they themselves, quoting Hoekstra (1988), note that some examples do not contain the expected subcategorised object in the object slot of the resultative construction ([82]-[84] are based on Hoekstra 1988):

(82) a. *He washed the soap. – He washed his eyes.
    b. He washed the soap out of his eyes.

(83) a. *He shaved his hair. – He shaved his head.
    b. He shaved his hair off.

(84) a. *He rubbed the tiredness. – He rubbed his eyes.
    b. He rubbed the tiredness out of his eyes.

Levin and Rappaport Hovav (1995) claim that such examples should not be considered as instances of the resultative construction. “Rather, they involve an alternate projection of the arguments of certain verbs into the syntax that comes about because verbs from a variety of semantic classes (usually, but not exclusively, verbs of contact through motion such as wipe and rub) can also become verbs of removal…” (Levin and Rappaport Hovav 1995: 66). Two observations are in order here.

Suppose we make use of Levin’s (1993) definition (see §2.1) as a means of classification of potential resultative construction exam-
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If the notion of state in such a definition is meant to exclude positions (i.e. it only refers to abstract states, see §2.2.2), then the examples in (82)-(84) cannot be categorised as instances of the resultative construction because they do not satisfy Levin’s definition. In other words, their exclusion from the class of resultative constructions is independent of the alternative syntactic projection advocated for their peculiar behaviour in the passage quoted above. In fact, sentences like those in (82b) are regarded as instances of the so-called Caused Motion Construction by Goldberg (1995). On the other hand, if the notion of state in Levin’s (1993) definition includes that of position, then the examples under discussion clearly qualify as resultative constructions; the soap in (82b), for example, ended up out of the subject referent’s eyes as a result of the action of washing them. We conclude that, as far as the definition of resultative construction is concerned, Levin and Rappaport Hovav’s (1995) claim concerning the non-resultative construction status of (82b), (83b) and (84b) is, at best, problematic.

Let us now ignore the question of whether the examples taken into consideration are resultative constructions or not, an issue which seems to be a matter of definitions as pointed out above, and concentrate on Levin and Rappaport Hovav’s (1995) claim concerning the non-resultative construction status of (82b), (83b) and (84b) is, at best, problematic.

The verb tear in (85) is used in a context where separation is implied: the photo ended up out of the newspaper because I cut the newspaper. On the other hand, (86) signifies that a hole came about in the subject referent’s dress as a result of the fact that the dress was torn. The lexicalist view would force us to paradoxically conclude that tear is both a verb of separation, see (85), and a verb of creation, see (86). But the two different interpretations clearly stem from the (possible) semantics associated with the complex made up of the constructional object plus the constructional prepositional phrase (which I will call change complex) set against the meaning of the verb in isolation. In (85), for example, the complex the photo out of the newspaper hints at a configuration where the photo is separated from the newspaper, such a configuration being ascribed to the action denoted by the constructional verb (i.e. the action of tearing the newspaper).

In sum, Levin and Rappaport Hovav’s (1995) claim that certain verbs involve a meaning shift when used in constructions like (82b) is not warranted. It is not possible to delimit the classes of verbs that might undergo such a meaning shift. Although the meaning of removal associated with examples (82)-(84) involves verbs like wash, it is by no means limited to them, as the examples with tear, see (85),

(85) I had to tear the photo out of the newspaper because I couldn’t find the scissors. (LDELC)

(86) She tore a hole in her dress when she climbed over the wall. (LDELC)
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and frighten, see (80b), demonstrate. The removal scenario (i.e. the semantic interpretation associated with [85]) can also occur with verbs, such as kick, that simply denote an energetic interaction:

(87) to kick the shit out of someone [i.e. “to thrash or beat a person severely’”]

It seems counterintuitive to classify verbs like frighten, see (81c), and kick as instances of verbs of removal, thereby forcing them to bear the semantic burden of the whole construction. Similarly, the creation scenario (i.e. the semantic interpretation associated with examples like [86]) is not limited to a particular verbal class, as shown by the following examples:

(88) Take a green coconut, still up in the tree, and cut a small incision in its base. (Alex Garland, The Beach, 1997: 408)

(89) She kicked a hole in the door. (LDELc)

(90) The pianist began to hammer out a tune on the battered piano. (SOED)

(91) He thumped his head with his own fists as if to knock some sense into it, or the nonsense out of it. (David Lodge, Nice Work, 1989: 226)

To be sure, it does not make sense to classify all verbs in (88)-(91) both as verbs of creation and, on the basis of their possible occurrence in the removal scenario, as verbs of removal. Therefore, we conclude that the semantics associated with the removal and creation scenarios is a matter of interaction between the verb’s meaning (independently of the construction in which it appears) and the complex made up of the constructional object plus the prepositional phrase.

1.4. Summary

Resultative phrases must be predicated of Patients (cf. *He shouted hoarse vs. He shouted himself hoarse). Further, unsubcategorised objects in resultative constructions are also possible with transitive verbs if the subcategorised object is realised as the constructional prepositional object. I will refer to such cases as asymmetric resultative constructions (i.e. the subcategorised object does not occur in the constructional object position but in the complement position of the constructional preposition). Since the same verb (viz. frighten) can be used to indicate either “removal” (as in They frightened Sally out of an admission, where Sally did not admit anything) or “creation” (as in They frightened Sally into an admission, where Sally admitted something), we conclude that the removal versus creation meaning does not (necessarily) depend on the re-categorisation of the verb as a verb of removal and/or creation (which would be absurd in the frighten examples quoted above). The removal versus creation interpretation depends on the change complex, that is, the complex formed by the affected entity and the resultative phrase.

In what follows I will try to explain the contrasts in (80)-(81) (i.e. They frightened an admission out of him vs. *They frightened an admission into him; They frightened him into an admission vs. *They frightened him out of an admission) by appealing to how we conceptualise (or construe) things and processes (cf. the notion of imagery in §1.2.1).

2. The change complex

Change constructions such as the prepositional resultative construction can be described in the general format given in (92):

(92)  a. $x \ V \ y \ P\ z$
    b. $y \ V \ P\ z$
In (92a), x corresponds to the subject NP, V to the verb, y to the object NP, P to a preposition, and z to its complement. (92b) describes the intransitive variant of the change construction: y is here the subject of the construction. 29 (92a) usually implies, as noted in §2.2.5, (at least) two semantic relations: a relation between x and y (i.e. x acts on y) and a relation between y and z (i.e. y moves, either literally or metaphorically, relative to z). 29 Analysts’ attention has focussed primarily on the former. We have noted, however, that the act-on relation is not limited to the one existing between x and y. In Sally beat the Ten Commandments into her children, for example, the Agent-Patient relation obtains between x and z (i.e. her children), as well as x and y (i.e. the Ten Commandments). The latter relation depends on our conceptualisation of the Ten Commandments as a movable object, of course (see section 2.3).

To the best of my knowledge, Rivière (1995) alone has tried to shift the focus of attention in change constructions to the change complex (i.e. the complex made up of y and P-z) in order to gain a better understanding of the facts in section 1.3. In what follows, I will expand on Rivière’s study by detailing the possible interpretations associated with the change complex.

2.1. Allative and ablative prepositions

The relation encoded by P in the change complex, see (92), can correspond to either an ablative or an allative relation, 30 as shown in (93) and (94). 30

(93) ABLATIVE: y AB z; P = off, out of…

a. I cut [the article out of the newspaper].
   b. I talked [Sally out of her funk].
   c. I cut [this toy out of a piece of wood].
   d. I talked [Sally out of an admission].
   e. The policeman talked [Sally out of jumping from the top of the building].

(94) ALLATIVE: y AL z; P = in, into, to…

a. I ordered [Sally {into/*in} the room].
   b. I pushed [Sally {into/in} the room].
   c. Sally read [herself {into/*in/*to} an inferiority complex].
   d. Sally rocked [the baby {into/to} sleep].
   e. Sally cut [the onion {into/to} small pieces].
   f. The wizard transformed [the frog {into/to} a prince].
   g. The workers cut [a quarry {into/in} the mountain].
   h. Sally talked [him into an admission].
   i. Sally talked [John into jumping {into/to} the river].

The change complex has been bracketed in the examples in (93) and (94). (93a), for example, codes an ablative meaning, because separation of the article out of the newspaper is implied. On the other hand, (94a) has an allative meaning because Sally is intended to move into the room. Let us now examine the two group of sentences in more detail.

2.1.1. Ablative cases

The examples in (93) imply separation of y from z. The notion of separation can pertain to different domains (e.g. physical vs. non-physical) and be interpreted metaphorically (e.g. as an event of creation). (93a) has to do with the spatial separation of the article (i.e. y) from the newspaper (i.e. z). Z
(93b)  I talked [Sally out of her funk].

describes a state, more precisely the abstract condition (see Quirk et al. 1985: 686 for the use of this term) of being afraid, and the whole complex denotes separation from such a state: Sally was talked to and, as a result, she was no longer afraid. Sentence (93c)

(93c)  I cut [this toy out of a piece of wood].

illustrates that the creation of an object can be conceptualised as involving the movement of the product out of the substance which is used for its creation. Interestingly, such a meaning can be retrieved independently of that encoded by the verb if we think of the piece of wood alluded to in (93c) as having no cavities in it (i.e. it does not denote a location). Examples (93d) and (93e)

(93d)  I talked [Sally out of an admission].
(93e)  The policeman talked [Sally out of jumping from the top of the building].

show that z can also correspond to a circumstance (see Quirk et al. 1985: 686 for the use of this term and note 92 here), that of making an admission in (93d) and that of jumping off a building in (93e). In the former case, we have the processual noun admission; in the latter case, the gerundive (or –ing) form of the verb jump is employed (see Rudanko 2001 for a more detailed discussion of this pattern). The meaning of the two examples in question is that Sally did not perform the actions indicated by their respective prepositional complements.

The examples in (93f)-(93h)

(93f)  ... he excels in nothing apart from charming [the elastic waistband off my wife’s knickers]. (Zadie Smith, White Teeth, 2001: 367)
(93g)  to talk [the hind leg off a donkey]
(93h)  He rubbed [the weariness off his face].

make use of the preposition off instead of the complex preposition out of because they imply a part-whole relationship between y (i.e. elastic waistband, hind leg, weariness) and z (i.e. knickers, donkey, face). As (93h) illustrates, such a part-whole relationship can be extended to abstract conditions such as weariness; the selection of the preposition off depends here on the use of the noun face, which in English is conceptualised as a bidimensional location. It must also be noted that abstract conditions can be realised as either y, as in (93h), or z, as in (93b), in the change complex.

It is worth underlining that abstract conditions can be conceptualised as either contained within our body (as in He let out his anger) or containing our self. A very short reference to the latter possibility can be found in Lakoff (1987) (see also Lakoff and Johnson 1980: 30-32):

In the case of emotions, existence is often conceived of as location in a bounded space. Here the emotion is the bounded space and it exists when the person is in that space:

Emotions are bounded spaces.

- She flew into a rage.
- She was in an angry mood.
- He was in a state of anger.
- I am not easily roused to anger. (Lakoff 1987: 397)

Although Lakoff does not pay much attention to this fact (apart from this short passage), the conceptualisation of abstract conditions as abstract locations is somewhat pervasive. Furthermore, it is by no means restricted to emotions:

(95)  They live in abject poverty. (LEDLC)

Let us go back to the examples in (93). (93i)

(93i)  I suppose now that he had monkeyed [a passage out of us] he could cast [off his charm]. (Matthew Kneale, English Passengers, 2000: 6)
Asymmetric resultatives and the change complex shows that circumstances, such as passage, can also be conceptualised as coming out of an entity. This makes sense if we interpret an entity as the source for an action, that is, if we interpret agents as spatial locations rather than in terms of force dynamics. The second part of (93i), the one involving the verb cast, illustrates that the prepositional object z (loosely corresponding to himself here) can be omitted.

2.1.2. Allative cases

More varied are the cases relative to the allative scenario, which codes movement towards or into a place (metaphorical interpretations included). Here complexity regards, above all, the choice of the preposition employed.

Examples (94a) and (94b) involve the spatial movement of an entity (Sally) into a place (room).

We note that such a dynamic meaning can be conveyed only by the preposition into in (94a). On the other hand, in is allowed in (94b).

This must be explained as a consequence of the particular verb used in the sentence. The verb push implies motion (away from the agent), whereas order does not. Hence, if we use the stative preposition in, see (94a), the motion meaning cannot be recovered. More in general, it is noted (see Quirk et al. 1985 among others) that the use of the preposition in is more readily accepted with some verbs (such as put, fall, jump) than with others (such as walk, slide, swim), although there seems to be a lot of variation among English speakers. The main difference between the two groups of verbs is as follows. The former verbs imply vertical displacement and are punctual in nature (i.e. they are not usually used in the progressive form); the latter verbs are manner of motion verbs which readily take the progressive form and refer to horizontal motion. The spatial and temporal differences between the two groups seem to influence the availability of (non-inherently dynamic) prepositions such as in and on.

Quite interestingly, the former group of verbs can also be combined with directional phrases in Italian, which does not usually allow verbs of manner of motion to have a directional interpretation, see (96) below. This shows that the distinction between punctual and non-punctual events, in connection with prepositional selection, is also operative in other languages (thus lending indirect support to the analysis of the English data) and that the behaviour of Romance languages is more complex than is generally assumed.

(96) a. Il piatto cadde sul pavimento.  
   the dish fell on-the floor

   b. Il gatto saltò nella scatola.  
   the cat jumped in-the box

   c. *Gianni camminò nella stanza.  
   Gianni walked in-the room  
   (intended meaning: “Gianni walked into the room”)  
   d. Giannni camminò fin dentro (al)la stanza.  
   Gianni walked until inside (at-)the room

(96a) and (96b) show that the Italian verbs cadere and saltare, corresponding, respectively, to English fall and jump, can take a directional phrase. On the other hand, the verb of manner of motion camminare (English walk) cannot, see (96c). For the sake of completeness, note that if we want to preserve the syntactic combination of verb of motion plus prepositional phrase, we must employ a temporal prepositional phrase in Italian, namely the one introduced by the temporal preposition fino (English until) as was pointed out in §2.1.2.1.

Let us now go back to the examples in (94). Sentence (94c)

(94c) Sally read [herself [into/*in/*to] an inferiority complex].

shows that an abstract condition such as an inferiority complex must be introduced by the preposition into. As a matter of fact, abstract
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conditions and circumstances (i.e. processes, see note 92) seem to be conceptualised as containers rather than simple targets (i.e. points in [metaphorical] space), as noted by Quirk et al. (1985: 686):

(97) a. get into {difficulties/trouble/debt/a fight} (from Quirk et al. 1985: 686)
b. Seeing how the silly fritlag would only stammer us into worse trouble... (Matthew Kneale, English Passengers, 2000: 13)

Interestingly, sleep in (94d)

(94d) Sally rocked [the baby {into/to} sleep].

combines with the preposition to, not into, although such a combination cannot be excluded in general (for this reason I have put it in parentheses). With qualifying adjectives, in fact, into is the norm, see §2.2.5. Similarly, death is preceded by the preposition to unless it is qualified by an adjective.

(98) a. He read himself {to sleep/to death}.
b. He drank himself into eternal death.

The use of the preposition to with non-qualified conditions such as sleep and death may be motivated on the basis of the concept of transition (i.e. the movement from one state/position to another is implied) as opposed to the notion of a particular state’s coming about, as is the case with inferiority complex in (94c). Transition from a state/position A to a state/position B may depend either on the noun itself (e.g. sleep, death, run), or on the verb, or on the explicit mentioning of the starting point A. Verbs which refer to a linear transition from a point A to a point B (such as increase, decrease, reduce, etc.) may tend to be combined with the preposition to as a means of introducing the final position B (cf. The waterfall had been reduced to a trickle in the month of June). Consider now the following cases where the starting point, introduced by from, is explicitly mentioned:

(99) a. ... Smaad’s face contorted from anger, to despair, to near-hysterical grins... (Zadie Smith, White Teeth, 2001: 455)
b. From there it will be but a short step to bankruptcy (Matthew Kneale, English Passengers, 2000: 73)

In (99a), B is first equated with the abstract condition despair and subsequently with grins (which need not necessarily be interpreted as an abstract condition) and yet the preposition to is employed. Similar observations apply to (99b), which contains the abstract noun bankruptcy.

Example (94e)

(94e) Sally cut [the onion {into/to} small pieces].

demonstrates that the preposition into occurs with transformation cases. The onion in (94e) was indeed transformed into small pieces. In is possible because it focuses on the result of the transformation process implicit in the verb (i.e. the onion is in pieces). On the other hand, to probably focuses on the concept of transition as was the case with sleep in (94d). The preposition in also occurs with cut in sentences like (94g)

(94g) The wizard transformed [the frog {into/*to} a prince].

which denote transformation but also allow us to view y (i.e. quarry) as contained within z (i.e. mountain).

Finally, the examples in (94h)-(94i)
(94h) Sally talked [him into an admission].
(94i) Sally talked [John into jumping into the river].

illustrate that z can correspond to a circumstance in parallel fashion to (93d)-(93e). The preposition into is used in such cases. However, sentence (100) below

(100) ... Iris ... whipped the team to a run ... (The Iliad, ll.411-412)

shows that a processual noun (i.e. a circumstance) such as run can be accompanied by the preposition to. As was noted in connection with sleep and death in (96) above, the notion of transition may motivate the selection of the preposition to (instead of into, which is also possible in [100]): the team of horses underwent a transition from slow to fast motion.

2.2. Prepositions in the change complex

From the discussion above we may infer some general principles governing prepositional selection in the change complex. Let us start with the allative case.

The preposition into is used when either concrete motion or abstract motion of y into z is implied. If concrete motion is implied, z refers to either a physical region (e.g. I ordered Sally into the room) or an entity construed as a physical region. The latter case includes what I call visual perception locations, that is, regions that refer to open spaces described in terms of either light or visibility (e.g. light, darkness, night, as indicating absence of light, and nothingness, as the region where there is nothing and hence nothing to see).56

(101) a. He disappeared into [the darkness/the night].
    b. Come over into the light where I can see you. (LDEL C)

The examples in (58) (e.g. He was weeping into her arms) also show that intransitive sublexical change constructions use into to introduce the location which specifies the end of the path traversed by the emitted substance.59

If abstract motion is implied, z may refer to a psychological state and the change complex signifies that such a psychological state comes about (e.g. She read herself into an inferiority complex means that the subject personal pronoun referent developed an inferiority complex). Nouns that refer to either emitted substances (e.g. tears) or facial expressions (e.g. nervous smile) can be construed as denoting psychological states, as shown in (102):

(102) a. He burst into tears.
    b. He broke into a nervous smile.

(102a) and (102b) both describe psychological conditions, for instance, anger in (102a) and fear in (102b).

Z can refer to a physical state (e.g. wakefulness) so as to imply that such a physical state comes about (e.g. Chris rubbed his eyes into wakefulness). Z can also correspond to a circumstance (e.g. admission), which implies that y does z (e.g. Sally frightened Chris into an admission). If z does not refer to either a psychological state, or a physical state, or a circumstance, the change complex is interpreted as denoting either transformation of y into z (e.g. The wizard transformed the frog into a prince) or the acquisition of y by z (e.g. Chris rubbed wakefulness into his eyes, Sally cut beauty into the old coat, She beat the Ten Commandments into her children). For ease of reference, I have summarised the uses of into in Table 1.

To occurs when z denotes either a location (as in He brought me to the cinema) or a state, see (94c), Sally cut the onion to small pieces. In either case, z is conceptualised as a point. In particular, it must be noted that, if z indicates a state, the concept of transition (i.e. the metaphorical motion from a point A to a point B corresponding to z) is evoked. The concept of transition may not depend on z alone. For example, in He read himself to {sleep/death}, sleep and death both by default imply a transition (e.g. sleep is the opposite of wakefulness and death of life). In other cases, however, such as (94e) discussed above, the notion of transition may be influenced by the verb.
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Table 1. The use of into in the change complex

<table>
<thead>
<tr>
<th>value of z</th>
<th>concrete motion</th>
<th>examples</th>
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<tbody>
<tr>
<td>visual perception location</td>
<td>(94a) I ordered Sally into the room.</td>
<td></td>
</tr>
<tr>
<td>emission location</td>
<td>(101) He disappeared into the darkness.</td>
<td></td>
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<tr>
<td></td>
<td>(103) He was weeping into her arms.</td>
<td></td>
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<tr>
<td>physical location</td>
<td></td>
<td></td>
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<tr>
<td>psychological state</td>
<td>(94c) Sally read herself into an inferiority complex.</td>
<td></td>
</tr>
<tr>
<td>emitted substance</td>
<td>(102a) He burst into tears.</td>
<td></td>
</tr>
<tr>
<td>facial expression</td>
<td>(102b) He broke into a nervous smile.</td>
<td></td>
</tr>
<tr>
<td>physical state</td>
<td>(104) Sally rocked the baby into a deep sleep.</td>
<td></td>
</tr>
<tr>
<td>circumstance</td>
<td>(94i) Sally talked him into an admission.</td>
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<td></td>
<td>(94f) The wizard transformed the frog into a prince.</td>
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<td></td>
<td>(105) Chris rubbed wakefulness into his eyes.</td>
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<td></td>
<td>(106) Sally cut beauty into the old coat.</td>
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<td></td>
<td>(107) She beat the Ten Commandments into them.</td>
<td></td>
</tr>
<tr>
<td>entity</td>
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<td></td>
<td>(P-z: transformation)</td>
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<td>(P-z: acquisition of physical property)</td>
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<td>(P-z: acquisition of abstract property)</td>
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<td>(P-z: acquisition of piece of knowledge)</td>
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</tbody>
</table>

I underlined that verbs of breaking such as burst and break, see (102) (He burst into tears and He broke into a nervous smile) require the preposition into (probably because of either the underlying notion of transformation of y into z or the construal of z as a psychological state, or both). On the other hand, prepositional selection with the verb come depends on the preposition’s complement:

(108) a. This article came into production at the beginning of the century.

b. After a while he came to life.

Production in (108a) denotes a circumstance (i.e. it is a processual noun) and hence it requires into; life in (108b) is similar to sleep and death in that it indicates a transition. Needless to say, various competing factors can influence the choice of the preposition. Consider the following examples:

(109) a. Midas turned everything he touched [into/to gold];

b. The feeling was short-lived, however, quickly turning to greatest disgust... (Matthew Kneale, English Passengers, 2000: 68)

c. His face turned to fury. (Matthew Kneale, English Passengers, 2000: 72)

d. ... the southern spring is turning to summer... (Matthew Kneale, English Passengers, 2000: 76)

All sentences in (109) contain the verb turn. (109a) shows that a noun like gold, which denotes neither an abstract condition nor a circumstance (but, rather, a property or entity), can be introduced by either into or to. The availability of both prepositions stems from the fact that the process denoted by the sentence may be analysed as either a transition or a transformation. In the former case, the preposition to is selected; in the latter case, the preposition into is used. In (109b), the preposition to is chosen probably because the writer wants to convey the idea of transition: the feeling indicated anaphorically by the sentential subject was replaced by (rather than transformed into) another (i.e. disgust). Similarly, the idea of transition is evoked in the two remaining examples (109c) and (109d): his face in (109c) was not transformed into fury but gave way to it and spring was replaced by summer in (109d). That the selection of the preposition to is a matter of construal is shown by the examples in (110) (based on actually occurring examples obtained with the search engine Google):

(110) a. His angel face turned into fury.

b. Spring turned into summer.
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The sentences in (110a) and (110b) are similar to those in (109a) and (109b), respectively, and yet the preposition *into* is used in (109). This is so because transformation is highlighted: an angel face is not compatible with fury; this motivates the idea that a transformation from an “angelic substance” to another took place. (110b) evokes the scenario in which spring transformed itself into summer.

The possibility of construing a (metaphorical) motion scenario either as transformation or as transition manifests itself also in (111):


The verbs *sink* and *fall* both denote downward motion. Still, they are used with different prepositions. In (111a), a transition is implied (in breath-force), whereas *blinking* in (111b) refers to a circumstance, thus encouraging the use of the preposition *into*. Note again that the choice of *to* in (111a) is a matter of construal; the preposition *into* in similar examples is, indeed, possible (cf. *He sank into remorse*).

In sum, the use of *to* parallels that of *into*, the only difference being that *z* is conceptualised as a point. When abstract motion is implied, such construal evokes the notion of transition from a condition A to a condition B.

Finally, we observe that the preposition *in* is used when the final configuration expressed by z is highlighted, see (94b) for example (*I pushed Sally in the room*) and Goldberg (1995: 159). Further, as was revealed by the discussion in section 2.1.1, the behaviour of ablative prepositions is similar to that of allative prepositions. In particular, *out of* implies scenarios which are opposite to those coded by *into* and *from* evokes scenarios complementary to those for *to*.

2.3. The problematic examples

After having pointed out the crucial importance of the change complex for the interpretation of change constructions, we can go back to explaining the examples in (79)-(81), repeated here for convenience’s sake:

(79) a. *She beat her children.*

b. *She beat her children into the Ten Commandments.*

c. *She beat the Ten Commandments into her children.*

(80) a. *They frightened an admission.*

b. *They frightened an admission out of him.*

c. *They frightened an admission into him.* (intended meaning as in [80b]: “They frightened him and, as a result, he admitted something”)

(81) a. *They frightened him.*

b. *They frightened him into an admission.*

c. *They frightened him out of an admission.*

The (im)possibility of the change construction examples above depends on the (im)possibility of the conceptual relations entertained between y and z within the change complex.

The Ten Commandments, see (79b)-(79c), are neither an abstract condition nor a circumstance, but rather stand for a piece of knowledge which the subject referent wants the children to store. This is summed up in (112), where INTO stands for motion into a region:

(112) a. *Children INTO Ten Commandments*

b. *Ten Commandments INTO children*

It is not the case that we conceptualise the children as moving into a piece of knowledge, see (112a); rather, the Ten Commandments are conceptualised as moving into the children, see (112b). Nevertheless,
the syntactic structure with the order children-Ten Commandments does occur, as shown in (113):

\[(113) \text{She beat her children into following the Ten Commandments.}\]

The acceptability of (113) crucially relies on the presence of following which points at what Quirk et al. (1985) call a circumstance (i.e. a process, see note 92) and not at an entity as in the impossible example (112a).

The discussion so far has shown that \(z\) must be conceptualised as a whole in relation to \(y\) in the change complex, or, more generally, as a (possibly metaphorical) location for \(y\). The only exception is the transformation scenario, in which \(z\) and \(y\) are on a par.

We can now turn to (80) and (81). (80b), They frightened an admission out of him, is based on the reification of the process “to admit” since it is viewed as stemming from the preposition’s complement referent. (80c), They frightened an admission into him, is impossible under the intended interpretation because the preposition complement referent is responsible for the admission, that is, it is intended to be the originator of the process of admission. (80c), on the other hand, construes the preposition’s complement referent as a recipient; hence, the only possible interpretation we are left with is that the admission in question is an object independent (for its existence) of the preposition’s complement referent. This means that somebody else admitted something and that this admission (for reasons the context should make clear) was forced into the preposition’s complement referent by frightening him. (81b), They frightened him into an admission, construes admission as a circumstance (or process) into which the verb complement referent is moved, as was pointed out in the preceding section. Similarly, in (81c), They frightened out of an admission, the verb’s complement referent is moved away from the circumstance corresponding to the process of “admission”, that is, such a referent is prevented from admitting anything.

2.4. Summary

The interpretation of the examples in (79)-(81) depends on the conceptual relation entertained between \(y\) and \(z\) in the change complex (i.e. \(y\ P-z\)). It has been shown that the change complex can have either an allative or an ablative interpretation, which, in the case of abstract motion, can signify the coming about of an abstract condition (or the removal thereof), the engagement into (or disengagement out of) a process, or the transformation of an entity into another.

3. Impossible combinations

The richness in the use of prepositional change phrases and the possible meanings associated with them contrasts with the limited range of permissible adjectival change phrases (see also §4.3). In particular, aesthetic adjectives are not employed, colloquial usage aside, in change constructions, see section 3.1. Further, I show (see section 3.2) that change constructions require adjectives that refer to objective properties (cf. the objective affectedness generalisation). Finally, I argue that such a generalisation is reminiscent of Goldberg’s (1995) Unique Path Constraint. Still, I contend that the two are not identical in that the Unique Path Constraint is not always correct, see section 3.3.

3.1. An aesthetic paradox

States can be construed as locations (see section 2.2): one can rub one’s face out of its weariness or into wakefulness. Nevertheless, Rivière (1995) states that a sentence like (114) is impossible:

\[(114) \text{*He cut the old coat into elegance. (intended meaning: “He cut the coat and, as a result, it became elegant”)}\]
The change complex the old coat into elegance may, in principle, either designate transformation (i.e. the old coat “became” elegance) or movement into a region allegedly describable as “elegance”. One could argue that the transformation analysis of the allative change complex in (114) is excluded because a coat cannot “become” elegance (i.e. a coat cannot be transformed into a property). If, however, we interpret elegance as referring to an abstract condition (that of being elegant),

we would expect the use of into to be possible. Since one can be conceptualised as moving into debts, why cannot something be viewed as moving into (a state or condition of) elegance? I will try to argue that a sentence such as (114), contrary to what is claimed by Rivière (1995), is indeed possible. The apparent unacceptability of (114) depends on its being uttered out of the blue.

The only way to make an example such as (114) acceptable is to “activate” either the motion metaphor or the transformation metaphor. This means that a sentence such as (114) is acceptable only if we coerce the interpretation of the change complex into (at least) one of these two directions. This is usually done by means of the verb, as the following authentic examples with into elegance (based on data obtained using the search engine Google) show:

(115) into elegance as motion:

The orchestra [sprung/moved/stepped] into elegance.

(116) into elegance as transformation:

a. He shaped sentences into elegance.
   b. You’ll be pleased how we translate affordable living into elegance, style, and luxury with your new Burgoon Berger home.
   (www.bbchomes.com/company/)
   c. … life in which the manners are to be softened into ease, and polished into elegance…
   (cweb.middlebury.edu/ud/writers/writerslife/reason/johnson.htm)

(115) contains verbs of motion, the examples in (116) verbs of transformation. Such examples show that the conceptual relation coded by y into elegance, contrary to what is stated by Rivière (1995), is possible. Since the verb cut in (114) implies a transformation (i.e. the subject referent created an elegant coat), the preferred reading for (114) might be one where the transformation metaphor is activated: the coat is transformed into elegance.

3.2. Affectedness and objectivity: When properties are not in the eye of the beholder

Two more options, beside (ia) in note 101 (i.e. He cut elegance into the coat), could be expected to convey the (intended) meaning of (114) above:

(117) a. #He cut the old coat elegant.
   b. He cut the coat elegantly.

(117a) appears to be a colloquial variant of (117b) (hence the dia-critic #, which indicates that the sentence is acceptable only in some contexts). The latter sentence contains an adverb, elegantly, which would be said to have some kind of resultative meaning by Quirk et al. (1985). As a matter of fact, they argue (see Quirk et al. 1985: 560) that the sentences in (118) all imply the notion of result. The adverbs perfectly and marvellously in (118a) and (118b) imply that the car was in a perfect state as a result of the action of fixing it and that the chrysanthemums grown by the subject referent were marvellous. Similarly, the soldier in (118c) ended up with a bad wound. Following Geuder (2000), I call such adverbs, as employed in (118), resultative adverbs. This does not
mean, contrary to Geuder (2000), that I view them as necessarily implying the notion of result in their meaning. The notion of result is determined by the construction in which they appear (i.e. the verb denotes an endpoint).

The use of the adjectives in place of the adverbs in (118) (i.e. perfect for perfectly, marvellous for marvellously, and bad for badly) appears to be colloquial, as was observed in connection with (117a). Interestingly, an undeniable contrast obtains between (119a), the colloquial variant of (118a), and (119b):

(119)  a. #She fixed the car perfect.
   b. She opened the door wide.

Whereas (119a) is judged colloquial, (119b) is not, even though both verbs, fix and open, are classifiable as change of state verbs. Put differently, not all adjectives are possible resultative phrases. Similar problematic examples are offered in (120) (based on Geuder 2000):

(120)  a. He decorated the room {beautifully/#beautiful}.
   b. He wrapped the present {beautifully/#beautiful}.
   c. He loaded the cart {heavily/#heavy}.

Leaving aside (120c) for the moment, the descriptive generalisation concerning the resultative sentences discussed so far seems to be that aesthetic adjectives are not used in resultative constructions (colloquial usage aside).

There might be various reasons for this restriction. For example, analysts (see Goldberg 1995; Wechsler 2001) have noticed that adjectival resultative constructions contain maximal endpoint adjectives, that is, adjectives that denote the endpoint of a scale (e.g. completely flat vs. *completely beautiful). This is not, however, a stringent enough criterion since a sentence like *John hammered the metal red (from Verspoor 1997) is impossible despite containing the maximal endpoint adjective red (cf. completely red). Moreover, a sentence like John cut the bread thin is acceptable and yet the adjective thin is not usually analysed as a maximal endpoint adjective (?completely thin).

Although the observation concerning the use of maximal endpoint adjectives seems to be on the right track (at least for some cases), it would be desirable to have a cognitive explanation for such a phenomenon.

We might argue that adjectival sentences such as #He wrapped the present beautiful do not actually involve a change of state of the object referent itself (i.e. a change in some of its intrinsic properties). The present does not count as an affected entity in the same sense as the object referent in a “usual” resultative construction (cf. He painted the room red). Rather, beauty depends on the kind of wrapping paper used and/or on how it has been folded around the gift. Although such a line of reasoning satisfactorily accounts for those cases where a verb of addition such as wrap is used, it cannot handle sentences such as #He cut the rough stone beautiful (vs. He cut the rough stone beautifully). Here, no addition is implied and the rough stone was undeniably an affected entity.

Alternatively, we might point out that sentences like #He wrapped the present beautiful and #He cut the rough stone beautiful involve two different cognitive domains. One domain is physical and has to do with the addition of wrapping paper to the present in the former case and the change of shape of the stone in the latter case. The other domain pertains to the (positive or negative) evaluation of the object thus created (i.e. the wrapped present and the cut stone). Such a domain is a non-physical one and could be classified as an aesthetic domain. Remember now that the transitive resultative construction is taken to be a variant of the billiard-ball model (see §2.2.5), which involves only one domain (the physical one). Therefore, we could claim that aesthetic adjectives are ruled out because they evoke an additional domain (i.e. the subjective domain of aesthetic evaluation). Such a domain does not refer to objective properties – as would be the case with adjectives like flat in He hammered the metal flat – and is not construed (metaphorically) in terms of motion (cf. he cut the rough stone into beauty, where into signals the spatial construal).
This line of reasoning, however, would apply only to transitive resultative constructions containing subcategorised objects (as well as intransitive examples). A sentence such as Sally danced her feet sore involves the property soreness, which is not objective. The dichotomy between adjectives predicated of subcategorised objects versus adjectives predicated of unsubcategorised objects could be eliminated by claiming that sore is more objective than beautiful. The former describes a sensation experienced by one of the participants (and in this sense it can be described as denoting a “physical” or “intrinsic” property). In #Tom wrapped the present beautiful, beauty is ascribed to the wrapped present by the conceptualiser, not necessarily by Tom, who might judge the wrapped present ordinary or not beautiful at all.

In sum, the observation that objective adjectives are required in resultative constructions seems to be limited to transitive resultative constructions containing subcategorised objects unless adjectives like sore are analysed as being intrinsic/objective or more intrinsic/objective than aesthetic adjectives. To be sure, aesthetic adjectives are also excluded from transitive resultative constructions containing unsubcategorised objects:

(121) * She danced her legs beautiful.

(121) cannot be used to convey the meaning “Her dancing caused her legs to become beautiful”. Incidentally, the adverb beautifully (i.e. *She danced her legs beautifully with the intended meaning of [121]) is also excluded because the verb does not imply an endpoint (i.e. there is no change-of-state component in the meaning of the verb that the adverb can target vs. He hammered the metal beautifully). Wechsler’s observation concerning the use of maximal endpoint adjectives is also limited to transitive resultative constructions containing subcategorised objects. Hence, the impossibility of aesthetic adjectives remains unsolved.

The observation that adjectives occur in “intrinsic affectedness” contexts also applies to the apparently objective adjective heavy in (120c), #He loaded the cart heavy. The cart need not become heavy as a result of the event of placing, for example, (heavy) crates on it. It might be much heavier than the total weight of the crates anyway (i.e. it is not affected by the additional weight of the crates, cf. He loaded the cart heavily, but the cart is not much heavier than it was before). Further, even if the cart does become much heavier as a result of one’s placing crates on it, there might be no perceivable (e.g. visible) signs that such a change occurred. Rather, if heaviness is attributed to the complex made up of the cart plus the crates, such property ascription is likely to depend on an inferential process. If we see several crates, not necessarily heavy individually, on a cart or we know that each crate is heavy, we are biased to conclude that the cart is also heavy. In other words, the property “heaviness” is inferred by the conceptualiser but is not necessarily “out there in the world”.

It must be pointed out that the maximal endpoint criterion alluded to above is not sufficient for motivating the deviance of heavy in (120c). We find examples such as

(122) My arms and legs are completely heavy and warm.

which allow for the combination of completely with heavy. Further, heavy may actually be used in the resultative construction, as in (123):

(123) I once loaded it [i.e. the truck] heavy on the back end and experienced some minor rubbing (only on big bumps) but have had no other problems in over 40K miles. (www.ford-trucks.com/dcforum/earlybronco/20.html)

Crucially, heavy in (123) is used in a context where it is clear that the heavy load caused the lowering of the back of the truck, hence a visible change took place.

In conclusion, the ban on aesthetic adjectives in change constructions seems to correlate with necessary or intrinsic affectedness and objectivity. In #He wrapped the present beautiful, the present is not affected in the sense that its intrinsic properties are not changed. Similarly, in #He loaded the cart heavy, the cart, i.e. its weight, does
not need to be necessarily affected. Objectivity only is involved in 
#He cut the stone beautiful, where the stone is indeed affected but 
beauty is a subjective property (as in well-known phrase, “Beauty is 
in the eye of the beholder”). Apparently non-objective adjectives like 
sore, occurring with unsubcategorised objects, could also be classi-
fied as intrinsic/objective in that they refer to states experienced by 
one of the participants. They also denote properties which do not 
need to be inferred by the conceptualiser (i.e. the subjective axis, in 
Langacker’s 1991 terminology, is not involved).

The ban on non-objective adjectives may be linked to the fact that 
the resultative construction is a variant of the billiard-ball model, 
which is defined with reference to only one domain (i.e. the physical 
one). On the other hand, (117a), #He cut the coat elegant, involves 
the additional domain of aesthetic evaluation and (120c), #He loaded 
the cart heavy, may require the additional domain of experimental 
verification. Adverbs, rather than adjectives, appear to be used if an 
operation of evaluation or inference (on the part of the conceptual- 
iser) is involved. As a matter of fact, the affected object, by virtue of 
the arrangement of its parts, can 
suggest 
(a gestalt) property to the 
conceptualiser (see §4.3.2 for more details on the notion of gestalt property). For example, decorations on the walls of a room (i.e. parts 
of the affected object room) can convey the property of beauty. A 
large number of crates on a cart can suggest the property of heav-
iness. The driving of a fixed car can reveal whether the repairs were 
collectively effective. The issue of the impossibility of aesthetic ad-
jectives will be taken up again in §4.3.2 and §4.4.2.2. For the mo-
ment being, it is sufficient to remember that

(124) The objective affectedness generalisation

Adjectives in resultative constructions, colloquial usage aside, 
imply objective affectedness (i.e. necessary or intrinsic af-
fectedness plus objectivity).

In the next chapter, we will see that a special kind of affectedness 
(i.e. part-whole affectedness) is involved in many change construc-
tions.

3.3. Goldberg’s (1995) Unique Path Constraint

The previous section has shown that resultative sentences employ ad-
jectives which are captured by the objective affectedness generalisa-
tion. It could be argued that such a generalisation stems from the fact 
that the banned adjectives require reference to an additional domain 
(involving evaluation or inference on the part of the conceptualiser).

Such an analysis is partly reminiscent of Goldberg’s (1991, 1995) 
Unique Path Constraint in the sense that she also underlines the im-
portance of the concept of “single domain”. However, I would like to 
argue that my analysis does not coincide with hers and that Gold-
berg’s analysis is sometimes problematic.

She argues that “resultative constructions crucially involve a 
metaphorical interpretation of the result phrase as a metaphorical 
type of goal.” (Goldberg 1995: 81). Let us assume that this hypo-
thesis is correct. She proposes the following constraint:

Unique Path (UP) Constraint: If an argument X refers to a physical object, 
then no more than one distinct path can be predicated of X within a single 
clause. The notion of a single path entails two things: (1) X cannot be predi-
cated to move to two distinct locations at any given time t, and (2) the mo-
tion must trace a path within a single landscape. (Goldberg 1995: 82)

Consider now the following impossible examples:

(125) a. *Sam kicked Bill black and blue out of the room.
   b. *Shirley sailed into the kitchen into the garden.
   c. *The vegetables went from crunchy into the soup.

(125a) is impossible because of condition (1) of the Unique Path 
Constraint: out of the room is a physical location and black and blue 
is another (distinct) metaphorical location. (125b) contains two dis-
tinct physical locations and, hence, it violates (1) as well. (125c) con-
tains one single path (as indicated by the combination of the preposi-
tions from … to) but involves two distinct landscapes; hence, it vio-
lates (2) of the Unique Path Constraint.
Goldberg herself notes (see Goldberg 1995: 85-86) that a sentence like *He broke the walnuts into the bowl* is not a counterexample to her analysis. One could argue that it involves two changes (see note 101), one relative to the shape of the walnuts and the other relative to the movement of the broken walnuts into the bowl. If so, the Unique Path Constraint would be violated. Goldberg (1995) defends herself by stating that “although *break* is a causative verb, we have no reason to think that it is necessarily understood in terms of ‘X causes y to move to a broken state’” (Goldberg 1995: 85-86). The problem with this analysis is that Goldberg’s solution is *ad hoc*; if a result phrase is interpreted metaphorically as a goal (which inevitably implies some kind of movement) and if this seems to happen in all cases, why cannot *break* also be interpreted metaphorically? To be sure, we must explain why the notion of metaphorical motion should apply only to result phrases and not to verbs. Furthermore, Goldberg’s analysis does not account for the “aesthetic” examples considered in the previous subsection; if metaphorical motion is limited to result phrases and does not also concern verbs, sentences such as *#He cut the stone beautiful* should be acceptable. Motion would involve only the aesthetic landscape. Of course, one could argue that this example is excluded on independent grounds since beautiful is not a maximal endpoint adjective. The problem with this line of reasoning is that thin in *He cut the bread thin* is neither.

In sum, Goldberg’s constraint, if correct, applies to the combination of resultative phrases alone and aesthetic adjectives must be excluded for independent reasons (see section 3.2). The fact that the notion of unique path (and unique domain) must be restricted to the resultative phrase distinguishes Goldberg’s approach from the one adopted in the previous subsection. I argued that reference to a single domain must be evaluated relative to both the verb and the alleged resultative phrase.

It is also worth stressing that, whereas condition (1) of the Unique Path Constraint seems to be correct in the sense that two endpoints cannot be specified simultaneously, the following example belies the correctness of condition (2):

(126) The tyrant ordered them to jump to their death off the castle.

(126) clearly evokes two landscapes, one pertaining to life (cf. *jump to their death*, where *to their death* specifies the goal of motion) and the other pertaining to physical motion (cf. *jump off the castle*, where *off the castle* specifies the source of motion). Nevertheless, their combination is possible because, intuitively, jumping off a castle is associated with risking one’s life. Although I will not pursue this matter any further, I conclude that Goldberg’s Unique Path Constraint must be interpreted as banning two simultaneous endpoints if they are unrelated (in terms of specification). It also requires the existence of a single path, although the result (i.e. *death* in [126]) brought about by the attainment of the target location (i.e. “ground” in [126]) can be substituted for the target location.

4. Conclusion

In this chapter I have shown that subcategorised objects of transitive verbs are not necessarily inherited as objects of the resultative construction. This is often the case with subcategorised objects of optionally transitive verbs (e.g. *He drank [beer]_; *He drank himself to death*), but it is often neglected that (see Rivière 1981, 1982, 1995) even a causative verb such as *frighten* may not take its subcategorised (and obligatory) object as its object in the resultative construction (e.g. *Sally frightened Chris; Sally frightened an admission out of Chris*). The appearance of the subcategorised object in the constructional preposition’s complement slot – which gives rise to an asymmetric resultative construction – depends on the fact that the change complex (i.e. the complex formed by the affected entity plus the change phrase) is the primary source of meaning for the resultative construction. In more detail, the change complex can have either an allative or an ablative meaning, depending on whether it predicates (possibly abstract) motion into/to a location or motion out of/from a location.
Finally, it has been observed that aesthetic adjectives are banned from resultative constructions and that resultative constructions require adjectives (such as *flat*) that refer to objective properties (i.e. the objective affectedness generalisation).

Chapter 4
Motion and idiosyncrasy

This chapter rounds off the discussion of transitivity and selection of the change phrase, which was also the topic of the preceding chapter. It points out that subcategorised objects of transitive verbs may not be inherited at the constructional level at all, see section 1.2. This is evidence of the fact that change constructions are not always obtained by adding some material at the end of a simpler, related structure (e.g. *John scrubbed the table* ⇒ *John scrubbed the table clean*), but rest primarily on the interpretation assigned to the change complex. I propose that verbs exhibiting complete lack of inheritance of the subcategorised object are construed as emission verbs, see section 1.2. More in general, the importance of the notion of motion, which emission verbs evoke, may be related to the need of establishing tight links between the constitutive subevents of change constructions so as to make information easily retrievable, see section 2.

Further, it is underlined once more (see section 3) that restrictions on change constructions also depend on the choice of the change phrase. I argue that the selection of adjective phrases is a matter of degree (see Verspoor 1997, Boas 2000) relative to entrenched scenarios (cf. the expected consequence generalisation) and cannot be captured by a formal system à la Wechsler (2001), see section 3.1. I propose that one of the relevant generalisation, alongside the objective affectedness generalisation and the preference for phonologically short adjectives (i.e. the phonological length generalisation), is the part-whole affectedness generalisation, see section 3.2. Only those adjectives are used which potentially apply to every part of the affected entity (if possible). I also refine on the temporal generalisation (see section 3.1.3.1 in particular) by showing that temporal dependency between subevents is influenced by the notion of animacy (i.e. the revised temporal generalisation). Temporal dependency obtains if
and only if the resultative phrase refers to either a visible condition of an inanimate entity or the position of an animate entity.

The chapter ends with a summary of the main points argued in this and the preceding chapters, see section 4. The temporal generalisation, the objective affectedness generalisation, the phonological length generalisation, the part-whole affectedness generalisation, and the expected consequence generalisation can all be motivated on the basis of simple notions such as the distinction between concrete versus abstract energy transfer, the use of the cognitive archetype dubbed billiard-ball model by Langacker (1991), and the importance of entrenched scenarios.

1. The motion scenario

The data examined in §3.1.3 show that unsubcategorised objects of transitive verbs in change constructions are possible and are not restricted to so-called wash verbs (i.e. verbs of [intended] removal). The problem must now be addressed as to when unsubcategorised objects of transitive verbs are available. I contend that their availability depends on the activation of a motion scenario involving the transitive object (i.e. the object that the verb takes in isolation, not in the change construction). By this I mean that the transitive object referent is part of a scenario in which an entity is subject to (allative or ablative) movement either literally or metaphorically as (usually) indicated by the use of spatial prepositions. We must distinguish between two cases: either the motion scenario is evoked by the construction (in which case the transitive object referent is the landmark of the change complex) or the motion scenario is evoked by the verb (in which case the transitive object referent can be the moved entity). In the latter case, I will show that emission verbs are used.
Motion and idiosyncrasy

(129a) shows that *frighten* can be used with an unsubcategorised object, see (129b), in a change construction; still, the subcategorised object *him*, see (129c), appears as the complement of the constructional complex preposition *out of*. Similar observations hold good of the verb *beat*, see (130), which, like *frighten*, cannot be said to be a verb of removal (see §3.1.3). (131a) illustrates that the transitive object, see (131c), may not be expressed in the syntax of the change construction but may be understood as the landmark of the relation alluded to by *away*. This has been indicated by making use of the empty set symbol Ø in (131a), which stands for *from him*. In other words, we understand that the relational predication *away* takes the *anxiety* for its trajector and *John* for its landmark: the anxiety moved away from John. The change phrase can also be coded syntactically as an adjective, as in (132)

(132) He cut himself free.

where the adjective *free* is employed. Nevertheless, Li (1999, note 1) claims that the adjective *free* ultimately refers to a position (i.e. one is no longer in the original spatial configuration after the cutting event took place). Therefore, the change phrase in (132) is to be interpreted spatially although it is not a prepositional phrase syntactically. Interestingly, what one can cut oneself free from is not always what one acts upon (by cutting). Consider the following examples:

(133) a. A knife was passed by the pilot to the passenger so that he might *cut himself free* from the seatbelt. (www.canadianseaplane.com/safety/drowned/drowned.htm)
   b. Is there a small particle of rope left on the blade of the pocket knife to indicate that Mallory *cut himself free* from Irvine? (www.pbs.org/wgbh/nova/everest/lost/dispatches/990525n2.html)
   c. He decided to *cut himself free* from his family. (digilander.iol.it/Leolor/Spaziotempo/Joyce.htm)
   d. *Man must cut himself free from all prejudice and from the result of his own imagination.* (www.ncf.carleton.ca/ip/community.associations/bahai/view/investig)

Seatbelt in (133a) is what the passenger cut. Clearly, this is not the case in (133b), where Mallory cut the rope tying him to Irvine. As for (133c) and (133d), we can argue that their subject referents cut the ties with their *family*, see (133c), and *prejudice*, see (133d), respectively, or that *family* and *prejudice* were regarded as metaphorical fetters.

The ability of *cut* to combine with entities that are conceptualised as fetters shows that the landmark within the change complex (e.g. *prejudice* in [133d]) need not be the entity acted upon (cf. *He cut the prejudice*), although the two are related to each other (cf. *He cut the ties with prejudice*).

Let us now consider the following examples:

(134) a. *He washed the soap out of his eyes.*
   b. *He washed the soap.*
   c. *He washed his eyes.*

(134) shows that *wash* can behave similarly to *frighten*, *beat*, and *kiss*. However, the latter verbs differ from *wash in*, at least, one important respect. One can argue that *wash* implies motion in the form of separation by itself: one washes, say, a dress because one wants the dirt to be removed from it (although the removal may not be actually achieved). This is not surely the case with *frighten*, *beat*, and *kiss*, which, as I argued in §3.1.3, cannot be classified as verbs of removal. Still, *frighten*, *beat*, and *kiss*, on the one hand, and *wash*, on the other, share the property of being associated with a motion scenario (relative to their transitive object): either an entity is removed from or comes out of another (as in [129a], [131a], and [134a]) or an entity moves into another (as in [130a]). I will say that the motion scenario, in the case of *frighten*, *beat*, and *kiss*, is evoked by the construction; if this is so, the transitive object becomes the landmark of such a motion scenario. As far as the verb *wash* is concerned, I contend that the motion scenario can be associated both to the verb itself and to its constructional use since *wash* implies (intended) removal in any case.107, 108
We conclude that subcategorised objects of transitive verbs are realised as either trajectors of the change complex (as in She beat him to death) or landmarks of the change complex (either coded syntactically as in She frightened an admission into him or understood as in She kissed the anxiety away). The latter case obtains when a motion scenario relative to the transitive object is evoked: the constructional object referent is conceptualised as moving into/out of the change complex landmark, cf. (129a) and (130a), respectively. In other words, sentences such as *They frightened the campground empty are excluded. The subcategorised object of the transitive verb frighten (e.g. the hikers) is neither the trajector of the change complex (which is the campground) nor the landmark of a motion scenario (i.e. the campground did not move relative to the hikers). On the other hand, if a transitive verb implying separation such as cut is used, the landmark of the change complex may be linked, but not identical, to the subcategorised object (cf. He cut himself free [from his family]; He cut * [the ties with] his family).

1.2. The motion scenario is evoked by the verb

The abovementioned generalisations apparently apply only to “obligatorily” transitive verbs (see section 2 for a more detailed discussion). Consider (135) (from Rappaport Hovav and Levin 2001):

(135) Leslie scrubbed her knees sore. (meaning: “Leslie’s scrubbing the floor made her knees sore”)

The subcategorised object the floor is neither the trajector of the change complex (which is her knees) nor its landmark (which is a region along a scale of physical states). Scrub, a verb of (intended) removal, is however optionally transitive:

(136) He scrubbed (the floor) for hours.110

The question obviously arises of what counts as an obligatorily transitive verb. However, before dealing with this problem (see section 2.1), I will show that even allegedly “obligatorily” transitive verbs may not inherit the subcategorised object.

Consider the following example of Football English (see Broccia 2001c):

(137) a. Vialli headed Chelsea [in front/level].
   b. Vialli headed * [the ball].

(137a) means that Vialli, a former Chelsea’s player, headed the ball into the net (i.e. scored a goal), thus either bringing Chelsea, say, one goal up against their opponents (i.e. in front) or equalising the number of goals scored by Chelsea’s opponents (i.e. level). We note that the subcategorised object of head (ball, as indicated in [137b]) corresponds to neither the trajector of the change complex, which is Chelsea, nor the landmark of the change complex, which is their opponents (cf. [in front of/level with] their opponents). (137a) seems therefore to contradict the conclusion arrived at in the previous section that the subcategorised object of an obligatorily transitive verb must be realised as the landmark in the change complex (if it is not inherited as the constructional object).

In § 3.1.1, we saw that optionally transitive verbs such as drink, see (138a), can take unsubcategorised objects, see (138b), in change constructions, see (138c):

(138) a. We drank (beer).
   b. * We drank the pub.
   c. We drank the pub dry.

We might try to argue that head, contrary to what is suggested by (137b), is an optionally transitive verb, although under special circumstances to be clarified. Consider the following example:

(139) ... Yorke rising unopposed to head Ø over the line from eight yards.
(139) means that Yorke scored a goal by heading the ball.\footnote{This example shows that head, like drink, can be used with a “null object” \( (i.e. \text{it does not take an object noun phrase in the syntax, indicated as the empty set symbol } \emptyset \text{ in (139) (and corresponding to the ball).}} The only difference with a verb like drink lies in the fact that head requires a prepositional phrase (e.g. over the line) if a null object is to be used.\footnote{Hence, contrary to what is suggested by (137b), head does seem to be classifiable as an unspecified object verb, thus allowing for unsubcategorised objects such as Chelsea in a change construction. But now consider:} (140)  

\begin{enumerate}
\item Bill put *(the book) on the table.
\item 3 \text{[i.e. third minute] First chance of the match when Claudio Lopez puts } \emptyset \text{ over the bar after United are caught exposed at the back.}
\end{enumerate}

It is impossible to leave out the object \textit{the book} in (140a) even if it is clear from the context that Bill moved the book in question. On the other hand, (140b) allows a null object to be used. It seems odd, however, to classify put as an unspecified object verb, as (140b) might suggest. Rather, the contrast in (140) rests on the fact that null objects depend not only on their being pragmatically inferable from the context but also on the construal of the verb in question as a \textit{verb of emission} (see §1.3.3.1).\footnote{Head can be categorised as a verb of emission because the ball “originates” from the subject referent; head denotes the “emission location” rather than the “emitted substance”. Similarly, provided the right context (e.g. a football match, where we are concerned with the movement of the ball), put can be conceptualised as a verb of emission. Put in (140b) implies that the ball is “emitted” from Claudio Lopez (cf. the possible expression \textit{a ball from Claudio Lopez}) to the location indicated as over the bar. In (140a), on the other hand, the book is not emitted; it does not move through space on its own.}

Going back to (137a), Vialli headed Chelsea \textit{(in front/level)}, we note that not only is head used as a verb of emission but it also takes as its constructional object the noun Chelsea, which stands in a part-whole relation with Vialli. In conclusion, two factors seem to be involved in the use of sentences such as (137a): the employment of a verb of emission and the use of an object “strongly linked” to the subject. I will follow Fauconnier and Turner (2002: 92-102) and label the part-whole relationship existing (or established) between two elements a \textit{vital relation} (other examples of vital relations include change, identity, time, space, cause-effect, representation, role, analogy, etc.; the interested reader is referred to Fauconnier and Turner’s work for detailed discussion).

In more detail, we have seen that if a verb can be construed as a verb of emission, it can take a null object (which corresponds to the emitted entity in the case of head).\footnote{If it can take a null object (cf. verbs such as eat and drink), an unsubcategorised object can be used in a change construction. The unsubcategorised object is linked, through a vital relation, to either the subject referent (as in Vialli headed Chelsea in front) or the subcategorised object (e.g. the ball). The latter case is illustrated in some of the following examples (the object of the verb head in each sentence has been emboldened):}

\begin{enumerate}
\item a ball aimed at Flo is headed out by Couto
\item Angloma headed \emptyset into Bosnich’s hands from close range
\item Stankovic manages to head \textit{the cross} back from the far post for Simeone, but the ball had just crossed the line
\item David James … could have known little about Harry Kewell’s shot on the turn after Lucas Radebe had headed down Jason Wilcox’s corner
\item after 67 minutes Shearer beat Leboeuf near the right-hand corner flag and from his excellent centre Lee headed \textit{his first goal of the season
\item he headed a good chance wide
\end{enumerate}
In (141), *head* takes *ball* as its object, which corresponds to the subcategorised object of the verb. (142) is another example showing the possibility for *head* to be combined with a null object. The remaining cases illustrate that the object for *head* can correspond to the path traversed by the ball (e.g. *cross* in [143]), the origin of the ball’s path (e.g. *corner* in [144]), the end of the ball’s path (e.g. *goal* in [145]), and the “value” of the ball’s motion (e.g. *chance* in [146]). Such cases are traditionally viewed as being instances of metonymy since the constructional object can be substituted with *ball*. On the other hand, *Vialli headed Chelsea in front* does not exhibit metonymy because *ball* cannot replace *Chelsea* (i.e. *Vialli headed the ball in front*). Rather, the sentence under scrutiny resembles examples like *Leslie scrubbed her knees sore* (see [135] above) in that the object in either case stands in a part-whole (vital) relation with the subject referent.

The reader may have noted that I have implicitly categorised (145), *Lee headed his first goal of the season*, as a change construction even if the syntactic structure V + O is employed (i.e. no change phrase is used). The possibility of using an unsubcategorised object in an apparently non-change construction structure may simply be due to the fact that *goal* already indicates the position achieved by the ball, so that we can treat such an example as a “reduced” change construction. In fact, an additional spatial expression may sometimes be found, as in “ordinary” change constructions:

(147)  *He rocketed in his first goal of the season.*

(148)  ... *Vincenzo Montella, who knocked his 13th goal of the season into the empty net.*

In (147) *in* stands for *into the net*, which is explicitly mentioned in (148).

On the other hand, if the selected object is different from *goal*, the syntactic structure is that of a “normal” change construction (i.e. V + O + CP). Either a prepositional phrase (e.g. *over the bar* in *to head the corner over the bar*) or an adjective phrase (e.g. *wide in to head the cross wide*) specifies the final position attained by the ball in relation to the goal or the pitch (e.g. *to head the cross upfield*).

### 1.3. Summary

“Obligatorily” transitive verbs (such as *beat*) can realise their subcategorised objects (or make them understood as with *kiss* in [131a]) as landmarks in the change complex, which evokes a motion scenario. The expressed or understood landmark may be linked, but not identical, to the transitive object. This seems to be the case with transitive verbs indicating separation by themselves as in (132)-(133) above (e.g. *He cut himself free*). Further, the change construction structure with *head* in (137a) shows that the transitive object may not be realised either as the trajector or as the landmark in the change complex. Such a possibility may depend on the verb’s being (construed as) a verb of emission. Indeed, verbs of emission seem to be rather versatile in that they allow various constructional objects (see §2.3.2.1).

We can summarise such findings by way of the following implication:

(149)  **The motion/emission scenario implication**

If an unsubcategorised object of an obligatorily transitive verb appears as the constructional object in a change construction, then the change construction codes either 1) a motion scenario relative to the subcategorised object (i.e. the subcategorised object referent corresponds to the landmark in the change complex) or 2) an emission scenario relative to the subject referent by way of the verb (i.e. the subject referent is conceptualised as a location out of which an entity is emitted).

The motion/emission scenario implication is compatible with the impossibility of the sentence *The bears frightened the campground empty*. This example is not acceptable because the verb *frighten* is not a verb of emission involving the subcategorised object *the hikers*.
(i.e. the hikers are not conceptualised as moving out of the bears vs. Tom headed his team level, where the subcategorised object the ball is an emitted entity with respect to Tom). Nor does the change complex code a motion event relative to the subcategorised object (i.e. the campground did not move relative to the hikers vs. She kissed his anxiety away (from him), where the anxiety metaphorically moved away from him).

2. Tight links and information retrieval

The motion/emission scenario implication, if correct, is descriptively adequate, that is, it captures the distribution of un-subcategorised objects of obligatorily transitive verbs in change constructions. Nevertheless, one might argue that the notion of transitivity is a complex one (see Rice 1987 among others) and hence one might wonder what counts as an obligatorily transitive verb in the definition above. Further, one may want to try to show that the motion/emission scenario implication derives from some “basic principle(s)" operating in the linguistic system. Why can we combine an unergative verb (admitting that such a notion can be defined in an unambiguous way) with an apparently arbitrary change complex (as in Tom drank the pub dry) but we must evoke either a motion scenario or an emission scenario if we want to use an un-subcategorised object in a change construction based on an obligatorily transitive verb? I try to answer such questions concerning transitivity and the importance of the notion of motion in the following two subsections.

2.1. Transitivity and motion

I propose that the notion of obligatorily transitive verb in the motion/emission scenario implication can be replaced with the more easy-to-define notion of transitive verb. By this term, I mean any verb which takes a postverbal noun phrase (hence, including optionally transitive verbs). To put it differently, the label subcategorised object in the motion/emission scenario implication refers to any postverbal noun phrase that a given verb can take in isolation (i.e. independently of the resultative construction). As a matter of illustration, let us analyse the examples in (150)-(152) ([151] and [152] are based on Felser and Wanner 2001), in which each of the (b) sentences can be taken as expressing the result of the event described in the relevant (a) sentence.

(150) a. Sally drank (beer).
    b. Sally drank herself to death.

(151) a. Sally smiled (her radiant smile [at Tom]).
    b. Sally smiled herself tired.

(152) a. Sally danced a piece from Swan Lake.
    b. Sally danced her feet sore.

Drink is an optionally transitive verb (see [150a]). Interestingly, we can view it as satisfying the motion/emission scenario implication if we interpret the notion of emission scenario in a more general sense. The emission scenario describes the motion of an entity out of another. Now, drink describes the motion of an entity (i.e. the drinkable substance, beer in [151a]) into another (i.e. the drinker). Hence, the motion/emission scenario implication is satisfied if the emission scenario is interpreted more generally as implying a motion scenario, irrespective of its ingressive or egressive nature (i.e. movement into an entity or movement out of an entity), provided that it involves the subject referent and the subcategorised object referent.

The verb smile can take a cognate object as in (151a). This example shows that smile can be construed as a verb of emission. The full version of (151a) (i.e. considering all the material in parentheses) means that Sally “produced” smiles (i.e. smiles “came out of” her) and that they were directed at Tom. Hence, an emission scenario is evoked involving the subcategorised object smile.

Finally, the object of the verb dance in (152a), a piece from Swan Lake (which is a hyponym of the cognate object dance), can be de-
scribed as a product of Sally’s performance, hence as an emitted entity. We conclude that (152a) also implies an emission scenario involving the subcategorised object a piece from Swan Lake.

Let us now consider the following examples containing motion verbs:

(153) a. Cindy ran ten miles.
   b. Cindy ran the soles off her shoes.

(154) a. Bill drove his old car.
   b. Bill drove his engine clean. (based on an advertisement cited in Levin and Rappaport Hovav 1995)

(155) a. Alice surfed the net.
   b. Alice surfed herself silly.

The noun ten miles in (153a) describes the path along which Cindy moved (i.e. run subcategorises for a path which can be expressed, for example, by way of a quantified noun). Bill in (154a) moved driving his car, that is, together with it. Finally, the net in (155a) stands for the metaphorical surface along which Alice moved. Therefore, a motion relation obtains in sentences (153)-(155) between the subject referent and the subcategorised object as expected on the basis of the (revised) motion/emission scenario implication (see the discussion of [150] above).

Let us now turn to verbs designating intellectual activities.

(156) a. Milton read (several books).
   b. Milton read himself blind.

(157) a. Milton thought great thoughts.
   b. Milton thought himself into a frenzy.

Reading a book, see (156), can be easily conceptualised as a journey through it (e.g. I’m halfway through this monograph). As for (157), thoughts can be construed as moving entities relative to the thinker (e.g. The thought had crossed my mind). Hence, we can say that the verbs read and think in (156) and (157) evoke a motion scenario connecting the subject referent and the subcategorised object.

We could even stretch the notion of motion scenario so much as to cover cases like (158b):

(158) a. Penny hammered the metal.
   b. Penny hammered herself silly.

(158b) can mean that Penny hammered the metal so much that she became silly, for example, because of the noise/vibrations caused by the hammering event. In other words, a motion scenario could be envisaged between Penny and the metal: the metal “emitted” noises/vibrations which “went into” Sally (and caused her to become “silly”). I will return to this, admittedly, contrived interpretation below. For the moment being, I conclude that the implication in (159) below, i.e. the revised motion/emission scenario implication, (descriptively) accounts for the use of unsubcategorised objects in resultative constructions with verbs that can take a postverbal noun phrase when used in isolation (i.e. what I call transitive verbs):

(159) The motion scenario implication

If an unsubcategorised object of a transitive verb appears as the constructional object in a change construction, then the change construction implies a motion scenario relative to either the intended subcategorised object referent or the subject referent (i.e. either the subcategorised object or the subject referent is the landmark of a motion scenario).

As it stands, (159) is compatible also with examples like (135), Leslie scrubbed her knees sore, because the intended subcategorised object, the floor, for example, functions as a landmark for the intended emission (i.e. removal) of dirt. The same line of reasoning applies to sentences such as Sally swept the broom to pieces (based on Boas 2000) – the intended subcategorised object the floor is a landmark for the intended emission of the broom.
within a motion scenario where dirt is (potentially) being removed – and (160) below:

(160) There was, in truth, no more agitating thing the Sincerity could conspire to do to a poor fellow than this, with its huge clanking roar, causing all to judder and creak, and so, drowsiness being now quite smashed out of me, I resigned myself to rising for the day. (Matthew Kneale, English Passengers, 2000: 296)

The verb smash, which denotes a forcible action carried out upon an entity resulting in the emission of a loud sound, can also be used to simply indicate an act of destruction without implying the emission of any sound, as in The army smashed the rebellion (from LDELC). Although it may be hard to pinpoint the exact intended subcategorised object in (160), the sentence is compatible with the motion scenario implication even if the intended subcategorised object is not equated with drowsiness. In more detail, the subcategorised object can be taken as corresponding to parts of the ship Sincerity which were violently acted upon thus emitting loud noises. Hence, the intended subcategorised object referent functions as a landmark for the emission of loud sounds. If this is so, (160) corroborates the claim that transitive verbs indicating the emission of an entity (e.g. a ball or a sound) can take objects in the change construction which may not be identical to transitive objects.

Although the motion scenario implication seems to be on the right track, it may be more difficult than in the previous examples to regard sentences such as He drove his engine clean and He painted the brush to pieces as satisfying it (see also [158b] above, Penny hammered herself silly). As for the former sentence, the intended subcategorised object the car is a landmark for the subject referent (who is contained in it and which is involved in a motion scenario thanks to it). In the latter sentence, the intended subcategorised object (e.g. the rooms) is a landmark in a motion scenario because it denotes the location where paint ended up. If we accept this line of reasoning, we conclude that all the examples discussed so far satisfy the motion scenario implication. The bears frightened the campground empty is still ruled out because no motion scenario can be envisaged in which either the hikers (i.e. the intended subcategorised object) is a landmark or the bears functions as a location out of which an entity is emitted.

2.2. Linking events

Although some cases, such as (158b) above, Penny hammered herself silly, may be difficult to view as activating a motion scenario, the importance of such a notion for many examples cannot be discounted. The activation of a motion scenario (in the sense of the motion scenario implication in [159] above) correlates with the use of unsubcategorised objects in the change construction. This does not mean, of course, that all unsubcategorised object cases can (and should necessarily) be motivated by invoking it.

Obviously, the question arises as to why the motion scenario is so important in the licensing of (at least some) change constructions. Intuitively, the motion scenario points at the low perceptual saliency of the intended subcategorised object referent either because such an entity is a landmark (and landmarks are perceptually less salient than trajectors by definition) or because it can be retrieved meronomically (i.e. in a part-whole manner) on the basis of the subject referent (i.e. it is conceptualised as an entity which moves from inside the subject referent to a position outside the subject referent). It can be the case that the intended object referent is low in perceptual saliency because it is easy to retrieve (and hence it can be coded through a motion scenario). Indeed, by analysing the semantic pole of change constructions, we note that the integration between its two constitutive subevents relies upon the establishment of various vital relations. For example, in Sally kissed the anxiety away from Chris, Chris is shared by the two subevents Sally kissed Chris and its result, the anxiety went away from Chris. In Vialli headed Chelsea in front, the subcategorised object the ball is linked to Vialli because, in a sense, it comes out of him, but is also more generally linked to Chelsea be-
cause they are the team who profited from the goal. Further, Vialli is linked to his team, Chelsea. Such links between the two constitutive subevents are explicitly shown in Figure 16:

![Figure 16](image)

Tight links between the two subevents making up Vialli headed Chelsea in front

The finding concerning the existence of tight links between subevents in change constructions brings to the fore an important, although often neglected, observation regarding the types of unsubcategorised objects used when the verb is usually classified as being intransitive. Felser and Wanner (2001: 106) note that “resultative constructions [of intransitive verbs] typically involve a reflexive anaphor that is bound by the matrix subject”. Even if we consider sentences such as (161), which do not contain a reflexive anaphor,

(161) a. They drank me under the table.
b. Alice cooked Tom and Bill to death.
c. Penny surfed the night away. (i.e. “Penny surfed the internet all night long”)

we observe that the verbal events and the change events coded by the change complexes are tightly linked. In (161a), I was drinking together with the subject referent. In (161b), Alice prepared the food that Tom and Bill (who we interpret as her guests, for example) ate. The night in (161c) expresses the metaphorical location that Penny traversed (cf. also the locative value of the pub in Tom drank the pub dry).

If we consider the impossible sentence *The bears frightened the campground empty, we note that the hikers who got frightened cannot be retrieved through the verb (i.e. they are not an emitted entity). Further, the campground is not necessarily the location where the bears were when they frightened the hikers (versus Tom drank the pub empty, which implies that Tom was in the pub); nor is it necessarily the location where the hikers were when they got frightened. Rather, it is simply the location where the non-retrievable hikers were based. The existence of loose links between the two subevents is represented in Figure 17, which must be contrasted with Figure 16 above.

![Figure 17](image)

Loose links between the two subevents making up the impossible sentence *They frightened the campground empty.

In sum, the motion scenario in case 1) of the motion scenario implication allows the subcategorised object to be retrieved and creates a link between the two events coded by the change construction. As for case 2) of the motion scenario implication, object retrievability also seems to be involved. More in general, case 2) change constructions show tight links between the verbal event and the change event, which does not seem to be the case with the impossible sentence *The bears frightened the campground empty.

To conclude, change constructions seem to be based on the existence of tight links (i.e. numerous vital relations) between their constitutive subevents. This is particularly so when a motion scenario is activated.

3. Lexical variation

Having concluded the discussion of transitivity, I now move to the issue of idiosyncrasy in the choice of the change phrase. Researchers (cf. Verspoor 1997; Wechsler 2001 among others) have observed that not all conceivable change phrases actually occur (see also
§3.3.2). For example, Wechsler (2001) reports the following judgments for change constructions with transitive verbs, see (162a)-(162b), and unaccusative verbs, see (162c):

(162) a. Sam wiped the table {clean/dry/*dirty/*wet}.
    b. Sam hammered the metal {flat/smooth/*beautiful/*safe/*tubular}.
    c. The puddle froze {solid/*slippery/*dangerous}.

Verspoor (1997) provides us with some examples of change constructions based on the unergative verbs laugh, see (163), and dance, see (164):

(163) a. He laughed himself {to death/*dead}.
    b. He laughed himself {to sleep/*sleepy/*asleep}.
    c. He laughed himself {out of a job/*jobless/*unemployed}.
    d. He laughed himself {silly/faint/dizzy/*tired}.
    e. They [laughed/#tittered/#insulted John out of the room].
    f. They laughed John {into the room/down the hall}.

(164) a. He danced himself {to fame/*famous}.
    b. He danced his feet {sore/*to soreness}.
    c. *He danced himself sore.
    d. *He danced himself crippled.

Before examining the data above, it must be pointed out that the use of the diacritic * is, at best, ambiguous. Such a symbol is usually employed to indicate ungrammatical sentences, that is, sentences which are judged impossible by all native speakers of a language. This claim is a rather bold one and deserves closer attention. It is indisputable that some combinations are virtually impossible. For example, no native English speaker would say *He Jane met for He met Jane. However, the former sentence cannot be excluded tout court from certain realms of language use, such as poetry. Analogously, forms like I goes for I go are attested in certain dialects of English. Hence, the statement that a given structure is ungrammatical in the sense illustrated above is not adopted here. Rather, the diacritic * is taken to indicate a very unlikely structure whose “impossibility” might be overridden by contextual factors (register, dialect, etc.), unless, probably, such a structure is an idiom (e.g. black and white vs. *white and black). On this hypothetical scale of likelihood, the symbols *, ??, ?, and # can be interpreted as denoting increasing acceptability of the linguistic item in question. Significantly, # is usually reserved for structures whose acceptability depends on context.

Nevertheless, the fact that these diacritics are here not meant to reflect the computational output of a formal grammatical system such as the one postulated within the tradition of generative grammar does not free us from the task of elucidating why such “degrees of likelihood” occur in the language. In particular, as far as the examples in (162) and (163) are concerned, the apparently rampant idiosyncrasy in the combinations of verbs and change phrases has led some researchers to despair of finding some constraints (or generalisations) governing their occurrence:

Research on this problem (Green 1972) has uncovered no general principle which predicts this difference in acceptability, and I take this as a good indication that this construction is a kind of lexicalised compound verb, though one which typically appears as a discontinuous constituent. (Dowty 1978: 303, quoted in Wechsler 2001)

On the other hand, other researchers (see Broccias 2001b; Wechsler 2001) have tried to unravel the forces that might be at play in the licensing of sentences such as (162) and (163). In this section, I will review Wechsler’s approach and show that his analysis, although basically on the right track, is untenable if taken as a formal approach (see section 3.1). In its place, I will propose that change phrase selection can be captured by taking into account, among other factors, the distinction between gestalt and part-whole properties (see section 3.2).
3.1. Wechsler’s (2001) approach

Wechsler (2001) argues that the judgements in (162) can be explained by resorting to the concept of telicity. He suggests that telicity is a constructional feature of resultatives, as illustrated by the following examples based on transitive and intransitive verbs, respectively:

\[(165)\]

a. John is hammering the metal. \(\Rightarrow\) John has hammered the metal. (atelic)
b. John is hammering the metal flat. \(\Rightarrow\) John has hammered the metal flat. (telic)
c. John hammered the metal (for an hour/*in an hour).
d. John hammered the metal flat (*for an hour/*in an hour).

\[(166)\]

a. John is drinking. \(\Rightarrow\) John has drunk. (atelic)
b. John is drinking himself to death. \(\Rightarrow\) John has drunk himself to death.
c. John drank (for an hour/*in an hour).
d. John drank himself to death (*for a year/*in a year).

(165) and (166) show that resultatives imply a telic event when the verb is not used in the progressive form. In the latter case, an atelic interpretation obtains since this is the specific function of the progressive form in English: the progressive form specifies that the verbal event is unbounded (see Langacker 1991: 207-211 for details).

Wechsler suggests (see also Hay et al. 1999; Krifka 1998; Levin 1999, 2001; Tenny 1994) that a telic event requires an affected theme (i.e. an entity that undergoes a change), a property scale (or path, that is the “dimension” along which the theme changes), and a bound (i.e. the final configuration arrived at by the affected theme). In other words, some property of the affected theme changes by degree along a scale (e.g. flatness in John hammered the metal flat) because of the action described by the verb (e.g. hammer), until it reaches a bound (e.g. the metal is flat). The reader may have realised that Wechsler’s hypothesis amounts to a paraphrase of what I have visually represented as the change component within the Event Change Schema:

Figure 18. The change component

His affected theme corresponds to the theme, TH, illustrated in Figure 18 as the smaller circle inscribed in the bigger one on the left. The theme moves (either literally or metaphorically) along a path, P, (roughly corresponding to Wechsler’s property scale or path, see below) from a source, S (which can be a point or a region), to a point or region T (for target), which stands for the final state or position achieved by the theme and thus corresponds to Wechsler’s bound. An important difference between the two models resides, however, in the interpretation of what the path is. My model always requires a transition from a state/position S to a state/position T, that is a path. Wechsler’s model, as will become apparent from the following discussion, implies a path only if either a gradable adjective (cf. flat vs. dead) or a prepositional phrase (e.g. to death) is used.

Wechsler’s model of telicity also requires the telic event and the path to be homomorphic and coextensive. With the former term, he implies that parts of the event in question must correspond to parts of the path and vice versa. The latter term makes it clear that the event must begin when the affected theme is at the start of the path and end when the affected theme reaches the end of the path. In other words, homomorphism between the telic event and the path obtains at the same arbitrary point in time along a (initially and finally) bounded time arrow. Finally, Wechsler’s model of telicity is based on the assumption that the affected theme must be an argument of the event-denoting predicate.

After having outlined his model of telicity, Wechsler proposes that “in a resultative construction, the property scale (path) for the verb is expressed by the resultative secondary predicate” (Wechsler 2001: 7). Once again, Wechsler’s proposal can be viewed as analo-
I proposed that we recognise two subevents in change constructions, namely the event component and the change component, which can be represented (at least in some cases, see next chapter for details) as in Figure 19. As we saw in §2.2.5, the change component is what the resultative predicate is about. It specifies that the theme is subject to a change, be it of state or position.

The combination of a verbal predicate with a resultative predicate may imply the sharing of the theme argument (as in the example in Figure 19, where the dashed line connects the theme with the manipulee), but this is not necessarily always the case (as in Vialli headed Chelsea in front). Given Wechsler’s model of telicity and his proposal on the nature of the resultative predicate, we obtain two predictions:

**Case 1.** If the theme argument is shared (i.e. the theme is an object of the verb in isolation), the verbal event, by being associated with a path, becomes a telic event and hence homomorphism and coextension between the event and the path is required.

**Case 2.** If the theme argument is not shared, then the verbal event is not necessarily a telic event and hence homomorphism and coextension between property scale and event is not required.

I will discuss Case 1 in sections 3.1.1 and 3.1.2 below and Case 2 in section 3.1.3, showing that Wechsler’s (2001) account is not always correct.

### 3.1.1. Type I: Shared arguments and gradable adjectives

Let us consider Case 1 first. The bound may be coded by either an adjective or a prepositional phrase. If an adjective is employed, there can be two possibilities. (A) Either the adjective (and hence the path) is gradable and closed-scale with a maximal endpoint (e.g. clean) – in so-called Type I resultatives (e.g. Sally wiped the table clean) - or the adjective is non-gradable (e.g. dead) – in so-called Type II resultatives (e.g. Sally shot the miller dead). The former possibility implies the use of a durative verb (given the homomorphism and coextension requirements). The latter possibility implies the use of a punctual verb. (B) If the bound is coded by the complement of a preposition, the path can be long or short, so that we can have durative and punctual verbs, respectively. This type of resultatives is referred to as Type III (e.g. Sally battered the rabbit to death).

Let us analyse the three types in more detail. Wechsler argues that his approach explains the impossible adjectives in (167):

(167) He wiped it [clean/dry/smooth/*damp/*dirty/*stained/*wet].

If we use the adjective clean, for example, we expect the sentence to be acceptable because we have an affected theme (the entity referred to by it), a property scale (“cleanness”), homomorphism (parts of the wiping event correspond to degrees of cleanness of the affected theme) and a bound (clean is a gradable closed-scale maximal endpoint adjective). Similar observations hold of dry and smooth. On the
other hand, *damp, dirty, stained, and wet* are impossible because they are gradable minimal endpoint adjectives. In other words, in the absence of a contextual standard, the standard defaults to a minimum so that they are *de facto* open-scale adjectives. This means they are incompatible with the notion of bound.

Appealing as Wechsler’s account may be, it can be easily shown that in the case of Type I resultatives, we have some counterexamples:

(168)  a. I sprinkled them wet with the garden hose.
    b. You can press the button, and spray people wet.

The adjective *wet* in (168) appears in a resultative construction with durative verbs (*sprinkle* and *spray*). Hence, if we accept Wechsler’s proposal, we conclude that *wet* must be here a gradable closed-scale maximal endpoint adjective. This would mean that the interpretation of *wet* (as a maximal vs. minimal endpoint adjective) depends on the context as suggested by Wechsler. But why should *wet* not be a maximal endpoint adjective in (167) as well? If Wechsler’s hypothesis is correct, there must be some reason for it. I would like to argue that the exclusion of the adjectives *damp, dirty, stained,* and *wet* from (167) does not stem from their contextual interpretation as a minimal endpoint vs. maximal endpoint adjective. Rather, the notion of *expected consequence* seems to be the determining factor.

When we wipe something, we do so because, overwhelmingly, our intention and/or expected result is that something becomes clean or dry. The scenario in which something gets smooth because of many repeated instances of wiping is also a very easy one to activate. On the other hand, if we use the verb *wipe* in conjunction with *damp, dirty,* etc., we are resorting to a more complex operation, namely one where we negate the expected consequence(s) of the action of wiping (*i.e.* *cleanness* and/or *smoothness*). In some sense, the action of wiping was not “effective”. If we sprinkle something, see (168a), we expect that entity to become covered with particles of a certain liquid up to the point in which the whole affected entity may be described as “wet”.

Let us now move to the examples in (169) (from Verspoor 1997):

(169)  a. *John hammered the metal red.*
    b. John painted the fence red.

Both sentences in (169) contain the gradable, closed-scale, maximal endpoint adjective *red* (*cf. completely red*), yet only (169b) is acceptable. To be sure, homomorphism cannot be the determining factor for the contrast in acceptability, since there is no reason why it should not obtain in (169a). The only difference between (169a) and (169b) lies in the fact that *red* describes a (relatively) transient property in (169a), but not in (169b). As a matter of fact, it may be that adjectives in resultative constructions cannot denote (relatively) transient properties. However, Wechsler’s formal model is insensitive to such a criterion.

Also problematic for Wechsler’s approach are the sentences in (170):

(170)  a. Sally battered John senseless.
    b. Sally battered John silly.
    c. Sally sprayed her skin soft.

Batter is a durative verb (*cf. Sally battered John {for five minutes/*in five minutes}*). Still, *senseless,* see (170a), is not a gradable adjective (*cf. *very/quite/extremely senseless*) and homomorphism does not necessarily obtain: the state of being senseless can be reached quite suddenly. *Silly* in (170b), although classifiable as a gradable closed-scale maximal endpoint adjective (*cf. completely silly*), does not imply homomorphism: John could have become silly suddenly. Similarly, (170c) contains the gradable closed-scale maximal endpoint adjective *soft* (*cf. completely soft*) but Sally’s skin did not necessarily become soft either during the event described by the verb or immediately after the spraying event ended.

An additional problem Wechsler’s account runs into derives from the motivation adduced for the distribution of the adjectives in (171):
Solid is possible because it is a gradable, maximal endpoint adjective (cf. *completely solid) and homomorphism between the freezing event and the river’s becoming solid obtains. If beautiful, dangerous, slippery are selected, homomorphism does not obtain according to Wechsler. Although such a claim should be demonstrated in more detail, let us suppose it is correct. In any case, beautiful, dangerous, and slippery are said not to be gradable closed-scale adjectives (cf. *completely beautiful, ??completely dangerous, ??completely slippery). We note, however, that the combination of these adjectives with completely may be a matter of context (cf. a completely dangerous course of action) and its acceptability may vary among speakers. For the sake of the argument, let us suppose, as we did in connection with the notion of homomorphism, that these adjectives do not qualify as gradable closed-scale adjectives. The crucial point is that the two requirements concerning homomorphism and the gradability of adjectives are applied to a verb of change of state. Let us now consider the pair in (172) (from Verspoor 1997):

(172) a. *John chiselled the ice shiny.
    b. John hammered the metal shiny.

Intuitively, homomorphism between the verbal event and the event hinted at by the adjective either obtains in both or not. Suppose this is so; then, why is shiny impossible in (172a), which contains a verb of change of state? Similarly, the verb cut in

(173) John cut the bread thin.

refers to a change of state (i.e. that of the bread). Yet, if uttered out of the blue, the phrase completely thin sounds odd (i.e. thin does not seem to be classifiable as a gradable maximal endpoint adjective), but the sentence in (173) is perfect.

In general, verbs that imply a change can combine with gradable, open scale adjectives (cf. *completely wide):

(174) He opened the door wide.

Even if the line of reasoning followed here – the selection of adjectives with verbs of change of state (cf. freeze) is regulated by homomorphism and adjectival gradability and, yet, there are change verbs which combine with gradable open-scale adjectives (see [173] and [174]) and others which cannot combine with gradable closed-scale maximal endpoint adjectives (see [172]) – were shown to be incorrect, the dubious nature of homomorphism and the completely test for the adjective in (171) remains.

In conclusion, the homomorphism requirement and the gradable, closed-scale adjective requirement do not seem to apply to all cases, cf. (170) above all. Further, one may add the additional problematic fact that the impossible adjectives in (167) cannot be replaced by prepositional phrases such as to dirtiness, to wetness, to dampness, an option which should be permitted within Wechsler’s approach – the relevant examples would be of Type III (see below).

3.1.2. Type II and type III: Shared arguments, non-gradable adjectives and prepositional phrases

Type II resultatives are illustrated in (175):

(175) Sally shot Chris dead.

The observation that (175) implies a punctual event seems correct. A sentence such as:

(176) Sally shot Chris to death.

is understood as indicating that repetitive instances of the shooting event took place and that Chris did not die immediately. Similarly, the contrast in (177):

(177) The rabbits had apparently been battered to death/*dead).
can be explained only by appealing to the fact that the use of *dead* implies a punctual event, which is not the case with the durative verb *batter*. On the other hand, the prepositional phrase *to death* is compatible with a durative reading since the preposition *to* may refer to a path and hence the example becomes acceptable.

Nevertheless, we have already seen that non-gradable adjectives such as *senseless*, see (170a), *Sally battered John senseless*, can be combined with durative verbs (such as *batter*). Further, the whole issue of homomorphism, at least as far as Type III resultatives are concerned, is not correct. The example in (178)

(178) [headline] Student stabbed to death.  
[text] He was treated by a paramedic and taken by helicopter to hospital, but he died soon afterwards. (The Guardian 14.9.1999)

does not imply homomorphism (either in the case the event of stabbing is durative or in the scenario in which the event is punctual) despite the fact that *student* is an argument of the verb (as required by the three types of resultatives discussed so far). The verb *stab* in (178) can refer to repetitive instances and, yet, the text makes it clear that the death occurred after the event of stabbing took place (see Lemmens 1998: 25 for a strikingly analogous example in Dutch). Similarly, consider (179) (based on Rappaport Hovav and Levin 2001):

(179) The critics panned the comedy out of town.

The fact that the comedy moved out of town occurred only after the critics criticised the comedy; therefore, no homomorphism obtains in (179) either.

I will take up the issue of homomorphism once more in the next subsection. For the moment, we conclude that the correctness of the observation concerning the selection of the prepositional variant in (177) does not have to do with homomorphism.

3.1.3. Non-shared arguments

I now turn to *Case 2* examples and argue that temporal dependency is context-dependent, being based on the notion of animacy, see section 3.1.3.1. Moreover, I discuss variation in acceptability involving verbs, adjectives and prepositional phrases, see section 3.1.3.2. I conclude that short adjective phrases and basic verbs are preferred.

3.1.3.1. Temporality

Wechsler’s model predicts that if the theme argument is not shared, then the verb is not necessarily telic and, hence, homomorphism and coextension are not required (*Case 2* above). Such a prediction seems to be confirmed by (180) (which was discussed in §2.1.1):

(180) He danced his feet sore.

Soreness might have occurred the day after the dancing event. Nevertheless, the fact that homomorphism is not always required in transitive cases either (cf. [170c]) should be explained. Further, there is a strong tendency for sentences such as (180) to be interpreted as implying homomorphism (or at least as implying that soreness obtained immediately after the dancing event). In §2.1.1, I proposed that visibility (i.e. visible conditions) requires that no temporal gap is allowed between the verbal event and the event denoted by the resultative adjective:

(181) The temporal generalisation

If the resultative phrase refers to a position or visible state, such a position or state is attained, at worst, immediately after the end of verbal event. If the resultative phrase does not refer to a position or a visible state, then the attained state can take place after the end of the verbal event.
Since soreness is not a visible property, a temporal gap is allowed in (180). Still, the temporal generalisation does not capture the lack of temporal dependency in (170c), *Sally sprayed her skin soft*, where a temporal gap is allowed. A sentence such as (170c) implies neither that the event of Sally’s spraying her skin unfolded together with the event of her skin’s becoming soft (i.e. homomorphism) nor that Sally’s skin became smooth immediately after the spraying event stopped. Rappaport Hovav and Levin (2001) correctly note that there exist two groups of resultative sentences containing subcategorised objects. On the one hand, if verbs of exerting force are used, temporal dependency obtains:

(182) *We pulled the crate out of the water.* (from Rappaport Hovav and Levin 2001)

(182) contains the verb of exerting force *pull*. The event of pulling and the motion of the crate out of the water unfolded together. On the other hand, if we do not employ a verb of exerting force, the homomorphism requirement does not obtain:

(183) *Clara rocked the baby to sleep.* (from Rappaport Hovav and Levin 2001)

(183) does not imply temporal coextension between the rocking event and the event of the baby’s falling asleep (which could also have taken place some time after the rocking event culminated). Similarly, when we are dealing with abstract entities such as *comedy*, see (179), no temporal dependency obtains. Temporal dependency seems to be a matter of world knowledge. We know that certain states (such as soreness, sickness, the skin’s smoothness) can take some time to develop; hence, a temporal gap is allowed.

These two types of temporal pattern (i.e. temporal dependency versus lack of temporal dependency) are not restricted to cases where a subcategorised object is employed. Consider the following sentences:

(184) a. *Sally talked her throat dry.*  
b. *Sally danced her legs sore.*

(184a) implies temporal coextension between the talking event and the event of the throat’s becoming dry, whereas (184b) does not. We conclude that temporal dependency is not simply a function of exerting force versus non-exerting force verbs (viz. *pull* vs. *rock*) but depends on world knowledge. I have captured these facts in the (revised) temporal generalisation below:

(185) The temporal generalisation (revised)  
If the change phrase refers to a condition (i.e. state, property, position, circumstance) of an inanimate entity or a position of an animate entity, such a condition or position is attained, at worst, immediately after the end of verbal event. If the change phrase refers to a state or property of an animate entity, such a state or property can be achieved after the end of the verbal event.

The gist of the temporal generalisation consists in the observation that when we are dealing with forces acting upon inanimate objects we expect changes (in the position of such objects or properties thereof) to be immediate. This is part of the fundamental cognitive scenario dubbed billiard-ball model by Langacker (1991), who has shown it to play a crucial role in the shaping of syntax. If we predicate a change of state of an animate entity, we cannot infer that temporal coextension always obtains since the resultative event may take some time to manifest itself due to intrinsic properties of the affected entity (cf. *to spray one’s skin soft*). We conclude that temporal dependency is not deducible formally, as in Wechsler (2001)’s model, but is a sense in context. It depends on the nature of the entities involved (animate vs. inanimate) and their constitutive properties (e.g. one’s skin can become smooth after one has finished spraying it, but one’s throat usually becomes dry as one talks). For ease of exposition, I consider an entity as animate when the coming about of a certain state depends on the properties of the entity in question. For ex-
ample, in Sally sprayed her skin soft, her skin is “animate” in the sense that smoothness (i.e. the property to which soft refers) depends on some process taking place inside the skin (i.e. “animate” is not a synonym for “conscious”; see the example He was lured into the room willingly in §5.1.4 for more details on consciousness and change constructions). In other words, the skin actively participates in the coming about of the property of smoothness. On the other hand, in Sally sprayed her skin wet, the skin is simply conceptualised as a surface, that is, an inanimate entity which can be covered with a given substance.

In sum, the issue of the licensing of a temporal gap between the verbal event and the change event linked to the change phrase boils down to the nature of the entities involved in the process. If we are dealing with concrete inanimate entities (such as metal) no temporal gap is allowed. A sentence such as John kicked the ball out of the window can only mean that the ball moved out of the window immediately after John kicked it. This stems from the nature of the billiard-ball model, which describes concrete, physical interactions between objects. When we move to the realm of animate beings and abstract entities (such as comedy in [179], The critics panned the comedy out of town) temporal dependency is no longer guaranteed.

3.1.3.2. Competition

Wechsler’s model does not make any prediction concerning the examples in (163) and (164), repeated here as (186) and (187):

(186) a. He laughed himself {to death/*dead}.
   b. He laughed himself {to sleep/*slept/*asleep}.
   c. He laughed himself {out of a job/*jobless/*unemployed}.
   d. He laughed himself {silly/faint/dizzy/??tired}.
   e. They {laughed/#tittered/#insulted} John out of the room.
   f. #They laughed John {into the room/down the hall}.

(187) a. He danced himself {to fame/*famous}.
   b. He danced his feet {sore/*to soreness}.
   c. ?He danced himself sore.
   d. *He danced himself crippled.

According to Verspoor (1997), these examples illustrate that resultative constructions may have the idiom status (see also Boas 2000 for a similar position) since there seems to be no principled reason why certain options are excluded at the expense of others. For example, participles do not seem to occur as resultative forms, see tired in (186d) and crippled in (187d) (but see [209] below). Verspoor (1997) also points out that the options marked with the diacritic # in (186e) and the example in (186f) depend on the conceptualiser’s ability to find a suitable context. This seems to indicate that, although not necessarily idioms, resultative sentences do seem to code certain conventionalised, easy-to-activate scenarios. For example, the scenario in which John moved out of the room as a result of somebody’s laughing at him, see (186e), is intuitively more easy to envisage than the one where John, as a result of the same laughing event, entered a room, see (186f). Further, the verb titter is semantically more specific than laugh, see (186e), and insult is more abstract than, say, shout as far as the notion of force is concerned. Despite the correctness of Verspoor’s observation, I would like to argue that some general principles can be drawn from examples such as (186) and (187).

One cannot help noticing that, in (186a-c) and (187a), the prepositional variant is preferred over the adjectival one. Earlier on, see (177) (The rabbits had apparently been battered {to death/*dead}), we observed that to death is preferred to dead when the verbal event is not punctual, probably a case of iconicity (i.e. an adjectival phrase, as is implicitly suggested by Wechsler 2001, does not code a change explicitly):

(188) Temporal profile iconicity

If the span of time required for the change of state to take place is relatively short, an adjective is used when available (and vice versa). Otherwise, a prepositional phrase is used.
Interestingly, iconic motivation also seems to be operative in (186a), which is not based on a transitive verb as (177) was. On the other hand, in the minimal pair *John hammered the metal into flatness, the former option is selected; this is so even if the action coded by the verb is interpreted as a prolonged event. There is an important difference between the pairs dead – to death and flat – into flatness, though. Dead and death contain the same number of syllables (i.e. one), whereas flatness and flat do not. As (187b) seems to confirm (189) The phonological length generalisation

If adjectives are used with prolonged events, then the adjective is phonologically shorter than the related preposition’s complement.124

The notion of “prolonged event” is of course a matter of conceptualisation. It may sometimes be difficult (or irrelevant) to decide on the actual temporal profile of an event and, when this is so, we may find that both the adjectival and the prepositional forms (which are equal in length) are employed:

(190) a. ... with the mixture of heat and soft breeze I felt I could drift asleep. (Alex Garland, The Beach, 1997: 6)
   b. I drifted back to sleep, almost. (Alex Garland, The Beach, 1997: 7)

(191) a. Afterwards Gonar said we were foolish not to fight Roingin and spear them dead. ... (Matthew Kneale, English Passengers, 2000: 53)
   b. The next morning Sutton and two other stock-keepers were found, speared to death near their huts. (Matthew Kneale, English Passengers, 2000: 75)

The contrast between (191a) and (191b), for example, could be analysed in terms of construal. (191a) could be argued to construe the event of spearing Roingin (i.e. the white settlers in Tasmania) punctually, by abstracting away from the specific points in time at which each instance of the spearing event occurred. On the other hand, (191b) could be analysed as construing the spearing event as a path with some temporal extension (either because the spearing event occurred at different points in time or because the event of dying took some time to unfold, i.e. it was not instantaneous).

The phonological length generalisation in (189) also correlates with the observation that the adjectives used in resultative constructions are usually mono- or bi-syllabic. As a matter of speculation, one might point out that, as is well known (see Crystal 1999: 124), the “basic” vocabulary of the English language is made up just of mono- or bi-syllabic words, which are of Germanic origin. Further, they reflect basic aspects of everyday life. Now, the observation concerning the everyday nature of such basic words correlates well with the cognitive grounding of the resultative construction, that is the billiard-ball model, which describes elementary or basic forceful interactions. We would then have a possible motivation for the proposal advanced in §3.3.2 that only adjectives referring to objective properties can be used in resultative constructions. Whereas resultative constructions with unsubcategorised objects are based on the metaphorical interpretation of actions as forces (e.g. one’s laughs are conceptualised as a force capable of driving a person out of a room), transitive resultatives (usually) employ verbs which describe energetic interactions by themselves.125

To sum up, the distribution of adjectives is more restricted than that of prepositional phrases and seems to be regulated, among other things, by a preference for short resultative phrases if a potential choice exists between two related forms (e.g. flat vs. flatness). This may be due to the fact that derived forms are more abstract than un-derived ones.

3.2. Gestalt versus part-whole properties

In this section, I propose that a fundamental generalisation capturing the distribution of adjectives in change constructions is the part-
whole affectedness generalisation. Such a generalisation rests on the distinction between properties that can be predicated of an entity as a whole only (i.e. gestalt properties) and properties that can be predicated of every part of an entity (i.e. part-whole properties).

Let us consider the following examples, some of which have already been taken into account:

(192)  a. *He hammered the metal safe.
    b. *He hammered the metal beautiful.
    c. *He hammered the metal tubular.
    d. *He hammered the metal triangular.
    e. *He hammered the metal wide.
    f. *He hammered the metal long.

All the examples in (192) are excluded by Wechsler’s (2001) model because of either the lack of homomorphism (as with safe and beautiful) or the choice of a non-suitable adjective in terms of gradability. Tubular and triangular are not gradable (very tubular, very triangular); wide and long are gradable adjectives, but open-scale ones (extremely wide, extremely long). Wechsler’s model predicts that these two groups of adjectives cannot be combined with a durative verb like hammer. However, it has been pointed out above that, at least for the former group of adjectives, such a prediction is not borne out (cf. to batter somebody senseless, where senseless is non-gradable, cf. very senseless). Secondly, the issue of homomorphism is a complex one and it has been shown that, even in transitive resultatives containing subcategorised objects, there are clear cases where it does not obtain (cf. to spray one’s skin soft, to pan a comedy out of town). Thirdly, the tests for deciding on the class an adjective belongs to may be influenced by contextual factors. Moreover, contextual factors may also affect the acceptability of the sentences in (192), as is the case for (192a):

(193) The slide at the park had a section which had come loose. Several children had hurt themselves on the protruding edge.

In order to prevent further injuries, John hammered the metal safe. (from Verspoor 1997)

The reasons listed above are sufficient to cast doubt on the correctness of Wechsler’s approach as a formal model. Still, the fact that allegedly gradable, open-ended adjectives (viz. long, wide) and non-gradable adjectives (viz. tubular, triangular) do not usually occur cannot be denied. I would like to argue that the impossibility (or severe deviance) of the examples in (192b-f) is captured by the following generalisation:

(194) The part-whole affectedness generalisation
If a resultative adjective refers to a property of an affected object Y, then P describes any part of Y (if possible).

The adjective flat in John hammered the metal flat refers to a property of the metal as a whole but also describes the state of any arbitrarily chosen part of the metal’s surface. The qualification in brackets, if possible, is intended to account for at least two cases where part-whole adjectives (i.e. adjectives like flat) are not used in change constructions. First, the affected entity may be conceptualised as a point. For example, in Sally battered Chris senseless, senseless can only describe the affected entity as a whole; it does not make sense to predicate it of a part of the affected entity. Second, the verb, as is employed in the construction, may only refer to a property of the whole affected entity. Consider (195):

(195) ... I saw him coming back, carrying two sacks that were heavy so they pulled his arms long. (Matthew Kneale, English Passengers, 2000: 258)

Long is usually impossible in change constructions, as in (192f), *He hammered the metal flat, since it describes a property of the whole object, i.e. it cannot be used to describe any arbitrarily chosen part of the metal in (192f). Of course, it could be argued that long in (195) is interpreted metaphorically, standing for a spatial configuration such
as down. Alternatively, we may note that the verb pull in (195) necessarily refers to an action carried upon an entity as a whole: whereas one can hammer parts within the metal, the event of pulling targets the whole arm (under the intended interpretation of [195]).

Given the part-whole affectedness generalisation, (192a), *He hammered the metal safe, is expected to be acceptable, as is argued by Verspoor (1997), because safe clearly describes a property of any arbitrarily chosen part of the metal. Alternatively, we might argue that safe describes a position, not a property (see also notes 127 and 128). Beautiful, see (192b), describes a property of the metal as a whole but does not imply that any arbitrarily chosen part of the metal is beautiful. Similarly, if the metal is tubular or triangular, this does not imply that every part of the metal is such. Wide and long also refer to the object as a whole since we can select parts of it that are neither wide nor long.

The examples in (196)

   b. *The puddle froze dangerous.

are also excluded because not every part of the frozen puddle can be described as slippery or dangerous. The fact that the puddle froze does not imply that the whole of the puddle froze, otherwise sentences such as The puddle froze solid or The puddle froze up, which indicate by way of solid and up that the puddle froze completely, would not be necessary. Hence, we cannot say that the puddle is slippery because it froze and that the puddle is dangerous because it froze. There can be parts of the puddle which are not slippery because they are still in a liquid state and, similarly, there can be parts of the puddle which are dangerous because they are still in a liquid state.

The generalisation in (194) also captures the deviance of (187c), repeated here below:

(197) ?He danced himself sore.

Sore is intended to describe a property of only a part of the personal pronoun referent (i.e. his legs) but can potentially refer to the whole body. Sore in (197), given (194), would imply that the whole entity referred to by the personal pronoun is sore, but this is not the intended meaning, of course. On the other hand,

(198) Milton read himself blind.

is perfect because blind can only refer to Milton’s eyes. A final example is worth mentioning. Consider (199):

(199) He folded this note up very small... (J.K. Rowling, Harry Potter and the Goblet of Fire, 2000: 38)

(199) cannot be regarded as a Wechsler’s Type I resultative construction. Fold clearly denotes a non-punctual action (hence, Type II classification is excluded); further, (199) cannot be taken as a Type III construction since very small can hardly be viewed as the complement of up. Hence, we are left with a potential Type I classification. However, small, although gradable, is not a maximal endpoint adjective (cf. completely small), therefore, (199) does not fit into Wechsler’s classificatory system. On the other hand, if we rely on the part-whole affectedness generalisation, we conclude that such a generalisation is compatible with (199). Small can indeed refer to any arbitrarily chosen part of the note since any of its parts will be smaller than the small note as a whole, of course.

3.3. Summary

Wechsler’s (2001) approach is undeniably very appealing. However, if intended as a formal system, it runs into various problems. Homomorphism in Case I, see section 3.1, does not always obtain (see [170c], [178], [179], and He rocked the baby to sleep); some transitive cases cannot be classified as either Type I or Type II (see [168], [170a]); the criteria for the classification of adjectives are context-
Motion and idiosyncrasy dependent (see note 126). Still, the general observation concerning the impossibility of adjectives such as beautiful, triangular, long (the latter intended to describe “length”, see note 127), and slippery in Case 1 examples - where the affected object is a possible argument of the verb in isolation - is on the right track. In the preceding section, I have argued that the choice of the adjective can be captured by the part-whole affectedness generalisation, which expresses the idea that any part of the theme must be describable, if possible, as having a property P.

Similarly, the observation concerning the optionality of homomorphism in Case 2 examples - where the affected entity is not a possible argument of the constructional verb as in (198) above or in John danced his legs sore - is also generally correct. Nevertheless, I have tried to argue that homomorphism is determined contextually, that is, it depends on world knowledge. We know that our skin may take some time to become smooth; hence, a Case 1 sentence like She sprayed her skin soft does not imply homomorphism. On the other hand, a Case 2 sentence like He talked his throat dry implies homomorphism because we know that our throat becomes dry as we talk.

It comes as no surprise that a temporal gap may occur between the verbal event and the resultative event particularly in Case 2 sentences. There exists an important difference between the verbs used in Case 1 sentences and Case 2 sentences. The verbs employed in examples where the affected entity is a possible argument of the verb usually specify an energy-transfer:

Some verbs used when the affected entity is a possible argument of the verb:
- verbs of removal (drink, lick, rub, scrub, sweep, wipe, etc.)
- verbs of addition (load, splash, spray, etc.)
- verbs of impact (batter, hammer, hit, pound, etc.)
- causative verbs of change of shape (cut, smash, etc.)
- causative verbs of change of position (close, open, etc.)

The verbs used in Case 2 sentences do not imply an energy transfer towards the affected entity (on their own).

Some verbs used when the affected entity is not a possible argument of the verb:
- verbs of emission (laugh, shout, talk, etc.)
- verbs of movement (dance, walk, ride, surf, etc.)
- intellectual and physiological verbs (read, write; sleep, etc.)

In sum, the verbs used in change constructions with subcategorised objects are usually “energetic”. They describe, by themselves, energetic interactions, actions performed upon other entities. On the other hand, the verbs used in change constructions with non-subcategorised objects describe non-energetic actions and the fact that they can bring about some change in an entity depends on their being construed as forceful (or energetic) actions.125

If we hypothesise that, in every-day language, we tend to combine expressions from similar domains, it is no wonder that Case 1 sentences usually imply homomorphism. Both verbs and adjectives refer to the physical domain of the billiard-ball model; hence, we expect homomorphism. On the other hand, in Case 2 examples, verbs and adjectives do not refer to energetic interactions between objects; consequently, there is no reason for homomorphism to obtain.

4. Interim conclusion

We can now summarise the main conclusions arrived at in the last two chapters. Two main problems have been addressed: the relation between the arguments of the change construction and the arguments that the constructional verb takes in isolation, on the one hand, and the selection of adjectives (and also prepositional phrases, see §3.3 and section 3.1.1) in change constructions.
4.1. Transitivity

It has been shown that transitive verbs do not necessarily inherit their subcategorised objects at the constructional level:

(200)  a. Sally kicked the door.
       b. Sally kicked the door out of its frame.
       c. Sally kicked a hole in(to) the door.

The door is the subcategorised object of kick in (200); yet, only in the change construction (200b) is the door the object of the verb kick. The door is realised as the proposition’s complement in (200c). (200) demonstrates that the realisation of the subcategorised object the door as either constructional object, see (200b), or proposition’s complement, see (200c), depends on the conceptual relation entertained between the constructional object and the prepositional phrase, whose combination I have referred to as the change complex. The prepositional change complex is interpreted either in an allative sense (if prepositions indicating either motion towards a location or containment, such as into or in, are used) or in an ablative sense (if prepositions indicating separation or non-containment, such as out of, off, are used). It has been shown that the prepositional change complex can denote physical motion (e.g. She ordered me into the room), the coming about of (or removal from) a condition or a circumstance (e.g. He burst into tears; Sally talked me out of jumping off the bridge), transformation (e.g. She kissed the frog into a prince), or an act of creation (e.g. They cut a quarry into the mountain).

In (200b), the change complex the door out of its frame refers to the separation of the door from the frame. If this is the meaning we want to convey, a structure like (200b) is employed. Similarly, the complex a hole in(to) the door has an allative meaning, being interpreted as a (metaphorical) movement of a hole into the door. If this is the meaning we want to convey, (200c) is selected. Therefore, our discussion clearly shows that change constructions are not merely obtained, so to speak, by adding some material at the end of a simpler, related structure. For example, the sentence John scrubbed the table clean seems to be constructed from John scrubbed the table by adding the adjective clean at the end. Nevertheless, asymmetric resultatives such as (200c) illustrate that this is not always the case.

Furthermore, it has been pointed out that the subcategorised object can also be left out in the syntax of the change construction. This occurs not only with “optionally” transitive verbs (cf. They drank [beer]: They drank the pub dry) but also with “obligatorily” transitive verbs. If this is the case, the intended subcategorised object may be interpreted as the landmark in the change complex:

(201)  a. She kissed him.
       b. She kissed the anxiety away.

Him, the subcategorised object of kiss in (201a), is not expressed in (201b), although it is understood as a landmark relative to the motion away of the anxiety (cf. the full version She kissed the anxiety away from him).

We have also noticed that the expressed or understood landmark in the change complex may be linked, but not identical, to the transitive object (of the “obligatorily” transitive verb) when, apparently, the verb indicates separation:

(202) He cut himself free (from his family).

Clearly, the subject referent in (202) did not cut his family, but, rather, the ties with them. A similar example which exhibits the lack of inheritance of the subcategorised object is (203):

(203) Vialli nodded Chelsea in front.

(203) means that Vialli nodded the ball into the net (i.e. he scored a goal by hitting the ball with his head) and, as a result, Chelsea, Vialli’s team, were, say, one up against their opponents. Neither the constructional object Chelsea nor the change complex landmark (i.e. Chelsea’s opponents, as in in front of their opponents) are possible objects of the verb in isolation (which obligatorily takes ball, as in
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Vialli nodded the ball. I have hypothesised that examples such as (203) are licensed by two factors. First, the verb *nod* is construed as a verb of emission (i.e. it implies the movement of an object originating from the subject referent): the ball is the emitted entity in (203). Second, the constructional object is strongly linked to the subcategorised object by virtue of a part-whole vital relation. Vialli is a player with (i.e. a “part” of) Chelsea. Interestingly, (203) resembles cases based on optionally transitive verbs where a part-whole relation obtains between the subject and object referents (cf. Leslie scrubbed her knees sore).

We can conclude that examples such as (201b), She kissed the anxiety away, differ from examples such as (203) in that the former evoke a motion scenario, relative to the subcategorized object, at the level of the construction (i.e. the verb does not code motion on its own and the subcategorized object is involved in a motion event because it corresponds to the landmark within the change complex), whereas the latter evoke a motion scenario, relative to the subcategorized object, at the level of the verb (i.e. the verb codes the emission of the subcategorized object, that is, it denotes its ablative motion but the subcategorized object is not the landmark in the change complex). I have also speculated that the latter case includes, in reality, what are called optionally transitive verbs and unergative verbs if we interpret the notion of emission in a more general sense. That is, a motion scenario obtains between the subject referent and what is usually called the optional object or the unselected object. Finally, the importance of the notion of motion for the use of unsubcategorized objects in change constructions might point at the need to create tight links (via vital relations in the sense of Fauconnier and Turner 2002) between the verbal event and the change event in the change construction.

A final observation is needed concerning the status of the change complex. I have pointed out that the meaning of resultative constructions derives from the interaction between the meaning of the change complex and the meaning of the verb. In particular, the distribution of the arguments within the resultative construction does not depend so much on transitivity (i.e. a verb’s transitive object is not automatically inherited as a constructional transitive object) as on the possible meaning(s) that their distribution can have in the change complex *vis-à-vis* the intended meaning of the sentence. One might wonder how it is possible that expressions such as *a passage out of us* (cf. He monkeyed a passage out of us, see [3.22i]) may be interpretable since they cannot (usually) occur on their own. A sentence like *He monkeyed a passage out of us* is grammatical, whereas *a passage out of us* is not (newspaper headlines or book titles aside). Nevertheless, the fact that a structure is not grammatical does not mean that it is not represented at the conceptual level. Forms such as *a passage out of us* may be considered as instantiations of a schema (or unit) such as [y P-z], possibly specified for y-process and z-animate entity, which is obtained by abstracting away components of sentences instantiating it (e.g. *He got a passage out of us*). Further, a schema like [y P-z] (but also [y Adjective]) contains a relational predication, P (or Adjective), hence it is no wonder that we try to relate y and z. In sum, I assume that structures like y P-z are part of the grammar of the English language and have unit status.134

4.2. Resultative adjectives

The issue of adjective selection in change constructions is related to temporality. I will therefore also briefly summarise what resultative constructions tell us about temporal dependency.

4.2.1. Temporality

I have argued that the interpretation of the temporal relation between the two subevents coded by a resultative construction (either transitive or intransitive) is captured by the following generalisation:

(204) The temporal generalisation

If the change phrase refers to a condition of an inanimate entity or a position of an animate entity, such a condition or po-
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If the change phrase refers to a state or property of an animate entity, then such a state or condition can be achieved after the end of the verbal event.

Both resultative constructions containing subcategorised objects and resultative constructions containing unsubcategorised objects can allow a temporal gap. *To spray one’s skin smooth* does not imply that the event of the skin’s becoming smooth unfolds together with the spraying event. Nor does it imply that the former event obtains immediately after the verbal event. Similar considerations hold good of *to dance one’s legs sore*, which contains the unsubcategorised object one’s legs. On the other hand, *to spray one’s skin wet* (which contains the subcategorised object one’s skin) and *to talk one’s throat dry* (which contains the unsubcategorised object one’s throat) imply that the events of spraying one’s skin and of the skin’s becoming wet, on the one hand, and the events of talking and the throat’s becoming dry, on the other, unfold together. The difference between the two cases (i.e. absence versus presence of temporal dependency) lies in our world knowledge. Smoothness and soreness may take some time to manifest themselves because they depend on intrinsic properties of the affected entity (i.e. skin and legs). In other words, the affected entity is somehow animate because it contributes to the coming about of the state in question. This is not the case with wet and dry, which are predicated of affected entities conceptualised as inanimate surfaces onto or from which something (i.e. a liquid substance) is added or removed.

4.2.2. Adjective selection

In chapter 3 I have argued that adjectives in causative transitive change constructions always describe objective affectedness. For example, the sentences in (205):

(205) a. #Sally painted the room beautiful.
b. #Sally loaded the cart heavy.

are colloquial variants of the constructions with the related adverbs beautifully and heavily, respectively, and are not on a par, in terms of acceptability, with non-colloquial forms such as Sally opened the door wide. Crucially, beautiful implies an aesthetic judgement. Heavy refers to a property which cannot be (usually) verified with the aid of our eyes alone but is inferred, for example, from observing that a large number of crates were placed on the cart. Further, the weight of the cart may not have been affected by the crates because it was much greater than that of the latter. In other words:

(206) The objective affectedness generalisation
Adjectives in resultative constructions, colloquial usage aside, imply objective affectedness.\textsuperscript{135}

In section 3.2, after reviewing Wechsler’s (2001) approach, I also proposed that a special type of affectedness is conveyed by change constructions:

(207) The part-whole affectedness generalisation
If a resultative adjective refers to a property P of an affected object Y, then P describes any part of Y (if possible).\textsuperscript{136}

The part-whole affectedness generalisation expresses the fact that adjectives such as long and tubular cannot appear in resultative constructions:

(208) *He hammered the metal (long/tubular).

Long describes a property of the whole object but cannot be used to describe any arbitrarily chosen part of the metal. A similar line of reasoning applies to tubular. On the other hand, smooth in *John hammered the metal smooth* describes a property of any part of the metal. The selection of adjectives is however contextually dete-
mined, as indicated in the proviso in parentheses at the end of (207). Two cases where part-whole adjectives are not used are either when the affected entity is conceptualised as a point (e.g. Sally battered Chris senseless) or when the verb in the construction necessarily refers to a gestalt property, as in to pull somebody’s arms long, see (195). The latter example, however, could also be viewed as implying reference to a spatial position rather than a property (i.e. long stands for down). This line of reasoning may also apply to (209) (based on Boas 2000):

(209) He knocked the chair crooked.

The property of being crooked apparently refers to only a part of the chair (e.g. one of its legs). However, the fact that a part of the chair has a leg which is shorter than the others implies that every part of the chair is no longer straight with respect to its original position. Hence, the property crooked applies, in reality, to the whole chair (as is required by the part-whole affectedness generalisation). But, as I have suggested, the change in one of the parts of the chair results in all the other parts of the chair being altered with respect to the spatial axes. Consequently, crooked can (also) be regarded as referring to a spatial configuration (and, hence, as not being covered by the part-whole affectedness generalisation). On the other hand, it is clear that no spatial rearrangement for all parts of the metal is implied in cases like *He hammered the metal long/tubular.

Interestingly, we could derive the objective affectedness generalisation from the part-whole affectedness generalisation. An aesthetic adjective such as beautiful describes a property of the affected object as a whole but cannot be said to apply to every of its parts. In analogous fashion, heavy predicates a property of the cart as a whole in (205b), without implying that any arbitrarily chosen volume of the cart was heavy. Further cases like He boiled the potatoes soft, He fed the cat full, and The river froze solid all accord with the part-whole generalisation. However, it is dangerous to eliminate the objective affectedness generalisation for at least two reasons.

First, there are some examples which are not (necessarily) dealt with by the part-whole affectedness generalisation:

(210) a. Sam cut the bread thin.
b. ... a cart piled up high with what looked like brass binoculars... (J.K. Rowling, Harry Potter and the Goblet of Fire, 2000: 86)

Thin in (210a) and high in (210b) do not refer, strictly speaking, to bread and cart, respectively. Thin describes the state of the slices of bread. However, we might argue that every slice of bread was thin. Clearer is the case of high, which measures the vertical extension of the pile formed by the brass binoculars. In both cases, aesthetic adjectives are impossible (cf. *He cut the bread beautiful and *He piled up the cart beautiful); hence, the objective affectedness generalisation is needed alongside the part-whole generalisation. On the other hand, adverbs seem to be used if a configuration suggests some property (e.g. the decoration on the walls of a room may suggest “beauty”), see §3.4.2.

Second, the objective affectedness generalisation might be compatible with examples that, despite contradicting the part-whole affectedness generalisation, are actually selected by the speaker. Just as a matter of speculation, consider the following example (see also §3.4.2):

(211) I once loaded it [i.e. the truck] heavy on the back end and experienced some minor rubbing (only on big bumps) but have had no other problems in over 40K miles. (www.ford-trucks.com/dcforum/earlybronco/20.html)

(211) contradicts the part-whole affectedness generalisation but not the objective affectedness generalisation because heaviness here has a visible (i.e. objective) manifestation (i.e. the back of the car was lower than usual).

Finally, alongside the objective affectedness and part-whole generalisations, I also, more or less explicitly, proposed the following generalisation (see section 3.1.1):
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(212) The expected consequence generalisation
   Don’t negate expected consequences in resultative sentences.138

The expected consequence generalisation is motivated by the contrast in (213):

(213) a. Sally sprayed the plant wet.
   b. *Sally wiped the table wet.

(213b) is impossible because it negates what the action of wiping is intended for. Note that if we read the expected consequence generalisation in a positive form (i.e. predicate expected consequences in resultative sentences), heavy in (211) would satisfy it. We might expect that, if we load a cart heavily, it will lower. Hence, the part-whole affectedness generalisation (which bans the use of heavy) would be counterbalanced, so to speak, by the expected consequence generalisation and the objective affectedness generalisation. This might license the use of examples such as (211).139

The expected consequence generalisation may be linked to the more general observation that change constructions often (i.e. creative uses aside) code well-entrenched scenarios and resort to a limited range of verbs and adjectives as is summed up in (214):

(214) Entrenchment
   The acceptability of a change construction depends on how easily the coded scenario can be activated in the mind of the conceptualiser. In general, basic verbs and basic adjectives are preferred since they refer to basic (i.e. entrenched), and hence easy-to-activate, scenarios.

It must finally be pointed out (see note 105 in chapter 3 and the very important examples cited therein) that the distinction between adverbs and adjectives (as in the by-now familiar contrast He painted it beautifully vs. #He painted it beautiful) is often ignored in the spoken language in favour of the latter (i.e. the objective affectedness generalisation is to be intended as describing the educated variety of the language). Some of the resultative expressions containing aesthetic adjectives in place of aesthetic adverbs might, by virtue of their progressively increasing entrenchment, enter into the language as fixed expressions. Such is the case of the (originally American English) phrase Color Me Beautiful (instead of color me beautifully), which also occurs in the following British English text:

(215) ’I’m taking you to have your colours done! And don’t keep saying, “what”, please, darling. Color Me Beautiful. I’m sick to death of your wandering round in all these dingy slurries and fogs… (Helen Fielding, Bridget Jones’s Diary, 1997: 130)
The notion of change phrase (see §2.3.1) allows us to group together a variety of constructions with distinctive properties but sharing a common core, that of containing a nonverbal phrase that specifies a change event, independently of the notions of causality, lexical argument realisation, and the distinction between states and positions. Consequently, change constructions include sentences often neglected in the literature such as Sally laughed into her drink (a sublexical change construction) and She fought him to the death (a transitive subject oriented change construction).

I will show that generality is reconciled with specificity by linking the various cases to be examined to three main schemas, which form a network: the Force Change Schema (see section 1 and also §2.2.5), appropriate for transitive resultatives (in Levin’s 1993 sense) like He rocked the baby to sleep; the Event Change Schema (see section 2), appropriate for intransitive resultatives (in Levin’s 1993 sense) like The mansion burned down; and the Event Force Change Schema (see chapter 6), which blurs the distinction, usually based on force dynamics, between the Force Change Schema and the Event Change Schema and accounts for cases like Sally slammed off into her office (a colloquial variant of, for example, Sally slammed the door and went into her office). This sentence codes a forcible action (i.e. Sally slammed the door), as with Force Change Schema examples, but the entity which undergoes the change (of place) is the subject referent (i.e. Sally), as is the case with Event Change Schema examples.

I will argue, using insights from Fauconnier and Turner’s (1996, 2002) conceptual integration model, that both the Force Change Schema and the Event Change Schema can be regarded as resulting from the blending of two inputs (an event component and a change component), see section 1.2.2. Further, blending does not only obtain
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inter-schematically but also intra-schematically since the Event Force Change Schema can be viewed as a blend with respect to the Force Change Schema and the Event Change Schema (see next chapter).

The cognitive grounding of the Force Change Schema (see §2.2.5) and its compositional nature allow us to shed light on Goldberg’s (1995) constraints, which are not always correct (see section 1.4). I will also show how the proposed model can straightforwardly account for the complexity of actual data, especially non-Force Change Schema cases, thanks to the flexibility of integration processes. Flexibility allows for various “dimensions” of variation, such as the possible use of subcategorised versus unsubcategorised objects (as in They laughed me off the podium, see section 1.2.3.), the existence of various integration strategies (exhibited in sentences like He wiped the crumbs off the table, see section 1.2.1, or in the contrast between initial and final integration within the Event Change Schema, see section 2.2), the distinction between “true” and “false” resultatives (in the sense of Rapoport 1999, see section 1.3), the contrast between force construal and path construal (see section 2.3), the existence of two causal orderings (The mansion burned down vs. The fly buzzed out of the window, see section 2.1), and the possible lack of causality in some change construction examples (e.g. She drank Pina Coladas well into her twilight years, see section 2.1). In particular, causal change constructions will be shown to have noncausal counterparts.

1. The Force Change Schema

In this chapter I will analyse the Force Change Schema (see section 1) and the Event Change Schema (see section 2), deferring the discussion of the Event Force Change Schema to the next one. As far as the Force Change Schema is concerned, I will distinguish between subcategorised and unsubcategorised object cases (section 1.1 vs. section 1.2) on the basis of the (lack of) identity between the verb’s subcategorised object and the constructional object. The Force Change Schema is analysed as a blend in the sense of Fauconnier and Turner (2002), see section 1.2.2. Further, I will show that some Force Change Schema examples code mild causality (see section 1.3.1) while others involve specification (see section 1.3.2). This section will conclude with a discussion of Goldberg’s (1995) analysis, see section 1.4.

1.1. Subcategorised objects

Among the schemas to be posited within grammar I propose we include the Force Change Schema (FCS for short), which was introduced in §2.2.5. The Force Change Schema is appropriate for transitive causal change constructions such as John kicked the ball into the room and is illustrated in Figure 20.

For convenience’s sake, I will briefly illustrate its semantic pole again. The Force Change Schema comprises two subcomponents termed force (F) component and change (C) component. The force component describes a forceful interaction (F) construed as a unidirectional energy flow between an energy source (i.e. the manipulator M) and an energy sink (i.e. the manipulee m). In the example given in Figure 20, John (M) exerted a force onto the ball (m) by kicking it (F). The change component represents the change of state or position of an entity (the theme TH) from a state/position S (for source) to a state/position T (for target), thus defining a path P. In other words,
we have a predication relation between a trajector, TH, and a landmark (i.e. S, T, or both). In the example in Figure 20, the ball (TH) underwent a change of position by moving from an unspecified location S (for this reason S is not emboldened in Figure 20) to a location T, corresponding to the room. A dashed integration line connects m and TH because they both correspond to the same entity (the ball). Their identity seems to allow for the integration of the force component and the change component, thus giving rise to the structure depicted as the upper box in Figure 20. Such a structure shows that M exerts a force onto m thus causing it to undergo a change. It is also worth stressing that the linear order of the two boxes below captures the relation of causality existing between the force component and the change component: the force event (i.e. the kicking event) causes the change event (i.e. the ball’s displacement). Finally, it must be observed that the temporal profile of neither component in Figure 20 has been represented. As a matter of fact, we have noted that the issue of temporal dependency between the force component and the change component is a complex one, which I have tried to capture by way of the temporal generalisation in §4.3.1.3. Hence, we must interpret the Force Change Schema as simply indicating that the exertion of the force begins before the change of state/place does (as suggested by the upper box in Figure 20, where the force component precedes the path arrow). The actual implementation of the temporal relation between the F component and the C component - F is homomorphic to C (e.g. We pulled the crate out of the water), C occurs immediately after the end of the forcible event (e.g. She shot him dead), or C obtains some time after the forcible event (e.g. The critics panned the comedy out of town) - is another matter. The Force Change Schema is primarily concerned with the description of events in terms of forcible interactions.

The representation in Figure 20 is neutral with respect to dimensionality (see §2.2.5). States/positions conceptualised as having no dimensions can be represented by selecting the “X” within the circle in the change component, whereas states/positions conceptualised as having more than one dimension can be represented by selecting the circle (see Figures 11 and 12 in §2.2.5). Note that states, as well as positions, are amenable to this double characterisation. In more detail, in §4.3.2 I proposed the following generalisation:

(216) The part-whole affectedness generalisation
If an adjective refers to a property P of an affected object Y, then P describes any part of Y (if possible).

*John hammered the metal flat*, for example, implies that any arbitrarily chosen part of the metal ended up in a flat state. Now consider the following representation:

![Figure 21. The FCS for *John hammered the metal flat*](image)

The path (P) arrow in the change component, which specifies that a change takes place, has not been emboldened in Figure 21 because it does not correspond to any syntactic element. Nevertheless, it has been represented in the upper box in order to explicitly convey the notion of change implicit in the construction. TH is interpreted as ending up inside the target T. This is intended to represent the fact that any part of the theme has the property that the adjective visualised as T stands for.

Let us now analyse the representation below for the sentence *Sally battered Chris senseless:*

![Diagram](image)
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Figure 22. The FCS for Sally battered Chris senseless

Since senseless can only be predicated of the affected object (Chris) as a whole, the adjective has been represented monodimensionally as an “X” (i.e. a point). The “X” on the left in the change component (i.e. S) has not been blackened because it refers to a condition not explicitly mentioned in the syntax. Finally, the P subcomponent is not heavy because, as in Figure 21, no preposition explicitly codes the concept of transition.

1.2. Unsubcategorised objects: Above-the-norm reading and tight links

In Figure 20, I have linked the constructional object the ball to the manipulee (m within the force component) rather than the theme (TH in the change component). This is intended to capture the fact that the ball is a subcategorised object of the verb kick. We must now show how the Force Change Schema describes two other types of transitive causative change constructions where the constructional object is not (usually) a possible object of the constructional verb used in isolation (under the same interpretation). Let us start by considering the sentences in (217).

(217) a. Chris wiped the crumbs off the table.
b. Sarah kissed the anxiety away from Keith.

(217) illustrates the asymmetric change construction: the subcategorised object (e.g. the table in [217a]) is expressed as the landmark of the change component (or change complex). Interestingly, non-forcible verbs such as kiss, see (217b), can occur in the asymmetric change construction as well provided that the change complex is interpretable (i.e. the change complex must describe a motion scenario relative to the subcategorised object, see §4.1). Crucially, the two subevents of Sarah’s kissing Keith and the anxiety moving away from him in (217b) are conflated into a single clause whose structure (because of the object position reserved for the anxiety) elicits the construal of Sarah’s acting directly on Keith’s anxiety, see section 1.2.1 below for more details. Further, the event of kissing in (217b) is (usually) interpreted as having been carried out in a non-default way. For example, Sarah kissed Keith more times or with more intensity (or both) than usual.

The second type of unsubcategorised object change construction is illustrated in (218):

(218) a. Sally shouted Chris out of the room.
b. He drank the pub dry.
c. He painted the brush into pieces.
d. Vialli nodded Chelsea level.

(218a) contains the intransitive verb shout (cognate-object uses aside, see §2.3.2.1). Consequently, neither the trajector nor the landmark of the change complex are possible objects of the verb. Nevertheless, the two subevents of Sally’s shouting and Chris’s leaving the room are tightly connected. Grammatical evidence for this claim comes from the fact that the constructional object Chris can be combined with the verb shout alone (i.e. independently of the change construction) as in Sally shouted at Chris. It must also be observed that the event of shouting in (218a), as was the case for the event of kissing in (217b) above, intuitively implies some notion of “force”; Sally’s shouts are construed as a verbal weapon capable of affecting Chris.

Let us start by considering the sentences in (217).
It is worth pointing out that, even with an intransitive verb like shout, it is possible to have a change construction resembling the asymmetric one for transitive verbs. Consider (219):

(219) Sally shouted some sense into Chris.

The addressee, Chris (cf. Sally shouted at Chris), occurs in the same position (i.e. preposition’s complement) as the subcategorised object in an asymmetric resultative. This is further evidence that the distribution of the arguments of a verb in a change construction is “regulated” by the change complex (see §3.1.5). Put differently, transitivity is less important than one might assume insofar as tight links through vital relations hold between the constitutive subcomponents of a change construction (see §4.2.2, especially the discussion of the verb frighten).

Let us now go back to the examples in (218). (218b-d) resemble (218a) in that neither the trajector nor the landmark in the change complex is a possible object of the verb. Nevertheless, as in (218a), tight links exist between the verbal event and the change event. The pub in (218b) identifies the location where the drinks were kept and consumed (cf. He drank all the beer in the pub, He drank in the pub). The brush in (218c) denotes the instrument used for painting (cf. He painted the room with this brush). At the constructional level, both the pub and the brush are construed as affected entities. The events of, respectively, drinking and painting were carried out in an above-the-norm fashion thus affecting the pub (which ended up with virtually no more drinks) and the brush (which broke). Both drink and paint are usually classified as optionally transitive verbs. However, (218d) shows that the lack of inheritance of the (intended) subcategorised object at the constructional level can also involve verbs which, at least out of the blue, appear to be obligatorily transitive (cf. Vialli nodded *[the ball]). Whereas the above-the-norm reading does not hold for (218d) since the event of nodding the ball was unique, tight links obtain, as usual, between the two constitutive subevents of (218d): Vialli is a player with Chelsea (i.e. the part-whole vital relation is active).

The above-the-norm reading associated with various examples can be captured in the following generalisation (see also §1.1):

(220) The above-the-norm generalisation

If an event is the cause for a change event and the verb that symbolises the former does not code a (sufficient) energy flow, then the verbal event is interpreted as being carried out in an above-the-norm fashion.

Although the verb drink in (218a) codes an energy flow, the event of drinking must be interpreted as having been carried out in an above-the-norm fashion if the pub is to be construed as an affected entity (unless, of course, the pub had very few drinks in it). If the verb does not code any energy flow (as is usual in unsubcategorised change constructions), the interpretation that the verbal event is carried out in an above-the-norm fashion obtains by default. For example, if one talks one’s throat dry, he or she talks too much with respect to his or her standards.

As it stands, (220) is also compatible with intransitive (causative) change constructions since they do not code any unidirectional energy flow. The kettle boiled dry, for example, implies that the water in the kettle boiled for too long. Hence, the above-the-norm reading is not necessarily linked to the operation of force construal.

1.2.1. Asymmetric change constructions

Sentence (217a), repeated here below,

(217a) Chris wiped the crumbs off the table.

is handled straightforwardly in the model adopted here. The integration of the force and change components relies not on the correspondence of the manipulee (m) and the theme (TH), as in Figure 20, but on the correspondence of m and the source (S), as shown in Figure 23.
The table stands for the source region (S) and off for the path P. Note that contrary to Figure 20, the target T is not specified and hence it has not been represented in the upper box, which simply depicts the separation of an entity from a region due to a force. An additional graphical feature of Figure 23 as compared to the other diagrams considered above is the straight dashed line connecting the item wiped to the path (P) subcomponent. Such a line intends to visualise the fact that wipe is a verb of expected removal. One wipes a table because, overwhelmingly, one wants something (e.g. crumbs in Figure 23) to be removed from it. In other words, verbs such as wipe, scrub, wash, suck, etc. all have a high potential of activation for the change component.

The diagram in Figure 23 also includes the correspondence lines (i.e. the dashed lines that indicate the equivalence of elements from one structure to another) connecting the elements within the force and change components with their equivalents in the composite structure depicted as the upper box. The reason is the following. The schematic representation offered in Figure 23, like all schematic representations, is a simplified visualisation of various cognitive operations. Not only is the integration of the force component and the change component reliant on the correspondence established between the manipulee (m) and the source (S), but the additional operation of substitution of the theme (TH) for the manipulee (m) at the level of the composite structure is involved. In other words, the manipulee (m) is equated with the source and the theme is converted into a manipulee (m'). The latter operation can be easily represented by linking the theme in the change component to the manipulee (m') in the upper box within the Force Change Schema. In sum, the upper box highlights Chris’s exertion of a force (which is implicit in the verb wipe) upon the crumbs on the table.

An additional example should suffice to clarify in what sense the conceptual processes involved in Figure 23 differ from those of symmetric change constructions such as John kicked the ball into the room (see also Figure 20).

The reader familiar with Fauconnier and Turner’s conceptual integration network (or blending) theory (see Fauconnier and Turner 1996, 1998, 2002) may have noted various similarities between the integration processes at the heart of the Force Change Schema and Fauconnier and Turner’s insightful treatment of mental space integration. In order to better appreciate this point (see next subsection), let us first consider (217b) above, repeated here below,
let us first consider (217b) above, repeated here below, in more detail.

(217b) Sarah kissed the anxiety away (from Keith).

Intuitively, the verb *kiss* in (217b) is construed as a force capable of driving Keith’s anxiety away. *Kiss* does not necessarily refer to a forcible action on its own, of course. The two causally related events of Sarah’s kissing Keith and of his anxiety (metaphorically) moving away seem to be blended (i.e. fused) and compressed into a conceptual structure (i.e. the upper box in the Force Change Schema) which codes an energetic interaction between two entities (an energy source and an energy sink) resulting in the change of state of the energy sink. The situation can be visualised diagrammatically as follows:

![Diagram of the Force Change Schema](image)

The two boxes below in Figure 25 represent the unintegrated complex event of Sarah’s kissing Keith and the anxiety moving away from him. As usual, the order of the two boxes indicates the causal relationship existing between the two. Note, however, that the kissing event is not represented as a forcible event: a simple straight arrow, rather than a thick one, connects the trajector (*tr*) Sarah to the landmark (*lm*) Keith (which is identical to the source *S* in the change component). In other words, the first box stands for an event component (or *E* component) which is not necessarily a force component as was the case, for example, in Figure 24 above. The landmark within the event component is not directly linked to the item *Keith* in the syntax because, in the construction under scrutiny, *Keith* is the complement of the preposition *from* (which, for the sake of simplicity, has been considered together with *away* in Figure 25). Hence, the landmark in the event component has been linked to a conceptual entity only, i.e. *KEITH*. The integration of the event component with the change component does not simply rest on relating (through identity) entities at the lower level (e.g. *lm* corresponds to *S*, etc.). It also involves the operation of construal: the kissing event is interpreted as a forcible event. This has been represented by way of the dashed arrow connecting the straight arrow for *kissed* with the force arrow in the upper box. Such an operation relies on the correspondence of the trajector within the event component with the manipulator *M* of the force scenario (i.e. the upper box). On the other hand, the manipulee *m* of the force scenario is equated with the theme (*TH*) of the change component, i.e. *anxiety*, rather than the landmark of the event component (i.e. *KEITH*). Both the arrow showing the operation of construal and the lines indicating the correspondences between the manipulator and manipulee, on the one hand, and the lower-level sub-components, on the other, have been emboldened for the sake of clarity. Since the integrated event (i.e. the upper box) depicts an energetic scenario, I will continue to refer to the schema in Figure 25 as a Force Change Schema. The crucial point here is that the Force Change Schema does not necessarily require an “original” (i.e. unintegrated) force component but, rather, an event component which can be construed as a force component. In the case of *kiss*, this is possible, for example, if the event in question is carried out in an above-the-norm fashion. Finally, it must be noted that the verb *kissed* in Figure 25, unlike *wiped* in Figure 23, has been connected to the event component only. This is intended to represent the fact that the change component is not activated by the verb itself or, if it is (after all, any event can be thought of as having some consequences), the link is intuitively by far less salient than with *wipe*. 

![Figure 25. The FCS for Sarah kissed the anxiety away from Keith](image)
1.2.2. Blending and the Force Change Schema

Fauconnier and Turner (1996, 1998, 2002) have argued that a basic conceptual operation is conceptual integration or blending. Structure from two (or more) input mental spaces is projected to a separate space, the “blend”, where it is integrated into a single conceptual unit. Crucially, the blend can develop structure of its own (i.e. structure which was not present in either input) called “emergent structure”. The integration of the input spaces relies on cross-space mapping, i.e. the set of outer space connections between structure in the input spaces. Such connections are vital relations (e.g. change, identity, time, space, cause-effect, part-whole, similarity, analogy, category, intentionality, etc.; see also §4.1.2) and are compressed into the blend so as to give us “global insight, human-scale understanding, and new meaning” (Fauconnier and Turner 2002: 92). Among the numerous examples of blending discussed by Fauconnier and Turner is The debate with Kant. Suppose a contemporary philosopher presents his ideas during a lecture by setting up an imaginary debate with Kant (“I claim that reason is a self-developing capacity. Kant disagrees with me on this point. He says it’s innate, but I answer that…”). The debate involves integration of two mental spaces. In one input mental space, we have the modern philosopher with his claims; in the other, we have Kant and his writings. The two inputs share structure since they both involve a thinker, a language, etc. The shared structure constitutes the so-called generic space. In the blend, we have the modern philosopher and Kant engaged in a debate. The two philosophers are projected from their respective spaces by compressing, for example, the space and time vital relations into a single human-scale space and time relation in the blend (i.e. the time and location for the debate is the present lecture). Interestingly, the debate frame is not present in either input but is recruited by the blend (i.e. the blend has additional or emergent structure). The four spaces (two inputs, generic, and blend) constitute the conceptual integration network.

Conceptual integration also involves grammatical constructions. Fauconnier and Turner (2002: 178-179) explicitly (although very briefly) discuss the Resultative Construction (in the sense of Goldberg 1995) as a case in point. They claim that sentences like She kissed him unconscious, I boiled the pan dry, Roman imperialism made Latin universal, etc. result from the integration of two input spaces. In one input space, we have the construction A do [sic] something to B with the result that B have [sic] property C. Of course, this input is already a compressed mental space (since it results from the integration of a force dynamics event with a change event, see below for details). In the second input, we have an unintegrated chain of events. For example,

\[ \text{if it is our job to turn off the burner under the pan containing zucchini in boiling water, and we forget about it and all the water evaporates, we can say, confessionally, "No zucchini tonight. I boiled the pan dry. Sorry." In the diffuse input [i.e. the unintegrated input], the causal chain runs from forgetting to the invariant position of the burner knob, to the flow of gas, to the flame, to the temperature of the pan, to the temperature of the water, to the level of the water, to the dryness of the pan. The agent performs no direct or indirect action on the pan at all. But in the blend, the compressed structure associated with the grammatical construction is projected together with some selected participants from the diffuse chain of events in the diffuse input. In the blend, the agent acts directly on the pan. Moreover, although the boiling of the water is an event and its cause was something the agent did or did not do, there is a cause-effect compression in the blend such that in the blend, although not in the input spaces, boiling is an action the agent performed on the pan. (Fauconnier and Turner 2002: 178-179).} \]

Fauconnier and Turner (1996) offer a similar analysis for Goldberg’s Caused Motion Construction (see also Mandelblit 2000).

The sentence He sneezed the napkin off the table is also regarded as resulting from the integration of two input spaces. One input is the Caused Motion Construction, the other is the unintegrated (causal) event sequence consisting in the sneezing event and the motion event. Fauconnier and Turner’s analysis is schematised in Figure 26.
The most striking difference between my analysis of change constructions and Fauconnier and Turner’s treatment of Goldberg’s Resultative Construction and Caused Motion Construction amounts to how the integrated event is viewed with respect to the unintegrated sequence. The former is regarded as an input space in Fauconnier and Turner’s analysis, see Figure 27a below, whereas it plays the role of the blend in my model, see Figure 27b below (note that Figures 27a and 27b reproduce Figure 25 without specifying the elements at the phonological pole).

Figure 26. A blending analysis of *He sneezed the napkin off the table* (after Fauconnier and Turner 1996)

Figure 27. Two possible analyses of the FCS within blending theory (for *Sarah kissed the anxiety away from Keith*)

It can be easily shown that the contrast between the two analyses depends on the role/value (or type/token) distinction. That is, Figure 27a implies that we are considering both the conceptual and phonological poles of the change construction, whereas Figure 27b implies that we are taking into account only the semantic pole of the change construction. In Figure 27a, as well as Figure 26, the blend, which has not been depicted for the former (but see the blend in Figure 26), is (conceptually) identical to input 1, the only difference with it being that the blend’s roles (e.g. manipulator and manipulee in the FCS, agent and causer in the CMC) are filled with elements (i.e. values or...
tokens) from input 2. To put it differently, the phonological pole is specified in the blend.

Crucially, this analysis (where a grammatical construction is viewed as an input space) is not adopted for all grammatical structures taken into consideration within blending theory. For example, Fauconnier and Turner (2002: 25-27 and 143-144), following Sweetser (1999), analyse the construction “noun phrase is adjective” such as The beach is safe (for example to refer to a beach which is safe for a child to play on) and The child is safe (for example to refer to a child who is not likely to be harmed playing on the beach) differently from the Resultative Construction and the Caused Motion Construction. They claim that safe is an instruction to activate a harm scenario (input 1), which is to be integrated with “the specific situation of the child on the beach [i.e. input 2] into a counterfactual … [blend] … of harm to the child” (Fauconnier and Turner 2002: 26). Further, through (the vital relation of) disanalogy between the counterfactual blend and the real situation, we get the interpretation where, for example, the beach does not cause any harm to the child. Apart from counterfactuality, the important point here is that the grammatical construction “noun phrase is adjective” can be regarded as the blend (i.e. we have an analysis along the lines of Figure 27b, not of Figures 27a and 26). But, by analogy with the analysis of the Resultative Construction and the Caused Motion Construction, we would expect the grammatical construction “noun phrase is adjective” to be input 1 within a conceptual integration network where input 2 consists of the (unintegrated) harm scenario and the specific situation of the child on the beach. The blend would correspond to specific constructions like The beach is safe, The child is safe.

In sum, the ambiguous status of the “noun phrase is adjective” construction as well as the Resultative Construction and the Caused Motion Construction as either input 1 or blend depends on the type/token (or role/value) distinction. These constructions can be regarded as input 1 when we are stressing a particular realisation of the construction (e.g. John beat Mary unconscious vs. John punched Mary unconscious), whereas we can view them as blends if we are focusing on the set of conceptual integration operations affecting an unintegrated sequence. For example, John [beat/punched] Mary unconscious, which contains verbs of forcible interaction, involves a set of integration operations different from John kissed Mary unconscious. In the latter example, the non-forcible verb kiss must be construed as denoting a forcible interaction. Hence, whereas the sentences John beat Mary unconscious and John punched Mary unconscious are to be related to the same variant of the Force Change Schema, John kissed Mary unconscious implies a different conceptual content (i.e. a different variant of the Force Change Schema).

In what follows, I will regard the upper box in the Force Change Schema as a blend (with respect to the lower boxes), that is a common integrated structure across a variety of integration strategies involving simple correspondences (for example with verbs of energetic interaction), construal operations (for example with verbs of non-energetic interaction), different notions of causality (see the mildly causal change construction discussed below in section 1.3), etc. Observe that, if force construal is involved, the upper box/blend in the Force Change Schema can be regarded as having emergent structure with respect to its inputs (since neither has a [sufficient] force component, see the generalisation in [220] above). However, this does not imply that the inputs are the cause for such emergent structure. Diachronically, emergent structure was plausibly the cause rather than the consequence of blending. That is, the billiard-ball model, as an entrenched scenario, was extended to non-forcible events as inputs. It is as if the latter were projected onto the billiard-ball model scenario or, conversely, the billiard-ball model were the glasses through which unintegrated reality is observed.

Importantly, the specific value of the construction (i.e. the upper box in the Force Change Schema would be viewed as an input space as in Fauconnier and Turner’s analysis) comes into the picture when we consider both the conceptual and the phonological poles of the change construction. But this comes for free by simply linking phonological (i.e. specific) elements to those within the conceptual pole of the Force Change Schema. What does not come for free, on the other hand, is the elucidation of the different possible relations between the unintegrated components of the Force Change Schema (i.e.
the lower boxes) and their relation to the upper box. The situation is analogous to the one responsible for the semantic contrast between *The child is safe* and *The beach is safe*. Both sentences have the same syntactic structure but imply different integration operations. If we regard the upper box in the Force Change Schema as an input space, we lose sight of the linking operations between the lower boxes (i.e., the mappings within input space 2 according to Figure 27a) since we merely focus on correspondences (i.e., cross-space mappings) between input 1 and input 2. For example, it is the causal relation within the two unintegrated events in input space 2 of Figure 27a which undergoes compression, rather than the cross-space mappings between input space 1 and input space 2 in Figure 27a. The latter mappings simply amount to instantiations links (i.e., role/value correspondences) and hence it is not clear if and how any operation of compression is operative if we adopt the view of Figure 27a.

There is also a deeper reason for regarding the upper box in the Force Change Schema as a blend with respect to the lower boxes. Both Figure 27a and Figure 27b could be taken as simplified representations of a more complex set of operations. Since the input 1/blend (i.e., the upper box) depicts a complex event (albeit an integrated one), it can be decomposed into two subcomponents, a force (sub-)component and a change (sub-)component. This parallels those cases where the constructional verb itself denotes a forcible interaction (e.g., *He kicked the ball out of the window*, where *kick* instantiates a force component). In other words, the upper box is a blend by itself (irrespective of the lower boxes). Now, if we accept that the operation of force construal for an event E involves the force (sub-)component in the upper box (see Figure 25), there is in principle no reason to exclude that such construal operation takes place before the force (sub-)component of the upper box is integrated into the upper box (see the simplified diagram in Figure 28 below, which is based on Figure 25, and Figure 29 in the next subsection). Of course, since the upper box is a blend with respect to its subcomponents, it is also a blend with respect to the (more general) event and change components.

In conclusion, I regard the upper box in the Force Change Schema as a blend not only by itself but also with respect to the event and change components. Further, I take the Force Change Schema as a possible compact representation for the set of operations illustrated in Figure 28 if necessary. Needless to say, it will be crucial for blending theory practitioners to spell out more clearly the relation between grammatical constructions as input spaces and blends in their approach. Be that as it may, the analysis of the upper box in the Force Change Schema as a blend with respect to the event and change components will also be supported by empirical evidence (see, for example, the analysis of [218d] in Figure 32 below, the analysis of [244d] at the end of section 1.4, and the analysis of *I love you to distraction* in section 2.3.2).

### 1.2.3. Non-asymmetric change constructions

The Force Change Schema relies, using Fauconnier and Turner’s (2002) terminology, on the compression of an unintegrated event sequence into a billiard-ball model scenario. Importantly, the causing event is not necessarily a forcible one. Nevertheless, if it is not, the causing event is construed as a forcible event because, for example, it is carried out in an above-the-norm fashion. The event is either repeated more times or implies more intensity (or both) than usual.

The notion of construal also comes into play for unsubcategorised object change constructions such as (218) above, repeated here below:
(218) a. Sally shouted Chris out of the room.
    b. He drank the pub dry.
    c. He painted the brush into pieces.
    d. Vialli nodded Chelsea in front.

Interestingly, the possible construal of an emitted substance (the shouts in [218a]) as a force manifests itself independently of the change construction. Consider the following contrast:

(221) a. Sally shouted to Chris.
    b. Sally shouted at Chris.

(221a) refers to the action of shouting as a means of attracting Chris’s attention. On the other hand, (221b) implies that Sally attacked Chris using shouts (i.e. the emitted substance). I have represented (221a), (221b), and (218a) in Figure 29.

The verb *shout* (see the top left-hand diagram) denotes the emission (either intentional or not; the diagram is neutral with respect to this distinction) of a substance represented as the smaller circles (see also Figure 13). The big circle stands for the emitter, to which the emitted substance is linked as indicated by the lines connecting the former with the latter. The diagram for *shout* is connected by a dashed line to the diagram for (221a). The dashed line indicates that (221a) cannot be taken as an instantiation of the diagram for *shout*; rather, (221a) is an extension of *shout*. To put it differently, the features characterising the schematic representation for *shout* are not all included in the diagram for (221a). (221a) shows that an event of shouting can be conceptualised as a spatial event in which the emitted substance is conceptualised as moving along a line and as being directed towards a location. I will say that *shout* in (221a) receives a *path construal*. The emitted substance in (221a) moves along a path that leads to the big circle on the right, corresponding to *Chris*. The lower half of Figure 29 shows that *shout* can also receive an (additional) *force construal* in similar fashion to *kiss* in Figure 25.

The emitted substance is conceptualised as an energy flow which can either be directed against an entity (i.e. both path construal and force construal obtain), as in (221b), or be used to act upon an entity, thus determining its change of state/place, as in (218a) (i.e. Chris ended up *out of the room*). Note that the categorisation of *shout* as a force automatically involves its association with a schema that provides it with an energy sink. The diagram representing *shout* as a force contains only an energy source, but an energy flow always implies an energy source and an energy sink. The latter is provided by the association of *shout* (indicated by the continuous pointed arrows) with either the force component within the allative schema (i.e. the representation for [221b], which involves allative motion towards a target, see chapter 7 for details) or the force component within the Force Change Schema (see the representation for [218a] in Figure 30 below).

In sum, *shout* in (221a) only encodes the notion of path, which is signalled by the preposition *to*. (221b) encodes the notions of both force and path (the shouts are a force directed at Chris). Finally,
shout in (218a) codes a force only (i.e. Sally acted upon Chris by shouting). Needless to say, such distinctions may be a matter of degree but the use of the preposition at in (221a) as a means of introducing the target (i.e. Chris) reveals that the spatial domain is activated. On the other hand, the (im)possibility of passivisation, which is linked to force dynamics (see §1.2.1 and Rice 1987), is a useful clue as to the activation of force construal for the verbal event:

(222) a. *Chris was shouted to.
   b. Chris was shouted at.
   c. Chris was shouted out of the room.

Of course, all the conceptual operations illustrated in Figure 29 need not be performed every time the speaker uses shout in either (221a), or (221b), or (218a) because such uses may have unit status. Therefore, Figure 29 must be taken as a (hopefully plausible) description of the conceptual operations which motivate the use of the three constructions illustrated by (221a), (221b) and (218a).

As was pointed out in connection with Figure 25 above, the proposed schematic model easily captures the distinction between transitive sentences like John kicked the ball into the room and Sally shouted Chris out of the room as far as the notion of “subcategorised object” is concerned. The expanded representation for (218a) is as follows:

![Figure 30. The FCS for Sally shouted Chris out of the room](image)

The squiggly line in the event component stands for a generic event (here, a non-forcible event which is construed as a force). The constructional object Chris has been linked to TH so as to show the fact that Chris is not the subcategorised object of shout. Nevertheless, subcategorised objects can also be linked to the change component, as shown in Figure 23 for the table. This happens when the manipulee at the constructional level corresponds to the landmark of the change component (S in Figure 23). For the sake of completeness, it is worth underlining that the event component is a simplified representation of the event of Sally’s shouting. To be sure, the shouting event implies that Chris is an addressee, that is Chris is also activated in the E component (although this detail has been ignored in Figure 30, see Figure 34 below for a similar case represented at a more fine-grained level). Hence, a correspondence link obtains between Chris as an addressee in the E component and Chris as a theme in the C component. Finally, notice that such a vital relation would also obtain in (219) above, repeated here below,

(219) Sally shouted some sense into Chris.

That is, even intransitive verbs may occur in change constructions similar to asymmetric ones (see page 180 above).

More complex is the case of (218b):

(218b) He drank the pub dry.

The event of drinking and the event of the pub (virtually) ending up with no more drinks to sell are not simply related causally. I have argued that the notion of causation is not sufficient for a resultative construction to be used (see §2.2.4); transitive causative change constructions also evoke the notion of forcible action. Of course, drinking may be said to code the notion of force since it describes an act of consumption of liquid substances. However, the constructional manipulee in (218b) is not, for example, beer but, rather, the place where beer was consumed (i.e. the pub). Further, the intended manipulee for drink (i.e. beer) does not correspond to either the source
or target in the change component as in an asymmetric change construction. In *Sally wiped the crumbs off the table*, the source in the change component (i.e. *the table*) corresponds to the manipulee (cf. *Sally wiped the table*). In (218b), on the other hand, the source and the target are regions along a scale of fullness. Of course, such regions imply presence versus absence of beer but, all the same, it would be at best dubious to regard (218b) as an example of the asymmetric change construction. Similarly, the idiomatic sentence *He drank Tom under the table* does not contain a target corresponding to the manipulee (the target is a region under the table and the manipulee is *Tom*). Further, this idiom, as well as (218b), implies that the drinking event was carried out in an above-the-norm fashion. In sum, the force interpretation we get for (218b) depends on the construal of *drink* as a force capable of affecting the *pub*. Incidentally, note that in *Sally wiped the crumbs off the table*, which contains the force-verb *wipe*, no additional operation of construal seems to be involved. This is so because wiping a table necessarily implies exerting a force upon objects on its surface and both the force (i.e. event) and change components for that example involve the same domain (i.e. a table with crumbs on it). On the other hand, in *They drank the pub dry* and *He drank Tom under the table*, which contain the force-verb *drink*, the additional operation of construal takes place. The event of drinking can (usually) only affect the *pub* and *Tom*, respectively, if it is carried out in an above-the-norm fashion. Further, *They drank the pub dry* links the domain of consuming drinks (i.e. input 1 in Fauconnier and Turner’s terminology) with that of the amount of drinking substances stocked in the pub (i.e. input 2). *He drank Tom under the table* connects the domain of consuming drinks (input 1) with the position of the drinker(s) in the pub (input 2). The semantic import of (218b) is visualised in Figure 31.

Figure 31 distinguishes between the event of drinking (*F*) having a liquid substance as its affected entity (*m*) and the event of drinking (*F*) having the *pub* as a manipulee (*m*). The latter interpretation involves the operation of force construal as is indicated by the dashed arrow connecting *F* to *F*. Observe that since the manipulee of *drink* at the level of the lower boxes is present only at the conceptual level (i.e. it is not realised in the syntax) it has been indicated as LIQUID. Further, the (integrated) manipulee *m* is linked to the theme (*TH*) the *pub* in the change component because it is identical to it. Finally, a dashed arc connects *m*' and *TH* and enters the latter so as to show that *m*' is inside *TH* (i.e. the drinks were located in the pub). A similar interpretation applies to the arc from *they* to inside *TH*.

The Force Change Schema results from the integration of two components, an event component (or input 1 in Fauconnier and Turner’s terminology) and a change component (or input 2 in Fauconnier and Turner’s terminology) into a billiard-ball model scenario (i.e. the upper box or blend). Crucially, the event component must be interpretable as a force component. The event component itself can correspond to a forcible event (see *wipe* in [217a], *Chris wiped the crumbs off the table*) or not (see *kiss* in [217b], *Sarah kissed the anxiety away from Keith*). In the former case, the force in the event component need not be identical to the force in the upper box (i.e. the blend): a forcible event itself can undergo force construal (see *drink* in [218b], *They drank the pub dry*). Usually, force construal is linked to an event carried out in an above-the-norm fashion. This is also the case with (218c), *He painted the brush into pieces*, where the event of painting is regarded as a force affecting the *brush* thus causing it to break into pieces.
Going back to the typology of event components for the Force Change Schema, we observe that the event component itself can sometimes be a blend. Let us consider the following diagrammatic representation for (218d), *Vialli nodded Chelsea level*.

![Diagram of the Force Change Schema for Vialli nodded Chelsea level]

In Figure 32, the event component corresponds to a Force Change Schema: both the affected entity BALL and its path \( P' \) (i.e. INTO THE NET, indicated as INTO NET in Figure 32) are implicit in the use of the verb *nod*. At closer inspection, the situation is analogous to that of *drink* in Figure 31. That is, a more accurate representation for the event component (i.e. \( F' \) component) in Figure 31 would also include a path because verbs of drinking denote ingressive motion (i.e. motion into the drinker’s mouth). Going back to Figure 32, we note that the change component on the right contains the theme Chelsea, which undergoes a change signalled by the path \( P \). The adjective *level* is the target of such a path. The two components (or input spaces) differ in terms of their respective domains (i.e. \( d' \) for the event component and \( d'' \) for the change component). The event component deals with the physical motion of the ball, whereas the change component has to do with the match score. Still, the two domains exhibit many connections (i.e. tight links through vital relations in the sense of Fauconnier and Turner 2002, see also §4.2.2), as was also the case in Figure 31 above. For example, Chelsea is Vialli’s team - the dashed arc from the circle for Vialli into the circle for Chelsea depicts precisely the fact that Vialli is a player with that team - and BALL is an emitted entity with respect to Vialli (hence the dashed arc departing from inside the circle for Vialli). At the level of the integrated (or blended) structure (i.e. the upper box), the two domains \( d' \) and \( d'' \) are blended into a single more abstract domain \( d \) where the physical event of a player’s heading the ball is viewed as a force directly affecting one’s team. That is, construal is also operative in this example. Interestingly, such an operation here does not necessarily involve an above-the-norm reading if the event of scoring a header is unique (i.e. it is not repeated). On the other hand, a sentence such as *They drank the pub dry* usually implies that the drinking event is construed as a force affecting the pub because it is repeated many times (so that the amount of drinks in the pub is reduced considerably).

### 1.3. Mild causality and specification

Not all transitive change constructions can be taken as instantiations of the variants of the Force Change Schema discussed in the previous sections. The notion of causality between subevents, as was shown in chapter 2, may be a complex one. A forcible event, for instance, may not necessarily be the cause for a displacement event but can be construed as such, see section 1.3.1 below. Further, a verb may lexicalise both the force component and the change component so that the change phrase either receives an intensifier interpretation (e.g. *to break a vase into pieces*), or is used to realise an implicit spatial meaning explicitly (e.g. *to lift up*), or codes a metaphorical (spatial) interpretation of a non-spatial event (e.g. *to slow down*), see section 1.3.2 below.

#### 1.3.1. Mild causality

The linear order of the event and change components in the Force Change Schema diagrammatically represents the relation of causality
existing between the two. It is not always the case, however, that the event and change components are causally linked to each other. Consider the following examples:

(223) a. Sam cut the salami into the bowl.
   b. The butler bowed the guests in.
   c. We sat around in the sling chairs and talked the dusk into night. (from Rivière 1981)
   d. I found the play terribly tedious – I don’t know how I managed to sit it out. (OPV)

In (223a), the event component (corresponding to the cutting event) does not strictly speaking determine the change component (the salami’s change of place). It is not the case that the salami went into the bowl because Sam cut it; rather, Sam’s cutting the salami also involved a force allowing the displacement of the bits of the salami into the bowl. Hence, only in a derivative sense can we say that the force exerted by Sam onto the salami (to cut it) is also the force that determines its change of position. That is, (223a) evokes the operation of construal as much as kiss in (217b), Sarah kissed the anxiety away from Keith. However, in order to distinguish between (217b) and (223a) – they both imply force construal but differ in terms of causality – I will refer to the indirect concept of causality implied by (223a) as mild causality.

A schematic representation for (223a) is offered in Figure 33. The lack of direct causality between the cutting event and the displacement event has been represented by drawing the two relevant components in parallel rather than sequential fashion. The verb cut lexicalises both the F’ and the P’ subcomponents within the event (E) component, as is indicated by the two straight lines departing from the word cut and arriving at the F’ and P’ arrows. The manipulator m’ has been linked via a dashed arc to the target (i.e. the circle at the end of the path P’). The F’ subcomponent is construed (as shown by the straight dashed arrow) as the force F responsible for the displacement of the salami in the integrated event (i.e. the upper box). Notice that the manipulator m in the blend corresponds to the theme TH in the change component, which in turn is linked to the target of the path P’: slices of the salami, rather than the undivided salami, went into the bowl.

It is worth pointing out that the example under consideration implies cooccurrence. The force that causes the change of state is also interpreted as the force that determines the change of position (the latter being in part due to gravity). From this, it immediately follows that the two changes must cooccur (i.e. they are due to the same force). Lack of cooccurrence (i.e. pure temporal sequencing) in cases like (223a) is not possible. Talmy (1985: note 8) explicitly mentions that the similar sentence (224):

(224) I folded the blanket into the basket.

implies that the folding event and the blanket’s change of place cooccurred. (224) cannot mean that first I folded the blanket and then I put it into the basket. Under this interpretation, (224) would imply the existence of two different unblended force components (one for the change of state and the other for the change of position). Apparently, there is no schematic unit (in English) corresponding to the
structural pattern of (224) if two unblended force subcomponents are involved.

(223b), The butler bowed the guests in, also illustrates mild causality. The fact that the guests entered the understood location (i.e. the landmark of in) was not, strictly speaking, the result of the fact that the butler bowed. Rather, his bows greeted the guests and only in a derivative sense can we interpret the bowing event as a force responsible for the guests’ motion. The situation has been visualised in the following simplified diagram (for simplicity’s sake I have ignored the big box enclosing all the components, see Figure 33 above):

![Diagram](image)

Figure 34. Partial representation of the mildly causal FCS for The butler bowed the guests in

The intransitive verb bow denotes a reflexive action (indicated as F') of change of posture (not shown in the diagram). As usual, referential identity has been visualised by way of a dashed arc connecting the manipulator M and the manipulee m'. Bow also implies a relation with another entity (i.e. bow indicates a deferential attitude towards someone); hence, the dashed arrow connecting M to the circle for such a participant (i.e. the guests in [223b]). It is this entity that corresponds to the theme TH in the change component. The integration of the event and change components does not simply involve the correspondence between some of their subparts (i.e. the guests) but also relies on the construal of the reflexive force as a force (F at the level of the integrated or blended structure) causing the guests (i.e. m) to enter the location implied by in.

Mild causality is even more apparent in (223c-d), repeated below, because of the conceptual relation between the verbal event and the constructional object in terms of the argument (or participant) versus setting distinction.

(223)  c. We sat around in the sling chairs and talked the dusk into night. (from Rivière 1981)

d. I found the play terribly tedious – I don’t know how I managed to sit it out. (OPV)

The transitive verb cut in (223a), Sam cut the salami into the bowl, takes its subcategorised object the salami as the constructional object. The intransitive verb bow in (223b), The butler bowed the guests in, takes as its constructional object a participant (an addressee) evoked by the scenario linked to it. The verb talk in (223c) also implies an addressee (either oneself or somebody else). However, it does not take such an entity as its constructional object. The constructional object referent is not a participant in the talking event but a setting: the dusk in (223c) specifies the temporal location for the (beginning of the) verbal event (cf. We started talking at dusk and went on until the dead of night). Of course, the dusk gave way to the night irrespective of the action carried out by the subject referent we (i.e. talking). Still, it seems, at least intuitively, that the action of talking is construed as a force capable of transforming the dusk into the night. Moreover, the view that force construal is involved accounts for the interpretation that we talked for a long time (i.e. longer than usual with respect to “ordinary” people). Force construal (often) relies on an above-the-norm interpretation.

I have represented the event and change components for (223c) in the simplified and abbreviated Figure 35. Figure 35 explicitly shows that the integration of the change (C) and event (E) components involves, beside force construal for the event of talking (not repre-
sented here), the correspondence between the theme \textit{TH} in C and the temporal domain \((d)\) for the event of talking. In other words, the manipulee in the blend (i.e. \textit{the dusk}) does not need to correspond to either a participant immediately profiled by the verb (as with \textit{the salami for cut}) or a highly salient participant with respect to it (as with \textit{the guests for bow}) but can also be identical to the setting for the verbal event.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure35.png}
\caption{Partial representation of the mildly causal FCS for \textit{We talked the dusk into night}}
\end{figure}

\begin{equation}
(223d), I managed to sit \{the play\} out, can be analysed in similar fashion. The constructional object \textit{the play} refers to the setting in which the sitting event took place. \textit{The play} would of course have come to an end (as hinted at by the particle \textit{out}) even if I had not been sitting. However, the use of a transitive, non-overtly temporal structure (cf. the overtly temporal sentence \textit{I didn’t go away before the end}) may be motivated by the construal of the sitting event as a force capable of causing the play to end.

Although the structures discussed so far may (often) be treated as idioms and hence be rather opaque to compositional analyses, I suggest that mild causality is the crucial notion involved in their origin. The need to distinguish conceptually between an example like (223d), \textit{I managed to sit \{the play\} out}, and a “usual” causal change construction becomes obvious if we consider “minimal pairs” such as the following:

\begin{enumerate}
\item I managed to sit \it{it} out. (see [223d])
\item *I sat \it{the grass} flat.
\end{enumerate}

Although we can easily set up the scenario where the grass became flat because we sat on it, (225b) is not acceptable. It seems that the construal of a process as a force in the causal Force Change Schema has to rely on the verb having some quality of dynamicity (which the static configuration evoked by \textit{sit} obviously lacks). Nevertheless, such a restriction does not hold for mildly causal examples, see (225a) and the similar sentence \textit{The bears sat out the winter in their cave} quoted in chapter 2, note 55. The reason for the contrast between (225a) and (225b) in terms of dynamicity has probably to do with the domains evoked by their (verbal and change) components. \textit{The bears sat out the winter in their cave} (i.e. the play unfolding in time). Hence, it is immaterial whether the verbal event refers to a static configuration (as is the case here) or not because even physically static events can be (metaphorically) construed as forces in a different domain. On the other hand, (225b) only activates one domain, that of a static configuration (i.e. we were sitting on the grass). Since we do not have two distinct domains, the metaphorical interpretation of the static event of sitting (i.e. its dynamic force construal) cannot take place. In sum, force construal seems to depend on the activation of two distinct domains for the event and change components. Such two domains are blended into the integrated structure depicted as the upper box in the (variants of the) Force Change Schema.

1.3.2. Specification

Analysts do not agree on the status of sentences such as (226):

\begin{enumerate}
\item Smith cut the bread into thick slices.
\item Smith melted the statue into a puddle.
\item Smith shredded the silk into tiny pieces.
\item Smith painted the table black.
\end{enumerate}
Rapoport (1999), for example, considers the examples above “false” resultatives because the change phrases specify changes of state implicit in the meaning of the verbs. He writes that

a sentence based on an accomplishment headed by a state verb and also containing a (overt) sentence-final AP/PP is not a true resultative (as Pastejovsky 1991 argues). [...] The final PP of [(226)] is just a modifier of this final state. Example [(226)], then, is not some kind of (double) resultative meaning ‘Smith caused the bread to go into thick slices by causing the bread to go to a cut state’. What [(226)] means, roughly, is ‘Smith caused the bread to go to a cut state and the (final) cut state was (into) thick slices’. The PP into thick slices is a modifier of the final cut state rather than a realization of that final state itself. I therefore term constructions like those in [(226)] MODIFIED RESULT CONSTRUCTION. (Rapoport 1999: 672)

I have argued (see §2.1.2.2, §2.1.3, and Goldberg 2001 for a similar position) that the specifier interpretation attached to the prepositional/adjective phrase in cases such as (226) is a matter of world knowledge, depending on what we know about the verbal predicates. If the prepositional/adjective phrase does not seem to us to rephrase the verbal meaning, then a causal link between the verbal event and the event alluded to by the prepositional/adjective phrase ensues:

(227)  a. The clothes dried wrinkled.
 b. Real pale curly hair burned white by the sun. (from Rivière 1981)

The examples in (227) both contain change of state verbs. Yet, causal paraphrases such as “The fact that the clothes dried caused the fact that the clothes became wrinkled” and “The fact that the hair burned caused the fact that the hair became white”, respectively, seem to be completely acceptable for the sentences in (227). Therefore, we conclude that change constructions containing verbs of change of state are not always “modified result constructions”. The specifier interpretation depends on world knowledge and does not necessarily follow from the use of a given verb.

The proposed model easily captures the possible specifier reading for the change phrase. A given lexical item can be shown as being linked either to the event component alone (see kick in Figure 20), or to both the event and change components (see cut in Figure 33), or to the event component and, to a lesser degree, to the change component (see wipe in Figure 23). We need to have a representational system which can capture the fundamental insight that much in language is a matter of degree.

Koch and Rosengren (1995), in a similar vein to Rapoport (1999), argue that change phrases (which they, of course, call resultative phrases) are licensed under either (228a) or (228b):

(228)  a. The event is atelic: the resultative phrase bounds it.
 b. The event is telic: the resultative phrase specifies it.

We have already seen that telic events do not necessarily have a specifier interpretation. For example, dry in (227a) is telic (cf. The clothes dried in an hour), but wrinkled is not necessarily a specifier. Similarly, in (223a), Sam cut the salami into the bowl, cut is telic but into the bowl does not specify it. More in general, however, the gist of (228) seems to be that redundant change phrases with telic events are avoided. To put it differently, the change phrase cannot rephrase the meaning of the verb without specifying it. Consider the following sentences:

(229)  a. John hammered the metal flat.
 b. He broke the vase into pieces.
 c. *Peter destroyed the car into pieces.
 d. *Peter killed Sally dead.

(229a) contains an atelic verb, hammer, and the adjective phrase flat bounds such an event (see §4.3.1). Break in (229b) denotes a telic event and the prepositional phrase into pieces specifies the resultant state of the vase. (229c) is impossible because the prepositional phrase into pieces is redundant information with respect to destroy, which already codes the meaning of “to cause something to end up in pieces”. Similarly, the adjective phrase dead in (229d) is redundant.
The FCS and the ECS with respect to *kill*, which can be paraphrased as “to cause someone to be dead”.

Although the observation that redundant information is avoided in change constructions seems to be correct, it must be stressed that structures such as (229c)-(229d), contrary to what one might expect, are not impossible:

(230) a. … an impenetrable defensive reorganization which *kills* the game *dead*… (Nick Hornby, Fever Pitch, 1996: 236)

b. … he’d … conked poor Al Davidson on the head and *killed* him *dead* as a rat … (Margaret Atwood, The Blind Assassin, 2001: 254)

c. You *killed* him *dead* between the two of you, just as if you’d put a gun to his head and pulled the trigger. (Margaret Atwood, The Blind Assassin, 2001: 453)

(231) He rocketed in a third *goal*.

(232) *lift up*, slow *down*, melt *down*, straighten *up*, start *up*, …

The redundant adjective *dead* can be used in (230) because it has an intensifier value (i.e. it roughly corresponds to *completely*). The particle *in*, in (231), is redundant with respect to *goal* but is probably allowed by the fact that it codes the concept of (scoring a) goal spatially by explicitly referring to the position of the ball inside the goal (i.e. *in*). Such a strategy is not dissimilar from the one employed with phrasal verbs, as in (232). The particles in (232) either make the spatial meaning of the verb explicit (e.g. *lift up*) or translate a non-spatial action (e.g. “to reduce speed”) into a spatial one (i.e. “to reduce speed” is conceptualised as downward motion).

To sum up, the proposed representational model captures the notion of redundancy by distinguishing three main kinds of association of a given verb with the change component in a Force Change Schema. The verb is either not linked to the change component (see *kick* in Figure 20), or is linked to both the event and change components (see *cut* in Figure 33), or is connected with the event component and, to a lesser degree, to the change component (see *wipe* in Figure 23). Further, redundancy is not banned *in toto*. The redundant element can either have an intensifier interpretation, see (230), or can make the spatial meaning of a verb explicit (e.g. *lift up*), or codify a non-spatial event in translational motion terms (e.g. *slow down*).

1.4. Goldberg’s (1995) analysis

The discussion so far has implicitly highlighted some features of the proposed model that distinguish it from Goldberg’s (1995) seminal analysis. I will now deal with them in more detail.

As was pointed out in §2.2.2, Goldberg distinguishes between the Caused Motion Construction (CMC, where a change of position is implied) and its metaphorical extension, the Resultative Construction (RC, where a change of state is implied).

The two constructions are represented in Figure 36 and Figure 37, respectively.

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The Force Change Schema

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Figure 36. Goldberg’s (1995) Caused Motion Construction
Goldberg distinguishes between the semantics (Sem in the boxes above) and the syntax (Syn in the boxes above) of a given construction. The semantics of the CMC centres around the abstract predicate CAUSE-MOVE. It indicates that an argument referred to as cause causes (i.e. CAUSE) another entity labelled theme to move (i.e. MOVE) towards a certain position (i.e. goal). Cause is realised syntactically as a subject (SUBJ), goal as an oblique (OBL, that is an AP or a PP), and theme as an object (OBJ). Cause and theme are bold-faced because they are profiled participant roles, that is “roles which are normally obligatorily expressed in finite clauses” (Goldberg 1995: 45). The schematic semantics of the construction is merged with that of a predicate (PRED) which corresponds syntactically to a verb (V). The arguments of PRED are shown as unfilled slots in the grid < >. Their intended presence is revealed by the fact that the arrows are broken when they intersect such a grid. Finally, roles “which are not obligatorily fused with roles of the verb – that is, roles which can be contributed by the construction – are indicated by a dashed line)” (Goldberg 1995: 51).

Let us suppose that PRED is [KICK]. [KICK] profiles two roles, a kicker and an affected entity which Goldberg dubs as kicked (see Goldberg 1995: 54 for example). The participants of [KICK] are arranged in the grid < > so that kicker can be taken as an instantiation of cause and kicked as an instantiation of theme. The construction will therefore contribute the role goal (e.g. into the room) as summarised below:

![Diagram of Goldberg's Resultative Construction](image-url)

**Figure 37.** Goldberg’s (1995) Resultative Construction

The RC differs from the CMC in that the abstract predicate is CAUSE-BECOME. An entity (i.e. agent) causes another (i.e. patient) to achieve (i.e. BECOME) a state (i.e. result-goal). Both the RC and the CMC have intransitive variants which differ from the transitive ones by lacking the cause role and the agent role, respectively.146

I will not discuss any further the schemas proposed by Goldberg (1995). Suffice it to say that they cannot account for sentences such as Sally kissed the anxiety away from Chris because the role kissed (instantiated by Chris) is not linked to patient in the RC but to result-goal. Hence, the whole issue of linking (between a verb’s roles and the construction’s roles) within Goldberg’s approach must be revisited.147 What needs to concern us here is the fact that Goldberg’s approach must be supplemented with generalisations or constraints 148 most of which can be easily dispensed with if we adopt the model defended here. I have summarised her generalisations/constraints below (the examples are from Goldberg).

**Semantic generalisations proposed by Goldberg (1995) for the CMC**

[Generalisation 0].149 The cause argument can be an agent or a natural force but cannot be an instrument.

1. Chris pushed the piano up the stairs.
2. The wind blew the ship off course.
3. *The hammer broke the vase into pieces.
Constraints on Direct Causation:

**Generalisation I.** No cognitive decision can mediate between the causing event and the entailed motion.
(234) a. Pat coaxed him into the room.
    b. * Pat encouraged him into the room.

**Generalisation II.** If motion is not strictly entailed, it must be presumed as a ceteris paribus implication. 18
(235) a. Pat asked him into the room.
    b. * Pat begged him into the room.

**Generalisation III.** Conventionalised scenarios can be cognitively packaged as a single event even if an intervening cause exists. 151
(236) a. The company flew her to Chicago for an interview.
    b. ?? Farmer Joe grew those vines onto his roof.

**Generalisation IV.** If the activity causing the change of state (or effect), when performed in the conventional way, effects some incidental motion and, moreover, is performed with the intention of causing the motion, then the path of motion may be specified.
(237) a. He hit the ball across the field.
    b. * He struck the ball across the field.
    c. The butcher sliced the salami onto the wax paper.

**Generalisation V.** The path of motion must be completely determined by the causal force.
(238) a. * He nudged the ball down the incline. (unless there are repetitive nudges)
    b. He nudged the golf ball into the hole.
    c. # They laughed the poor guy into his car.

**Semantic constraints proposed by Goldberg (1995) for the RC**

**Constraint 1.** The two-argument resultative construction must have an (animate) instigator argument.
(239) a. She coughed herself sick.
    b. * The feather tickled her silly.

Constraint 2. The action denoted by the verb must be interpreted as directly causing the change of state: no intermediary time intervals are possible.
(Alternative formulation: The change of state must occur simultaneously with the endpoint of the action denoted by the verb.)
(240) Chris shot Pat dead. (not possible if Chris shot Pat and Pat died later in hospital)

Constraint 3. The resultative adjective must denote the endpoint of a scale.
(241) a. He talked himself hoarse.
    b. ?? He talked himself a little hoarse.

Constraint 4. Resultative phrases cannot be headed by deverbal adjectives.
(242) a. She painted the house red.
    b. * She painted the house reddened.
    c. * She painted the house reddening.

The first question that poses itself is obviously where Goldberg’s constraints come from. Her Generalisations 0, I, II and Constraints 1 and 2, for example, evoke the cognitive basis of the Force Change Schema, that is the billiard-ball model with two participants – they are a manipulator, typically animate or construable as such, and a patient, typically inanimate or construable as such. Hence, we expect instruments to be generally excluded since they are not manipulators but manipulated entities (see Generalisation 0 and Constraint 1). Of course, nonanimate instigators and instruments are possible in so far as they are construed as manipulators:
(243) a. Since the flora and the fauna which we call native to Britain came northward at this period to replenish a land swept bare by the snow cap of the last ice age... (G. M. Trevelyan, A Shortened History of England, 1987: 18)
    b. The work pushed him to the brink of insanity. (from Verspoor 1997)
    c. The ball squashed the tin flat. (from Verspoor 1997)
d. ... he can feel ... the ropes squaring him into battle.  
   (Charles Bukowski, Last fight, 1998: 129)

e. The feather excited her into frenzy.  (from Verspoor 1997)

The snow cap in (243a) is inanimate and maximally static and yet is construed as a manipulator capable of destroying any form of life. Nonanimate manipulators are also present in (243b)-(243d) (i.e. work, ball, and ropes respectively). Finally, (243e) contains an instrument (i.e. feather).

Furthermore, the affected entity (i.e. the entity that undergoes the change of state/position) must be construed as an inanimate entity in the billiard-ball model scenario. Verbs such as encourage (see Generalisation I) and beg (see Generalisation II) prevent such a construal. They both imply that the possible movement of their object referent is not due to any force originating with another entity, but is ultimately dependent on the object referent itself. In other words, the subject referents of encourage and beg are difficult to construe as manipulators and their object referents as manipulees. Constraint 2 can also be said to derive from the billiard-ball model. The billiard-ball model implies a unique spatio-temporal setting, as stated in Constraint 2. However, I have argued that the issue of temporality is a complex one (see §4.3.1.3.1) and temporal gaps are allowed in some cases (see also below).

Let us now consider the examples in (244):

(244)  a. He was lured into the room willingly.  (cited in Goldberg 1995)
   b. Then were his teeth struck out.  (SOED)
   c. I elbowed the pack off the shelf.
   d. [headline]  Student stabbed to death
       [text]  He was treated by a paramedic and taken by helicopter to hospital, but he died soon afterwards.  (The Guardian 14.9.1999)
   e. Auster opened the door wider.  (Paul Auster, City of Glass, 1990: 112)
   f. The clothes dried wrinkled.

(244a), whose problematic status is recognised by Goldberg herself (see Goldberg 1995: note 10 in chapter 7), violates Generalisation I since motion depends on a decision on the part of the subject referent. But, at closer inspection, this example turns out not to be exceptional at all. (244a) is possible because the verb lure takes an object which is construed as a manipulable entity; the adverb willingly is allowed because it stresses the fact that the subject referent wanted to be treated like a manipulable object. (244b) shows that strike can be used in the CMC despite Goldberg’s claims to the contrary (Goldberg 1995: 170). In other words, her Generalisation IV, although correct, must be interpreted relative to the scenario evoked by the construction, not the verb alone. Generalisations III and IV therefore hint at the fact that change constructions, more often than not, describe conventionalised scenarios.152

(244c) shows that the path of motion need not be completely determined by the causal force (as was stated in Generalisation V): it is gravity that determines the path of motion in this example (see also Sam cut the salami into the bowl in section 1.3.1 and Figure 33). The problematic status of He nudged the ball down the incline (see Generalisation V) is probably due to the fact that the intended scenario is not a conventionalised one (see Generalisation IV).

(244d), already briefly considered in §4.3.1.2, violates Constraint 2, in that an intermediary time interval between the action denoted by the verb and the change of state predicated of the object by the prepositional phrase is possible. In other words, the change of state does not occur simultaneously with the endpoint of the action denoted by the verb, but rather it occurs because of the consequences of the action denoted by the verb. I claim that what is crucial is not the notion of “intermediary time interval”, but the identity of the spatial domains with reference to which the force and path components are evaluated. This is implicit in the analysis of the Force Change Schema as a variant of the billiard-ball model: the spatial reference system for the billiard-ball model is held constant by definition. (244d), although involving two spatial domains as the text makes it clear, is possible because it is used as a headline, which, by virtue of its “summarising” function, abstracts away from the actual spatial...
domains and construes a higher, more abstract, unique domain (see Lemmens 1998: 25 for a strikingly analogous example in Dutch). That is, the spatial domain where the stabbing event took place and the spatial event where death occurred are blended into a single domain at the level of the integrated structure (i.e. the upper box in the Force Change Schema). The primary relation coded by the Force Change Schema is causality, temporal interpretation being a matter of world knowledge.

(244e) demonstrates that Constraint 3 cannot be maintained. Although it is generally the case that adjectives used in the Resultative Construction denote endpoints, wider in (244e) does not.

(244f) (as well as *He knocked the chair crooked, discussed in §4.4.2.2) shows that deverbal adjectives can occur in the Resultative Construction (contra Constraint 4). Further, Constraint 4 implies that we should be able to separate deverbal adjectives from non-deverbal adjectives in an unambiguous way. As for the examples in (242b-c), *She painted the house reddened, *She painted the house reddening, one may also wonder what their meaning could be, given (242a). Hence, Goldberg’s evidence does not seem conclusive.

In sum, by regarding the Force Change Schema as a cognitively grounded unit of grammar, we can show that some of Goldberg’s constraints are not arbitrary but simply paraphrase our knowledge of the billiard-ball model. Further, Goldberg’s generalisations/constraints clearly hint at the crucial role of conventionality in the judgement of Caused Motion Constructions and Resultative Constructions (uttered out of the blue).

2. The Event Change Schema

An additional criticism that can be levelled at Goldberg’s (1995) analysis concerns the fact that her generalisations/constraints only deal with the transitive variants of the Caused Motion Construction and Resultative Construction. In general, she pays little attention to their intransitive variants, which cannot be linked to a unique construction, as I will show in this section. In more detail, I propose that intransitive change constructions be related to the Event Change Schema, see section 2.1 and section 2.2, which can also be viewed as a blended structure. Furthermore, I argue that some transitive constructions should be regarded as instantiations of the (transitive variant of) the Event Change Schema, see section 2.3.

2.1. Temporal coextensiveness

I will now introduce the Event Change Schema, which accounts for examples such as (245):

(245) The mansion burned down.

The burning event in (245) cannot be construed as an asymmetric energy flow since we only have one entity (the mansion), which undergoes some process because of its structural properties (here the property of being inflammable). We can represent the semantic import of (245) as follows:

\[
\begin{array}{c}
\text{event (E) component} \\
\text{(the mansion) burned down}
\end{array}
\]

\[
\begin{array}{c}
\text{change (C) component} \\
\text{component}
\end{array}
\]

**Figure 39. The Event Change Schema**

The diagram in Figure 39, which represents what I call Event Change Schema (ECS for short), comprises two subcomponents (or input spaces in Fauconnier and Turner’s terminology), an event (E) component and a change (C) component (as in the Force Change
The FCS and the ECS schema; see below for more details). The E component represents schematically the burning event (indicated by the squiggly arrow $E$), in which an entity, the trajector ($tr$, the circle within $E$, corresponding to the mansion), is involved. The event component causes the mansion’s change of state (i.e. the mansion’s being destroyed), represented as the change component, and expressed syntactically as $\text{down}$. In Figure 39 I have linked $\text{down}$ to both the path $P$ and the target $T$, although it could be possible, in principle, to link $\text{down}$ to the target alone. Since nothing important hinges on this possibility, I take them as equally plausible options. The dashed line connecting the trajector of the E component with that of the C component (i.e. $TH$) indicates their referential identity. The mansion has been directly connected to the trajector of the E component since the mansion is an argument of the verb $\text{burn}$. Note, however, that this need not always be the case. In The kettle boiled dry, for example, it may be more appropriate to link the kettle to the theme $TH$ (rather than the trajector in the event component) since it was the contained entity, water for example, that, strictly speaking, boiled. Be that as it may, the crucial point is that $TH$ is linked (through either an identity or a part-whole vital relation) to the trajector in E in the Event Change Schema. On the other hand, $TH$ is not linked to the trajector in E in the Force Change Schema (but see section 2.3.2 below for the need to refine on this point).

As was highlighted above, the event component also appears in the Force Change Schema (see Figure 30 above for example). However, the event component in the Event Change Schema neither denotes a unidirectional energy flow nor undergoes force construal; such an event is not interpreted as a force at the level of the integrated structure (i.e. the upper box). In the case of The mansion burned down, this is so because the subject referent is construable as a manipulee rather than a manipulator acting upon itself. Of course, this does not mean that the mansion can never be conceptualised as a manipulator. The related structure The mansion burned itself down does involve such a construal operation. A similar attested example showing the potential double interpretation (as either manipulator or manipulee) of an entity undergoing some change of state is (246):

(246) ... there are groups of animals that are capable of [1] drying out altogether without dying... Some rotifers ... [2] dry themselves out into little tuns and blow around the world...
Ladle thinks that [3] drying yourself out may be an effective anti-parasite strategy – a way of purging the parasites from your body. He cannot yet explain exactly why the parasites mind [4] being dried out more than their hosts do... Those nematode or tardigrade species that do not [5] dry out are sexual. Those that can [6] dry out are all-female. (Matt Ridley, The Red Queen, 1994: 82-83)

The alternation between the reflexive and reflexiveless variants of the phrasal verb dry out in (246) may reflect, respectively, some (possibly metaphorically understood) exertion of control on the part of the manipulee on itself versus the lack thereof. Of course, such differences must not be exaggerated and must also take into account co-occurring material. For example, instances [1] and [6] in (246) do seem to involve some notion of control but this notion is already expressed by the preceding modal elements be capable of and can, respectively. In other words, the “redundant” reflexive pronoun (with respect to the modal element) is left out in either case. On the other hand, instances [2] and [3], which also evoke control but are not accompanied by modal exponents, take a (non-redundant) reflexive pronoun. Instance [4] clearly describes an event in which the subject referent is to be understood as a patient (as is signalled by the verb mind). Hence, the reflexiveless variant may be more motivated than the reflexive one. Finally, instance [5] is embedded in a sentence having the flavour of an objective statement and, consequently, the reflexiveless variant (possibly the default one for subject manipulees and, in any case, non-committal as to force construal) may be the preferred option.

We can now go back to Figure 39. We observe that it does not only show that a causal relation obtains between E and C (i.e. E determines C), as was the case with E and C in the Force Change Schema, but also depicts the event of the mansion’s burning and the event of the mansion’s being destroyed as unfolding together. This is
the semantic import of the upper box (i.e. the integrated structure or blend) within the Event Change Schema, where the squiggly line and the straight line have been depicted as being projected onto each other. In other words, the two events in question are temporally co-extensive (see Rappaport Hovav and Levin 1999 for a similar point) because the causal relationship existing between them has been compressed into (the vital relation of) identity. The burning of the mansion and its collapse are different facets of the same event.

The schematic representation (see Figure 40) for intransitive cases containing an adjectival change phrase as in (247)

(247) The clothes dried wrinkled.

is analogous to that of intransitive examples containing a prepositional change phrase, except for the fact that the path ($P$) is not heavy because it does not correspond to any phonologically realised element.

Since the event component is not construable as a force component as in the Force Change Schema, we expect the reverse causal order CE (i.e. $C$ determines $E$) to be possible. In other words, the force responsible for a change of state/place must be represented by the order FC in the Force Change Schema; the order CF would imply that $F$ is not the cause of $C$. Indeed, the order CE in the Event Change Schema occurs. Consider (248):

(248) The car screeched to a halt.

The screeching sound emitted by the car is caused by the car’s (abrupt) movement to a halt, as is shown in Figure 41:

(248) also involves two subevents, the event of the car’s (abrupt) movement to a halt (i.e. the $C$ component) and the event of the tyres’ screeching (i.e. the $E$ component). $E$ and $C$ are causally related but it is the $C$ component that determines the $E$ component, as indicated by the linear order of the two boxes below in the Event Change Schema.

Despite the reverse causal ordering for $E$ and $C$ in comparison to (245), (248) shows temporal coextensiveness of the two subevents in the same way as (245). Hence, the two arrows for $C$ and $E$ have been projected onto each other in the upper box in the Event Change Schema in Figure 41. Moving to a halt and screeching are compressed into identity, being two related aspects of the same event. Finally, note that the car has been linked directly to $TH$ rather than $tr$. This reflects the fact that, at closer inspection, the screeching sound was emitted by the car’s tyres rather than the whole car (although such a part-whole relationship has been ignored in the dia-
gram for simplicity’s sake). On the other hand, the movement to a halt involved the whole car, of course.

It is worth pointing out that, in some cases, the target and source within the change component can coincide. Consider the following sentence:

\[(249)\hspace{1em} The \text{ chauffeur} \text{ was relaxing into his monologue}. \hspace{1em} (\text{Ian McEwan, The Child in Time, 1992: 140})\]

The event of the chauffeur’s relaxing occurred during his metaphorical motion through the monologue. In other words, the motion of the subject referent in (249) implies that the source and the target are two points within the same location. Further, we may assume that such metaphorical motion was the cause for the chauffeur’s relaxing. That is, (249) instantiates a variant of the Event Change Schema in Figure 41 where the target and the source within the change component coincide.

So far I have shown that the Event Change Schema allows for the free ordering of the E and C subcomponents, whereas the Force Change Schema, when the notion of causality is relevant, always imposes an FC ordering: E (to be construed as F) determines C. However, I have argued in section 1.3.1 that the relation between E (to be construed as F) and C is not always one of causality (e.g. Sam cut the salami into the bowl). The same holds good of the event component and the change component within the Event Change Schema. Consider (250):

\[(250)\hspace{1em} ... \text{ a place where she can swim, sunbathe and drink Pina Coladas well into her twilight years}. \hspace{1em} (\text{Jane Holland, Kissing the Pink, 1999: 257})\]

There is no causal relationship between the events of swimming, sunbathing, and drinking Pina Coladas, on the one hand, and the event of the subject referent’s growing old, on the other. The prepositional phrase into her twilight years codes the latter event (i.e. it has a temporal interpretation), but, interestingly, it makes use of the motion preposition into (and such usage does not have a parallel in Romance languages). The semantic import of a simplified version of (250), namely She drank Pina Coladas into her twilight years, can be represented as follows:

![Figure 42. The noncausal integration of E and C in the Event Change Schema](image)

The parallel arrangement of the E and C components is intended to reflect lack of causality between E and C. Of course, the lack of a causal ordering for E and C implies that the noncausal variants of the schemas in Figure 40 and Figure 41 coincide. The upper box (or blend) in the diagram specifies that temporal coextensiveness can also obtain in the noncausal variant of the Event Change Schema. To be sure, the drinking event does not obtain at any point in time in the real world, as might be suggested by the projection of the squiggly line (i.e. E) onto the straight line (i.e. C). The import of such a representation lies in its describing the temporal dependency of two events as it is construed or imposed by the conceptualiser, not as occurring in the real world. In other words, fine-grained distinctions such as the contrast between a single prolonged drinking event and repetitive instances of the drinking event are ignored in representations like Figure 42 and dissolved into the coarser grained notion of temporal cooccurrence.

Discussing Figures 39 and 41, I underlined that the blend or upper box in the (relevant) Event Change Schema does not only describe temporal coextensiveness but also identity. For example, in The car
The FCS and the ECS screeched to a halt (see Figure 41), moving to a halt is screeching and vice versa since both are two aspects of the event of braking violently (of course, this is not always so, cf. *The car screeched round the corner*, where screeching is not moving to a halt but rather turning quickly round the corner). On the other hand, the identity interpretation seems to lack in *She drank Pina Coladas well into her twilight years*. The reason may simply be that, since there is no (obvious) causal relation between drinking and getting old, no causal relation can be compressed into identity. That is, identity is not a function of the upper box in the Event Change Schema alone but is evaluated with respect to the (causal) arrangement of the inputs (i.e. the E and C components).

Figure 42 illustrates one more crucial point. The Event Change Schema cannot be taken as a schema where the trajector in the event component is always a manipulee. If the notion of causality is not relevant, the trajector can be a manipulator. Figure 42 contains the verb *drink*, which can be conceptualised as implying a unidirectional energy flow (i.e. its trajector is a manipulator), see Figure 31 above. Hence, *She drank Pina Coladas well into her twilight years* is similar to the Force Change Schema example *Sam cut the salami into the bowl*, see Figure 33 above. Both contain a force (sub)-component and a change component. Nevertheless, only in the latter example is the energetic flow also a force capable of bringing about a change (of position) in the blend. In the former example, the blend simply merges the event of drinking with the event of getting old without implying any causal relationship between the two. The contrast in interpretation is reflected in the different orientation of the change phrase. In the mildly causal Force Change Schema, object orientation for the change phrase obtains because the blend depicts a billiard-ball model scenario (i.e. the object position in the syntax corresponds to the energy sink in the billiard-ball model scenario). In the noncausal Event Change Schema, subject orientation for the change phrase obtains because the integrated event is not a billiard-ball model scenario (this problem will be addressed again in §6.2).

2.2. Temporal sequencing

The variants of the Event Change Schema considered so far all imply temporal coextensiveness between the event component and the change component. Nevertheless, there can be cases where temporal coextensiveness does not obtain:

(251) *The module clicked into place.*

The event of the module’s going into place and the event of the module’s clinking did not unfold together. Rather, the (punctual) sound emission occurred when the change of place event culminated, that is, when the module reached its final position, and was limited to such an instant. I will use the term *temporal sequencing* to refer to the temporal dependency expressed in (251). Its semantic import is represented in the diagram in Figure 43.

![Figure 43. Temporal sequencing in the Event Change Schema](image-url)

Temporal sequencing and the boundedness of the sound emission event are represented in Figure 43 as follows. E’s trajector is connected with the arrow head within the C component, which stands for the theme (TH) in its final position (i.e. within T) so as to indicate that E occurs when C culminates. The squiggly arrow (representing the sound emission event) in the upper box starts from the arrow head (temporal sequencing) and extends up to the limit of the T sub-
component (temporal boundedness). The causal relationship between the change component and the event component is compressed into identity only in the target (i.e. fitting in a position is clicking and vice versa).

In order to distinguish between Figure 41 and Figure 43, I will use the term CE (i.e. C determines E) initial integration (i.e. E’s trajector corresponds to TH in its initial position) to refer to the former and CE final integration (i.e. E’s trajector corresponds to TH in its final position) to refer to the latter.

I have argued that both the Force Change Schema and the variants of the Event Change Schema considered above (i.e. the EC [E determines C] variant, see Figure 39, and the CE initial integration variant, see Figure 41) have noncausal variants, see Figure 33 and Figure 42 respectively. We could therefore expect the CE final integration schema to also have a noncausal variant. I suggest that sentences such as

(252) The car crashed into the wall.

be considered as instantiations of such a noncausal variant. To be sure, we cannot say that the crashing event determined the motion event. More generally, the telic path into the wall cannot be said to refer to a really occurring event: the car did not end up in the wall. The prepositional phrase signals (via to) that its trajector was in motion and designates the location (i.e. the wall) where the impact occurred. In other words, the phrase into the wall already means to crash: to move “into” the wall is to crash. Therefore, a causal paraphrase for (252) is impossible.

(252) has been represented in Figure 44. As usual, the lack of causality between the two components has been visualised by drawing them in parallel fashion. Further, in order to show that crashing is moving “into” the wall (and vice versa), I have treated crashed into as a single unit in the diagram (hence the parentheses starting with crashed and ending with into). This contrasts with Figure 42 above (i.e. She drank Pina Coladas well into her twilight years), where lack of causality does not imply identity. Identity between E and C in

Figure 44 is not established at the level of the blend but prior to it. On the other hand, in Figure 42, identity is absent both at the level of the unintegrated sequence and at the level of the blend. Finally, identity in causal structures (e.g. Figure 41) is imposed at the level of the blend.

I have underlined that the Event Change Schema can have transitive instantiations. For example, the sentence Sally drank Pina Coladas well into her twilight years contains an object (Pina Coladas) and yet cannot be linked to the Force Change Schema. The prepositional phrase predicates a change of state of the subject referent and no causal link exists between the verbal event and the change of state event. This example also demonstrates that the event component in the Event Change Schema does not necessarily designate a forceless event. The event of drinking, after all, can be thought of as implying a unidirectional energy flow. The subject referent Sally is a manipulator or energy source and the object referent Pina Coladas is a manipulee or energy sink. I will now argue that transitive instantiations of the causal (variants of the) Event Change Schema are also possible, see section 2.3.1. Further, I will contend that subject-orientation need not be limited to the Event Change Schema but, under special
circumstances, may also occur with the Force Change Schema, see section 2.3.2.

2.3.1. Non-unidirectional energy flows in the Event Change Schema

The fact that the event component within the causal Event Change Schema does not code a unidirectional energy flow does not mean that the event component of the causal Event Change Schema is incompatible, in general, with transitive verbs and/or forceful events (on condition they are not construed as asymmetrical energy flows).

Consider the following examples:

(253) a. The children played leapfrog across the park.
    b. They fought (him) to the death.
    c. East Timor may beat Britain into the Eurozone. (The Guardian 15.01.2000)

(253a) is a transitive structure and the prepositional phrase across the park is both subject oriented and related causally to the verbal event: the children ended up on the other side of the park as a result of their playing leapfrog. The verb play in (253a) does not denote a forceful event. Its object is a kind of cognate object (see §2.3.2.1) in that it specifies the playing activity in which the children were involved. (253b), They fought (him) to the death, contains the verb fight which does code an energy flow, albeit a bidirectional one: the subject and object referents acted upon each other and the prepositional phrase to the death is subject oriented. Of course, the association of fight with a bidirectional energy flow is a matter of construal. In the sentence He fought his tears back, for example, fight is construed as a unidirectional energy flow (i.e. it is a synonym of overcome), hence object orientation for the change phrase back obtains.

Finally, (253c), East Timor may beat Britain into the Eurozone, is one more transitive example. At the time the article was written (i.e. the year 2000), the context was as follows. East Timor is still using Portuguese escudos, which Portugal will replace with the euro starting from January 2002. On the other hand, Britain, which has not joined the Eurozone yet, will still be using the pound in 2002. Hence, East Timor will have the euro before Britain. (253c) does not code a causal relationship. It sounds odd to say that the fact that East Timor may beat Britain may cause the fact that East Timor will end up in the Eurozone before Britain. Rather, into the Eurozone specifies the domain relative to which the event of one nation’s beating the other may occur. In other words, (253c) is a noncausal instantiation of the Event Change Schema.

The sentences in (253) are diagrammed in Figures 45 to 47.

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Figure 45. The ECS for The children played leapfrog across the park

In Figure 45, the squiggly arrow of the event component has been replaced with three arbitrary component states (the circles connected to the squares) of the process play. In order to show the identity of the trajector of each component state with that of any other component state, the trajectors are linked by a dashed arc. The dots preceding
and following the three components indicate that other components may precede and follow the three arbitrarily chosen ones. Further, Langacker (1991: 363) notes that “the component states of a process constitute a set of interconnected entities and thus implicitly define an abstract region”. I have represented such an abstract region as the circle encompassing the component states of the process play. I propose that the circle can be regarded as corresponding to the nonmanipulable object leapfrog. The trajector of the event component has been connected to the theme in the change component because the change of state is predicated of the subject in the construction under examination. Finally, a dashed arc connects the source (S) and the target (T) in the change component because the children always moved in the same location (i.e. the park), see also end of section 2.1.160

(253b) is visualised in Figure 46:

![Figure 46. The ECS for They fought him to the death](image)

The double headed arrow in the event component in Figure 46 is meant to indicate that the subject and the object exert a force onto each other. This contrasts with the force component of the Force Change Schema, where the single headed arrow visualises the fact that the energy flow is unidirectional (from the trajector to the landmark). Finally, note that the landmark him in (253b) is optional (although this is not represented in Figure 46).

The last example in (253), (253c), is represented in Figure 47:

![Figure 47. The ECS for East Timor may beat Britain into the Eurozone](image)

Sentence (253c) implies the notions of both competition (between East Timor and Britain) and “overcoming” (East Timor will “arrive first”). Competition has been represented in the event component through two arbitrary states; the interaction between the subject and object refers to not construed as a unidirectional energy flow, but as a bidirectional relation which does not necessarily correspond to an energetic scenario. Such a relation has been depicted as a simple double headed arrow in Figure 47. It must be stressed that the notion of competition between two entities as expressed by the event component may be imposed by the speaker: East Timor and Britain in
The FCS and the ECS may be quite unaware of each other in objective reality with respect to the goal of entering the Eurozone. I claim that the “over-coming” meaning associated with beat is expressed not in the event component, which simply depicts the interaction between two entities, but in the change component. The latter shows two entities (TH1 and TH2) as moving (whether physically or metaphorically) towards the target (T). One of them (TH1) arrives in T before the other, as shown by the longer arrow whose head is within T. A crucial feature of Figure 47 is that beat lexicalises both the E and the C components. For this reason, I have linked the lexical item beat (more precisely may beat) to the composite structure represented as the upper box within the Event Change Schema in Figure 47. This distinguishes the noncausal Event Change Schema in Figure 47 from the one in Figure 42. In the latter case, the verb drink was linked to the E component only.

2.3.2. I love you to distraction: Subject orientation with an asymmetric energy flow

In the previous subsection I have shown that the causal Event Change Schema can have transitive instantiations. That is, a transitive causal change construction can be subject oriented. However, the event component in the causal Event Change Schema cannot denote a unidirectional (or asymmetric) energy flow. Unidirectional energy flow events, when the notion of causality is involved, are the province of the Force Change Schema. It seems impossible to have a transitive causal subject oriented change construction whose verb denotes an asymmetric energy flow (cf. *Sally cooked the cookies dirty, see §2.1.2). But is this really correct?

Let us consider the following examples:

(254a) a. I love you to distraction.
   b. The baby was gently loved into sleep.
   c. I Love You to Death. (1990 film title)

(254c) may be quite unaware of each other in objective reality with respect to the goal of entering the Eurozone. I claim that the “over-coming” meaning associated with beat is expressed not in the event component, which simply depicts the interaction between two entities, but in the change component. The latter shows two entities (TH1 and TH2) as moving (whether physically or metaphorically) towards the target (T). One of them (TH1) arrives in T before the other, as shown by the longer arrow whose head is within T. A crucial feature of Figure 47 is that beat lexicalises both the E and the C components. For this reason, I have linked the lexical item beat (more precisely may beat) to the composite structure represented as the upper box within the Event Change Schema in Figure 47. This distinguishes the noncausal Event Change Schema in Figure 47 from the one in Figure 42. In the latter case, the verb drink was linked to the E component only.

(254a), see also §2.2.4, exemplifies a transitive causal structure where subject orientation for the change phrase to distraction obtains. It is I who ends up “distracted”. To be sure, the object referent in (254b) is not a manipulate. On the other hand, the baby in (254b), which would have an object role in its active counterpart, is a manipulate since it ended up asleep. Consequently, the intended subject referent in the corresponding active sentence (e.g. the baby’s father) would count as a manipulator and love would be viewed as an asymmetric force from father to child. The possibility of construing love as an asymmetric energy flow from the (active) subject to the (active) object explains the title of the film in (254c). The sentence I love you to death is usually interpreted as meaning “I love you very much” (i.e. it is the subject referent that metaphorically ends up dead). However, in the context of the film, where a wife tries to kill her unfaithful husband only to fall in love with him again, love can be regarded as a force capable of affecting the husband (causing him to die).

One might be tempted to regard (254a) as an instantiation of the subject oriented Event Change Schema. The event component (i.e. love) does not involve an asymmetric energy flow from the trajector to the landmark. Nevertheless, an alternative analysis might claim that we do have an asymmetric energy flow, namely one from the landmark to the trajector (i.e. from you to I in [254a]). The trajector I establishes mental contact with the landmark you (because of some properties of the latter). Although potentially unwillingly and unwittingly, the landmark acts (i.e. is construed as acting) upon the trajector causing the change of state of the latter. Put differently, (254a) can be regarded as an instantiation of the Force Change Schema. Subject orientation obtains because the landmark is an energy source (i.e. a manipulator). A manipulator cannot be put in correspondence with the theme in the change component of the Force Change Schema. If this were so, the integrated structure or upper box would not be an instance of the billiard-ball model (since the affected entity would not be categorised as an energy sink). For example, in the impossible sentence *Sally cooked the cookies dirty, there would be no evidence as to the fact that Sally is to be construed as an energy sink.
(i.e. this sentence would not be an instantiation of the Force Change Schema). This example would only specify that Sally underwent a change of state because of an event in which she was involved. No compression of causality (between an event component and a change component) into a force dynamics scenario would occur.

I have schematised (254a) in Figure 48 below.

![Figure 48. The subject oriented Force Change Schema](image)

The diagram makes it explicit that the relation between the trajector I and the landmark you (i.e. the love relation) is construed as a force at the level of the integrated event. Force construal is motivated by the intuition that the love experienced by the subject referent was somehow excessive. Indeed, I have repeatedly stressed that the above-the-norm reading lies at the heart of force construal. Crucially, the landmark in the event component in Figure 48 corresponds to the manipulator M and the trajector to the manipulee m. It is such chiasmic correspondences that allow for subject orientation.

It is worth pointing out that if we accept the semantic characterisation of the sentence I love you to distraction along the lines of Figure 48, then a significant difference ensues between the proposed model and Fauconnier and Turner’s (1996, 2002) analysis. In Fauconnier and Turner’s approach, the manipulator position in the semantic pole of (their) Resultative Construction is always linked to the subject position in the syntax. On the contrary, my analysis is compatible with cases where the manipulator is realised as the object in the syntax.

This follows from the fact that, in my model, syntactic positions are dependent on the symbolisation links at the level of the lower boxes.

An important word of caution is needed at this juncture. Semantic interpretations (and, consequently, semantic analyses) are not always as clear-cut as one might expect or would like them to be. Hence, some change construction cases may be difficult to assign to either the Force Change Schema or the Event Change Schema. A case in point is (253b) above, They fought him to the death. In the previous subsection, I have analysed it as an instantiation of the Event Change Schema (since no unidirectional energy flow is involved). Nevertheless, one might argue that the non-unidirectional energy flow between trajector and landmark in the event component (i.e. they and him respectively) is construed, at the level of the upper box, in analogous fashion to love in Figure 48, namely as a unidirectional energy flow from the landmark/manipulator (i.e. him) to the trajector/manipulee (i.e. they). Since I cannot see any reason why a Force Change Schema analysis for (253a) should be excluded in principle (provided that we accept the one in Figure 48), I regard both analyses as plausible in keeping with the need to avoid the omnipresent exclusionary fallacy (see §1.2.1). In a similar vein, reversing the argument, one might claim that, if we ignore the operation of force construal in (254a), I love you to distraction, then such a sentence counts as a realisation of the Event Change Schema. Once again, this possibility should not be excluded.

In conclusion, the Force Change Schema could also be argued to have a subject oriented variant. It obtains when the trajector within the event component is construed as a manipulee and the landmark in the event component is construed as a manipulator. What is impossible is the correspondence of the theme in the change component with the manipulator either at the level of the event component or at the level of the blend.
3. Conclusion

In this chapter I have analysed the Force Change Schema and the Event Change Schema. Both result from the integration or blending of an event component (input 1) and a change component (input 2). The event component in the Force Change Schema is interpreted as a force component because the blend (i.e. the upper box in the Force Change Schema) depicts a billiard-ball model scenario. The Force Change Schema has also been shown to be flexible enough to represent the various cases we must take into consideration. The integration of the event and change components with a transitive verb can be either symmetric (e.g. John kicked the ball into the room), or asymmetric (e.g. Chris wiped the crumbs off the table), or neither (e.g. Vialli nodded Chelsea in front). Even with intransitive verbs, the dichotomy between symmetric and asymmetric structures can be observed. In Sally shouted Chris out of the room, Chris occurs in a postverbal position as in the related structure Sally shouted at Chris. On the other hand, in Sally shouted some sense into Chris, Chris occurs sentence-finally as does the subcategorised object the table in Chris wiped the crumbs off the table. In general, the integration of the event and change components relies on the existence of tight links (via vital relations) between the two; that is, conceptual packaging is more important than the notion of transitivity.

The Force Change Schema also has a variant which codes mild causality, which is appropriate for sentences such as Sam cut the salami into the bowl. The verbal event cut does not, strictly speaking, determine the displacement event; rather, the force of the force component underlying the meaning of cut is interpreted as a force capable of bringing about a displacement event (that of the pieces of salami into the bowl), which in reality is due to gravity. Further, the constructional object (with respect to the verb) can range from a subcategorised object, as in the cut example, through a non-syntactic-object argument (e.g. The butler *to the guests; The butler bowed the guests in) to a setting (e.g. We talked the dusk into night).

More varied are the instantiations of the Event Change Schema, which, like the Force Change Schema, also include noncausal units. If the notion of causality applies, the event component cannot denote a unidirectional energy flow as in the Force Change Schema and two causal orders for the combination of the event and change components are possible: either the event component determines the change component (as in The mansion burned down) or the change component determines the event component (as in The car screeched to a halt). Both cases are said to illustrate initial integration because the two subevents unfold together. On the other hand, a sentence like The module clicked into place illustrates a CE ordering (i.e. the change component determines the event component) where final integration, rather than initial integration, obtains: the punctual verbal event occurred when the change of place event alluded to by into place culminated. Both the initial integration and final integration variants have been argued to have noncausal counterparts. The noncausal initial integration Event Change Schema is appropriate for sentences such as She drank Pina Coladas well into her twilight years and The chauffeur was relaxing into his monologue. Interestingly, if the notion of causality is not relevant, the event component of the Event Change Schema can correspond to a unidirectional force component, as the drink example illustrates (i.e. drink implies an energy flow from the drinker to the consumed substance). The noncausal final integration Event Change Schema describes the semantic content of sentences like The car crashed into the wall, which establishes the identity between the culmination of the motion event and the crashing event.
This chapter analyses a variety of change constructions which are not usually discussed in the literature. I argue that sentences like *Sally punched out at seven o’clock* and *Sally slammed off into her office* must be taken as instantiations of, respectively, the causal and non-causal variants of the Event Force Change Schema, see sections 1.1 and 1.2. The Event Force Change Schema shares features with both the Force Change Schema, by involving a force component, and the Event Change Schema, by requiring subject orientation for the change phrase. Interestingly, the affected entity cannot be realised as a syntactic object. The issue of orientation of the change phrase vis-à-vis the nature of the verbal event (i.e. forcible vs. non-forcible) is also dealt with in section 2, where I discuss (force dynamics) transitive structures exhibiting (potential) subject orientation for the change phrase (e.g. the *to the point of* change construction, the conceptualiser oriented change construction and part-whole change constructions). I claim that change constructions form a network which resembles a conceptual blending space: the *to the point of* construction, which does not rely on the distinction between forcible and non-forcible events, is similar to a generic space for the Force Change Schema and Event Change Schema. Further, the latter two (as input spaces) blend into the Event Force Change Schema.

After having stressed the difficulties (due to analogy and multiple linking) that the analyst might face in attributing a given construction to one of the postulated schemas (see section 3), I propose the event component generalisation, which refines on the Direct Object Restriction (see §3.1.2), and examine various verb classes (middle verbs, verbs of manner of motion, verbs of accompaniment, emission verbs, verbs of transformation and creation) in relation to their appearance in one (or more) of the proposed schemas.
1. The Event Force Change Schema

In this section I argue that we need to introduce a new schema, to be called Event Force Change Schema, in order to account for some data that share features with both the Force Change Schema and the Event Change Schema. As was the case with the Force Change Schema and the Event Change Schema, the Event Force Change Schema is also shown to have both a causal variant and a noncausal variant, see sections 1.1 and 1.2 respectively.

1.1. The causal variant

The need for the postulation of a new schema arises from the analysis of sentences such as (255):

(255) a. Sally punched out at seven o’clock.
     b. Sally clocked out at seven o’clock.

The verb punch in (255a), in its original meaning, denotes a forcible interaction between a manipulator (i.e. Sally in [255a]) and a manipulee, resulting in the change of state of the latter. The manipulee is not expressed in the syntax in (255a) and corresponds to a time-card (nowadays, it can simply be an electronic card which is not, strictly speaking, punched but is simply inserted into or slid through an electronic device). Further, Sally’s punching the timecard determined Sally’s leaving work or, more precisely, Sally’s being allowed to go out. In sum, (255a) can be categorised as a causal change construction which exhibits subject orientation for the change phrase out. Since subject orientation obtains, we might be tempted to view (255a) as an instantiation of the Event Change Schema. However, (255a) differs from (255b) in that no obvious manipulee can be expressed independently of the change construction (vs. Sally punched [her card] at seven o’clock). Hence, we could regard (255b) as an instantiation of the Event Change Schema (but see note 165). An event of time recording (not necessarily conceptualised in terms of force dynamics) determined a displacement event which is predicated of the subject referent.

Of course, entrenchment and identity of meaning between (255a) and (255b) may blur the perception of the lack of an expressed manipulee for the verb punch in (255a). Still, at least from the analyst’s point of view, punch denotes an asymmetrical energy flow (as in the variants of the Force Change Schema) and its manipulee cannot be realised overtly. The sentence Sally punched the timecard out would mean that the timecard went out of somewhere because Sally punched it. Consequently, it is not obvious that we should consider (255a) an instantiation of the Event Change Schema. Subject orientation seems to be impossible with unidirectional energy flow verbs, whether the manipulee is expressed or not (e.g. *Sally cooked [the cookies] dirty, see §5.2.3.2 for details). Hence, at least from the point of view of linguistic analysis, it is safer not to regard (255a) as an instantiation of the Event Change Schema. Nor will I consider (255a) as a realisation of the Force Change Schema. If a unidirectional energy flow is involved and the manipulee is not expressed as an object in the syntax, the change phrase in the Force Change Schema is still understood as being manipulee oriented (e.g. He shot [the ball] wide). But, in (255a), the manipulee (i.e. timecard) is not optional and the change phrase out is subject oriented.

Since (255a) cannot in principle (i.e. excluding entrenchment and similarity with other examples) be regarded as an instantiation of either the Force Change Schema or the Event Change Schema, I suggest that we take it as a realisation of a schema which shares features with both the Force Change Schema and the Event Change Schema. Like the Force Change Schema, (255a) contains an event component which corresponds to a unidirectional energy flow (or, more accurately, an energy flow resulting in a change of state of the manipulee which ends up being punched). Like the Event Change Schema,
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(255a) exhibits subject orientation for the change phrase and satisfies, albeit trivially, temporal coextensiveness between the causing and caused events. *Punch* in (255a) denotes a *punctual* event; *out* can also be interpreted as referring to a punctual change event because the punching event coincides with the state of being no longer at work. Interestingly, we can analyse the schema suitable for the semantic characterisation of (255a) as a *blend* (see §5.1.2.2) of the Force Change Schema and the Event Change Schema. Force dynamics and change of state of the manipulee are projected from the Force Change Schema; subject orientation and temporal coextension are projected from the Event Change Schema. Emergent structure consists of the impossibility of expressing the manipulee as an object in the syntax. I call such a blended structure Event Force Change Schema. The event component in Figure 49 is a simplified representation of a Force Change Schema (the punching event implies a unidirectional energy flow and a change of state in the manipulee). The manipulee (m) has not been emboldened so as to indicate that, although possibly cognitively activated (one cannot speak of a punching event without there being a punched entity or, more generally, an acted-upon entity), it is not realised syntactically. Hence, the manipulee has been linked to the abstract entity TIMECARD. The same holds good of the source location (S) in the change component. *Out* implies separation from a "container", i.e. a specific location/state, which however is not realised syntactically in (255a) (cf. Sally punched out of work at seven o'clock). For the sake of simplicity, S has not been linked to any abstract entity in Figure 49. Since both the manipulee and the source region are possibly cognitively salient, they have been reproduced in the composite structure (but note that the target has been ignored in the blend).

It must be observed that the landmark of the change component (i.e. S or T) may be linked (up to identity) to the unexpressed manipulee:

(256) a. The armies encircled at Stalingrad were not able to break out. (OPV)
   b. Society was breaking out of the mould which had contained it for so long. (OPV)

The landmark of the particle *out* in (256a) is Stalingrad and the manipulee of *break* is what we could generically refer to as "barriers". The link between the landmark and the manipulee (the barriers are around Stalingrad) is not however as strong as in (256b), where the landmark (i.e. *mould*) is identical to the intended manipulee.

As was hinted at in connection with *punch* in (255a) above, entrenchment may result in the verb simply denoting an energy flow without referring to an "objective" change of state event as would be implied by the verb in isolation. Consider (257):

(257) They broke in through an upstairs window. (LDELC)
Break in (257) does not necessarily imply the actual breaking of a part of the house (i.e. the upstairs window). Still, break, as is used in (257), conveys the notion of force. For example, the Longman Dictionary of English Language and Culture explicitly paraphrases the phrasal verb *break in* as "to enter a building by force". In sum, *break in* (257) evokes a manipulee (as in Figure 49) which is linked via a part-whole (or active zone) relation with the intended complement of *in* (i.e. the house). Further, the intended manipulee can be expressed as an adjunct by way of a prepositional phrase (viz. *through an upstairs window*).

In conclusion, the Event Force Change Schema arises from the integration of a force dynamics component and a change component. Interestingly, the two components pertain to the same domain (and ultimately refer to a change of position). For example, in (255a), Sally punched out at seven o’clock, both the punching event and the change event refer to the leaving work scenario by coding two distinct aspects of it (the former being related causally to the latter). Similarly, in (257), They broke in through an upstairs window, the single domain of burglary is evoked and specified syntactically through a force “exponent” (i.e. *break*) and a directional “exponent” (i.e. *in*). (255a) and (257) can therefore be contrasted with the purely directional sentences Sally went out (of work) at seven o’clock and They came in through an upstairs window. We conclude that, in both (255a) and (257), a given event is symbolised both force dynamically and spatially. Now consider (258):

(258) *Sally punched silly. (vs. Sally punched herself silly)*

(258) cannot mean, for example, that Sally punched the card so many times that she became silly. There are, at least, two reasons why this sentence may not occur in the English language. First, neither the verb nor the adjective explicitly codes any change with respect to silliness (vs. *Sally punched out at seven o’clock*, where *out* explicitly codes separation). In other words, the activation potential for a change reading in (258) is very low since such a meaning should be contributed only by the construction independently of its (static) components. Of course, this line of reasoning is not sufficient because even the prepositional variant *Sally punched into complete silliness* is impossible despite containing the dynamic preposition *into*. The second reason why (258), as well as its prepositional variant, is not acceptable has to do with the fact that it involves two domains, one relative to the physical timecard punching scenario and the other relative to the change in psychological conditions. But, if two domains are recruited, their fusion (or blending) is regulated by the Force Change Schema, which syntactically requires the object position to be filled (unless an emission verb is used, e.g. *He fired [the ball] wide*). The Event Force Change Schema does not involve such domain fusion. The Event Force Change Schema accounts for those cases where an event is symbolised in terms of both force dynamics and spatial movement (either literal or metaphorical). Needless to say, we must motivate why *Sally punched silly* cannot be an instantiation of the Event Change Schema either. This problem will be dealt with at the end of section 4 below. For the moment being, we still need to investigate the Event Force Change Schema in more detail.

### 1.2. The noncausal variant

In the previous chapter I argued that both the Force Change Schema and the Event Change Schema have noncausal variants. The Event Force Change Schema also turns out to have a noncausal variant, which is appropriate for sentences such as (259):

(259) *We argued and shouted a bit but mostly he dealt with confrontation by sneering and slamming off into the other room.*

(The Observer 20.05.2001)

The verb *slam* can be employed informally as in (259) to indicate that someone moves violently or angrily (as is suggested, for example, by *The New Penguin English Dictionary*, which also remarks that such a use is probably of Scandinavian origin).166 Interestingly,
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(259) does not necessarily mean that he slammed a door (i.e. the door to the other room). It may convey the more general meaning that loud noises were produced. In any case, no causal relation obtains between the forcible slamming event and the change event of one’s going into the other room. (259) cannot be taken as an instantiation of the noncausal (or mildly causal) Force Change Schema because the change phrase is not manipulee oriented. Nor can (259) be viewed as a realisation of the noncausal Event Change Schema. Indeed, I have observed (see §5.2.3) that the noncausal Event Change Schema is compatible with transitive variants (e.g. He read the book well into the night). However, if we added an object noun phrase like the door to (259) (i.e. He slammed the door off into the other room), we would obtain the reading that the subject referent hurled the door into the other room thus causing a loud noise. Further, even if it may be difficult to exactly pinpoint the manipulee for slam, the reading according to which its subject referent is to be construed as a manipulator remains anyway. The situation is reminiscent of that for (255a), Sally punched out at seven o’clock, where the manipulee is not necessarily a timecard but the interpretation of the subject referent’s acting upon something always obtains. Hence, I will analyse (259) as an instantiation of the noncausal Event Force Change Schema. Of course, this does not mean that the verb slam is never to be found in an Event Change Schema example:

(260) The car slammed to a halt. (SOED)

(260) does not code any obvious force dynamics scenario (i.e. the car is difficult to construe as a manipulator). Rather, (260) can be regarded as a realisation of the causal CE Event Change Schema (see §5.2.1) if we interpret the event of the car’s (abruptly) moving to a halt as causing the car’s (tyres) to emit a loud noise. Alternatively, we can view (260) as an instantiation of the noncausal Event Change Schema if we understand slam as referring only to the car’s stopping suddenly. Going back to (259), I have represented in Figure 50 the semantic import of the change construction containing the verb slam under the reading that the manipulee was the door to the other room.

Figure 50. The noncausal Event Force Change Schema

The parallel order of the force and change components expresses the lack of causality between the two. As in Figure 49, the manipulee (i.e. DOOR) has been represented as a light circle because it is activated but not expressed in the syntax. The source (S) region has not been emboldened either because, although the preposition off implies a departure location, such a location is not specified in the syntax. In order to show that both the manipulee and the source have a possibly high activation potential, they have been depicted in the upper box. Finally, the other room has been connected to DOOR because the interpretation under scrutiny is that the subject referent slammed the door of the room in question. The part-whole relationship between the other room and DOOR has been represented by way of a dashed line departing from the latter and ending up within the former.167
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As was the case with the causal Event Force Change Schema, the intended manipulee can be identical to the complement of the preposition in the change phrase:

\[(261)\]

a. The punch lines \textit{slam} into our brains. (SOED)

b. The policeman crumpled as a bullet \textit{tore} into his leg. (The Guardian 20.04.2000)

c. … a little white woolen bonnet tied with ribbons that \textit{slice} into her double chin. (Kate Atkinson, Behind the Scenes at the Museum, 1996: 17)

d. The air was icy and \textit{bit} into her. (Kathy Lette, Foetal Attraction, 1994: 176)

\[(261a)\] contains the very verb \textit{slam} and illustrates that the intended affected entity (i.e. the manipulee for \textit{slam}) is identical to the complement of \textit{into}, that is, our brains. Similarly, the forcible verbs \textit{tear} in (261b), \textit{slice} in (261c), and \textit{bite} in (261d) all realise their subcategorised objects (i.e. \textit{leg} in [261b], \textit{chin} in [261c], and \textit{her} in [261d]) as preposition’s complements. All the examples in (261) are probably to be analysed as noncausal instantiations of the Event Force Change Schema because the change phrase headed by the preposition \textit{into} already implies disruption (see [252], The car crashed into the wall, in §5.2.2). The peculiarity of the examples in (261) lies in their explicitly coding an event in terms of both force dynamics and motion. Interestingly, this dual codification seems to rely on the fact that the subject referent is construed as (being associated with) a (literal or metaphorical) moving entity. A punch line, for example, can easily be interpreted as an entity in motion as the very motion verb of impact punch suggests. Similar considerations apply to bullets, ribbons and the air. As I pointed out above, the subject referent can be associated with, rather than correspond to, an entity in motion:

\[(262)\] The surgeon \textit{cut} into the body.

To be sure, it was the surgeon’s lancet that moved into the body in (262), not the surgeon herself. For the sake of completeness, I have represented one of the sentences in (261), (261b), in Figure 51 below.

Figure 51. Schematic representation of \textit{A bullet tore into his leg}

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Figure 51 makes it explicit that the event component is a Force Change Schema (since \textit{tear} implies a change of state). For simplicity’s sake, I have ignored the change component of \textit{tear} in the composite structure depicted as the upper box within the Event Force Change Schema in Figure 51. The manipulator (\textit{M}) and the theme (\textit{TH}) coincide, as indicated by the dashed arc connecting them. A correspondence relation also obtains between the manipulee \textit{m} (\textit{his leg}) and the region \textit{T} into which the bullet moved. In order to show that the bullet is intended to be placed inside a unique region (although the bullet is in motion within it), the source and the target have been linked by a dashed arc (see also Figure 45). Finally, the upper box depicts the fact that the force event unfolds together with the change of place event. The force arrow and the change arrow are projected onto each other, thus visualising the intuition that the manipulator/theme moved into the leg while simultaneously bringing about the latter’s change of state.
2. The lack of object orientation

Event Force Change Schema examples show that subject orientation for a change phrase within a change construction containing a unidirectional energy flow verb is possible. However, the manipulee cannot be expressed as a direct object in the syntax. Further, the event component and the change component in the Event Force Change Schema belong to the same domain (cf. *She punched silly*). The integration of different domains seems to be the province of the Force Change Schema (see also the event component generalisation in section 4 below).

In the previous chapter (see §5.2.3.2), I also dealt with the problem of subject orientation and pointed out that the subject oriented change construction *Sally cooked the cookies dirty* is impossible because it cannot be taken as an instantiation of the Force Change Schema (*Sally is not explicitly construed as a manipulee, cf.* Sally cooked herself dirty). However, one might wonder why this example cannot be an instantiation of the (transitive) Event Change Schema. The reason is simply that we cannot think of the Event Change Schema (as well as the Event Force Change Schema for that matter) as a unit independent of the Force Change Schema. The intended interpretation of *Sally cooked the cookies dirty* views Sally both as a manipulator and a manipulee. Now, if we accept the primacy of the billiard-ball model as a means of symbolisation of change events, we are bound to conclude that the intended interpretation can only be coded by the Force Change Schema (i.e. Sally both as a manipulator and a manipulee). Now, if we accept the primacy of the billiard-ball model as a means of symbolisation of change events, we are bound to conclude that the intended interpretation can only be coded by the Force Change Schema (i.e. Sally both as a manipulator and a manipulee). Now, if we accept the primacy of the billiard-ball model as a means of symbolisation of change events, we are bound to conclude that the intended interpretation can only be coded by the Force Change Schema (i.e. Sally both as a manipulator and a manipulee). Now, if we accept the primacy of the billiard-ball model as a means of symbolisation of change events, we are bound to conclude that the intended interpretation can only be coded by the Force Change Schema (i.e. Sally both as a manipulator and a manipulee).

In sum, English speakers can code subject-orientation within a causal, unidirectional energy flow scenario without resorting (directly) to the Force Change Schema only by blending the Force Change Schema and the Event Change Schema into a new unit, the Event Force Change Schema. Significantly, however, the object position cannot be filled in the syntax.

In what follows, I will examine possible counterexamples to the claim that the (causal) structure $S, V, O, CP_i$ (where $V$ denotes a unidirectional energy flow) is impossible in English, see sections 2.1 and 2.2, and, more in general, offer a typology of non-object orientation in English change constructions, see section 2.3.

2.1. On satisfaction and love

Despite what I have argued so far, one might question the correctness of the claim that (causal) $S, V, O, CP_i$ structures (where $V$ denotes a unidirectional energy flow) are impossible. An example which might belie that claim is (263) below.

(263) The prince devastated the town to his heart’s content.

The verb devastate undoubtedly codes a unidirectional energy flow. Further, the fact that the prince devastated the town caused the fact that the prince achieved the state of being satisfied. Nevertheless, there are (at least) two reasons why this phrasing does not imply that the subject the prince is the trajector of the prepositional phrase to one’s heart content.

First, it may sound odd to say that the prince “went” to or reached (a region corresponding to) his heart’s content. Also, if one accepted this view, one could claim by the same token that the town reached (metaphorically speaking) a region where the prince’s heart was able to be satisfied. Potential object orientation is even more apparent in the similar (passive) example (264) below, where the passive subject (i.e. active object) could be taken as the trajector for the prepositional phrase:

(264) Once revisions are completed to the satisfaction of the series editors... (from Mouton de Gruyter’s instructions on how to submit a manuscript for publication)
In conclusion, (263) could exhibit subject as much as object orientation for the prepositional phrase.

Second, one could propose, much more simply, that it was the prince’s heart which metaphorically moved into a region of satisfaction. This, of course, would mean that the prince ended up satisfied (by virtue of the part-whole relation existing between the prince and his heart). Further, the verbal event could be viewed as a path leading to state T (i.e. content). However, neither the subject referent nor the object referent should necessarily end up in T.

The analysis of (263) as involving a telic path is reminiscent of Langacker’s treatment of sentences like (265), from Langacker (1990):

(265) The new highway {goes/runs/climbs} from the valley floor to the senator’s mountain lodge.

The clause level trajector the new highway corresponds to the path that an imaginary traveller would move along. Langacker (1990) proposes that the appearance of to is justified on the basis of subjective motion by the conceptualiser. The conceptualiser “traces a mental path by scanning in a particular direction along the subject’s expanse” (Langacker 1990: 328). The notion of subjective motion by the conceptualiser can also be applied to (263). The causal relation between the telic verbal event (i.e. the trajector within such a relation) and the change of state of the prince’s heart (i.e. the landmark) is blended with a spatial motion scenario (i.e. a spatial change component) so that the verbal event is conceptualised as a path leading to a psychological state (see Lee 2001: 45 for some related examples). The conceptualiser scans the extended (i.e. reified) event until he or she reaches the target T corresponding to the state of the prince’s heart’s being satisfied, as is illustrated in the simplified schematic representation in Figure 52. Hence, subjective motion by the conceptualiser accounts for the use of the dynamic preposition to. The apparent subject (or object) orientation for the prepositional phrase may result from the use of the possessive pronoun his (which is coreferential with the subject) and the relational nature of the noun content (i.e. to his heart’s content in [263] implies that the culmination of the verbal event resulting in a devastated town satisfied the prince’s heart).

Figure 52. A schematic representation for The prince devastated the town to his heart’s content

Observe that in Figure 52 the dashed line representing path construal for the destruction event starts from the perimeter of the event component (i.e. the bottom box on the left) rather than from the F and P arrows within the event component. This is intended to indicate that the trajector in the event component (i.e. the prince) is not relevant to path construal, that is, it is not integrated with other entities as in the variants of the Event Change Schema (where events, paths and their trajectors are fused, see also below). Further, the target T in the upper box is to be understood, as indicated by the relevant dashed line, as standing for the final state reached by the prince’s heart. For this reason, the dashed line starts from the arrow point within T” in the change component (i.e. the bottom box on the right; see also the final integration Event Change Schema in §5.2.2 for a similar representation). As a matter of fact, the whole change component cannot be projected onto the target T (as was the case for the projection of the event component onto F) because the verbal event and the change of state of the prince’s heart are intuitively coextensive to some degree.
The latter change of state, although causally related to the verbal event, did not occur after the verbal event came to an end but took place as the process of destruction unfolded. Hence, a more detailed representation for (263) should also specify temporal coextension as in Figure 53 (the upper box in Figure 53 replaces the one encompassing the verbal event and the change event at the bottom in Figure 52; that is, the integration of the event component and change component with the conceptualiser oriented component depicted as the upper box in Figure 52 has not been represented in Figure 53).

![Temporal coextension in The prince devastated the town to his heart's content](image)

Figure 53. Temporal coextension in The prince devastated the town to his heart's content

The two paths are fused with each other because, as was noted above, the two events of the destruction of the town and the change of state of the prince’s heart are (at least partially) coextensive. This is of course also what happens with the (causal initial integration) Event Change Schema, where the event component and the change component are projected onto each other. Nevertheless, the integration of the two components in the Event Change Schema also involves the blending of the trajector in the event component with the theme in the change component. In the Event Change Schema sentence The kettle boiled dry, for example, it is the water that boiled and the kettle that became dry but only one of them, namely the container (kettle), is specified in the syntax. On the other hand, Figure 53 explicitly shows that only the paths are conflated.

We must now decide whether the prepositional phrase to his heart’s content is a change phrase. Although the verbal event could be regarded as the trajector of to (i.e. to his heart’s content is treated as an adverb similar to satisfyingly), it obviously does not move (or change more generally) with respect to the change of state of the prince’s heart (i.e. no factive motion is involved in Talmy’s 1996 terminology). The only motion involved relative to the change of state of the prince’s heart is that of the conceptualiser (i.e. subjective motion in Langacker’s terminology or fictive motion in Talmy’s terminology), who scans along the reified extended verbal event. Hence, I will say that the prepositional phrase to his heart’s content is a change phrase with respect to (i.e. is predicated of) the conceptualiser. I will refer to such a change phrase as a conceptualiser oriented change phrase and to the construction in which it occurs as a conceptualiser oriented change construction. In particular, I will call an example like (263) a satisfaction change construction (which is also intended to include cases like [264] above).

Before analysing the conceptualiser oriented change construction in more detail as far as the notion of blending and the set of schemas proposed so far are concerned, two important observations are in order.

First, conceptualiser oriented change constructions do not need to contain a forcible event component, as (266) demonstrates:

(266) However, Phyllis went on to say that not all of her cards turn out to her satisfaction... at least some of the copies don't please her.

(ww.hgtv.com/HGTV/project/0,1158,CRHO_project_28880,00.html)

Second, the blending with a spatial motion scenario (by which the verbal event is conceptualised as a path) does not always involve causality. Consider the following examples:
The EFCS and verb classes

(267)  

a. I love you [as high as I can reach]. (Sam McBratney, *Guess How Much I Love You*)

b. I love you [all the way down the lane as far as the river]. (Sam McBratney, *Guess How Much I Love You*)

c. I love you [across the river and over the hills]. (Sam McBratney, *Guess How Much I Love You*)

d. I love you [right up to the moon and back]. (Sam McBratney, *Guess How Much I Love You*)


The phrases in brackets refer to paths which the speaker (I) invites the addressee (you) to scan along and thus measure so that the latter might compare them with the extension of love as an object. In other words, the non-spatial relation denoted by *love* is projected onto a path scanned by the speaker and addressee arriving at the location specified as the preposition’s complement, see Figure 54 below for a schematic representation of a simplified version of (267d) (the diagram should be largely self-explanatory and must be considered alongside Figure 52 above).

![Figure 54. Schematic representation of *I love you to the moon*](image)

In sum, the prepositional phrases in (267) are change phrases predicated of *I* and *you*. However, the identification of the theme of the change phrase with the subject and object referents is not necessary; rather, it depends on the subject referent’s being the speaker and the object referent’s being the addressee. If we consider the structure *She loved him to the moon and back*, we cannot equate the referents of the pronouns *she* and *him* with the theme of the change phrase to *the moon and back*. The entity which scans the path in question is the conceptualiser rather than one of the participants in the event. Therefore, the examples in (267) are to be regarded as conceptualiser oriented change constructions.

Although (263), *The prince devastated the town to his heart’s content*, and (267) both instantiate the conceptualiser oriented change construction, they differ in terms of causality. (263) implies a causal relation between a physical event of devastation (i.e. the event component) and a psychological change of state; further, these two components are blended with a spatial motion schema (i.e. a spatial change component). (267) only blends an event component with a spatial motion schema. Observe that I do not take the upper box in Figure 52 as a blend with respect to the two lower boxes in the same way I did in connection with the causal Force Change Schema, for example. Rather, the upper box in both Figure 52 and Figure 54 is a convenient representation of both an input space and a blend. The spatial motion schema depicted as the upper box cannot represent only a blend because, if this were so, we would only have one input in Figure 54. But blending obviously involves at least two input spaces. Further, the upper box in both Figure 52 and Figure 54 contributes some elements (i.e. to in Figure 52 and to the moon in Figure 54). On the other hand, the upper box in the Force Change Schema is simply the (blended) structure onto which the event component and the change component are projected. Hence, both Figure 52 and Figure 54 resemble the noncausal Event Change Schema in that they result from the integration of an event component with a spatial motion component (i.e. a change component). The only difference is that the event component can be complex, that is, it can be made up of an event component (e.g. *The prince destroyed the town*) plus a change
component (e.g. the psychological change of state hinted at by *his heart's content*). When this is the case, the event component denotes a telic (but not necessarily force dynamics) event (see [266] above for example).

2.2. To the point of

A change construction which exhibits subject orientation for the change phrase is exemplified in (268) (sentence [268a] is from McIntyre 2002):

(268)  a. She worked (*herself) to the point of exhaustion.
    b. Peeling the Onion to the Point of Tears: Moments of Unadulterated Emotion in Rushdie. (title of a 1997 scholarly paper by Anthony R. Guneratne)
    (www.scholars.nus.edu.sg/landow/post/pakistan/literature/rushdie/tears.html)
    c. But when they eat to the point of emotional numbness, starve to an ethereal high, fill themselves up and get rid of it through vomiting or laxatives or ...
    (www.shpm.com/articles/eating/other/basics.html)

The subject referent in (268a) arrived at a (metaphorical) point corresponding to the state of being exhausted. (268a) cannot be an instantiation of the Force Change Schema because the addition of an explicit manipulee in the syntax (coreferential with the subject) results in ungrammaticality. (268b) and (268c) show that subject orientation can also obtain if the verb denotes a unidirectional energy flow (e.g. peel, eat). Nevertheless, the to the point of phrase is not always subject oriented as the following (object oriented) examples demonstrate:

(269)  a. Over-fishing of the Earth's oceans has decimated fish populations to the point of near extinction of many species.
    (www.vegsoc.org/animals/)

b. Mexico has paid back its short-term debt to the United States by incurring more debt and squeezing the Mexican economy to the point of ...
    (www.developmentgap.org/)

    (www.danampersanderic.org/food/zarf/caramelized_onion_cheese_sauce.html)

In conclusion, either subject or object orientation for the prepositional phrase is possible irrespective of the force dynamics nature of the verbal event. Rather, orientation depends on world knowledge. Whereas *Sally cooked the cookies dirty* is not acceptable even if we can activate a plausible scenario where Sally became dirty by cooking the cookies, subject orientation is not blocked in the similar sentence *Sally peeled the onions to the point of tears* (see [268b] above). Of course, onions, under normal circumstances, cannot weep; hence we are left with the subject orientation reading as the only plausible alternative.

It remains to be decided which of the schemas postulated so far instantiates the examples above. Once could simply argue that object oriented cases are instantiations of the Force Change Schema and subject oriented ones are realisations of the Event Change Schema. If this is so, the latter examples would demonstrate that the Event Change Schema, at least in the specific case of the to the point of construction, is compatible with unidirectional energy flow scenarios (i.e. subject orientation could also obtain if the verb denotes a unidirectional energy flow, see [268b-c] above). The problem with this analysis is that, by regarding the other cases (i.e. possibly all the object oriented ones) as instantiations of the Force Change Schema, we cannot capture the intuition that the verbal event is somehow construed as a path.

Alternatively, we may hold that the to the point of construction is not (necessarily) an instantiation of either the Force Change Schema or the Event Change Schema but, rather, of a schema which resembles what conceptual integration network theorists call generic space (see §5.1.2.2), that is, the structure common to two (or more) input
The EFCS and verb classes spaces (the Force Change Schema and the Event Change Schema for the present purposes) in a conceptual network. As a matter of fact, the to the point of construction simply specifies that an entity involved in an event E undergoes a change (of state). The exact nature of the verbal event is not specified and subject versus object orientation for the change phrase relies on our world knowledge. Admittedly, the identification of the to the point of construction with a generic space (relative to the inputs Force Change Schema and Event Change Schema) is not complete. The to the point of construction seems to construe the event E as a path leading to a state T in the same way as do the Event Change Schema and the conceptualiser oriented change construction. However, the construal of events as paths is not a feature of the Force Change Schema, which structures events in terms of forcible interactions rather than paths. Still, we can view the to the point of construction as being taxonomically superordinate to the Force Change Schema and the Event Change Schema (since it is much less specified). This does not necessarily imply that its subordinates “inherit” all its features. The non-complete identification of the to the point of construction with a generic space probably depends on a conceptual conflict between the view of a change event as a path leading to some state, on the one hand, and the structuring of a change event in terms of force dynamics, on the other.

A diagrammatic representation for the to the point of construction is offered in Figure 55. Note that the preposition to symbolises the path P and its trajector (i.e. the theme TH) has been equated with the trajector tr of the event component (i.e. the bottom box on the left). However, correspondence between the theme TH and the landmark lm is also possible as is the case in (269) above. Significantly, the upper box (i.e. the blended structure) in Figure 55 depicts the theme of the change component (i.e. the bottom box on the right) as being separated from the trajector or landmark of the event component (i.e. we have two circles instead of one as in the Force Change Schema and the Event Change Schema). This intends to visualise the fact that the correspondence of the theme with the trajector or landmark of the event component is a matter of world knowledge.\[1\]

Figure 55. The to the point of change construction

All the constructions examined so far can be regarded as making up a network (i.e. the change network) which is summarised in Figure 56 below.
Figure 56. The change network

Figure 56 also specifies how the various schemas differ in terms of construal. The Force Change Schema involves the notion of force; the other schemas structure events as paths. Finally, the Event Force Change Schema blends force and path conceptualisation. Notice also that the conceptualiser oriented change construction has been drawn above the Event Change Schema since it relies on the construal of an event as a path but does not distinguish between forcible and non-forcible events (i.e. it is less specific than the Event Change Schema, which excludes forcible events when causality is involved).

2.3. Part-whole variants

In this section, I continue the analysis of transitive structures which contain a (prepositional) change phrase not predicated of the object referent. I focus on those constructions where a part-whole relationship obtains between the object referent and the preposition’s complement referent. They can be divided into three groups: the change phrase is predicated of the subject or of a part of it (see section 2.3.1); the change phrase is predicated of an understood manipulee (see section 2.3.2); the change phrase is predicated of the conceptualiser (see section 2.3.3).

2.3.1. Subject orientation

Change phrases can be predicated of subject referents in transitive structures (apart from the to the point of construction) either if the constructional verb implies a unidirectional energy flow from its landmark to its trajector, as in (270a), or if the verb does not imply a unidirectional energy flow, as in (270b), or if a verb of movement (or construable as such, like play in [270d]) takes a nonmanipulable object, see (270c)-(270d). Obviously, the third case is a subclass of the second case since the verbs of movement in (270c)-(270d) do not imply any unidirectional energy flow with respect to their objects.

(270)  

a. I love you to distraction.
b. I’ll fight it to the death.
c. John danced mazurkas across the room.
d. The children played leapfrog across the park.

Another group of transitive examples where subject orientation for the change phrase is possible involves verbs (of impact) that do imply a unidirectional energy flow from subject to object. Crucially, they also contain a prepositional phrase whose complement stands in a (more or less literal) body-part relation with the constructional object, as in (271):

(271)  

a. The sea air slapped her in the face.
b. That sad piece of news [touched/shocked] us to the core.
c. It cut me to the heart.

The prepositional phrase in the face in (271) can be regarded as a change phrase because it denotes the position achieved by the subject. Similar considerations hold of to the core in (271b) and to the heart in (271c). I take the examples in (271) as instantiations of the noncausal Event Change Schema. First, there is no causal relation between the verbal events and the events alluded to by the prepositional phrases. (271a), for example, means that the sea air moved towards her and that its impact on her face was like a slap. Note that the paraphrase “The fact that the air moved to her face caused the fact that the air slapped her” does not seem to work properly. This is so because the verb slap, although highlighting the forceful impact of an entity onto another, already implies the notion of motion (as was the case with crash in Figure 44). Further, I have argued (see §5.2.1) that, in the noncausal Event Change Schema, the event component can denote a unidirectional energy flow and the affected entity can be expressed in the syntax (contrary to what happens with the Event Force Change Schema, see section 1). Since slap focuses on the final impact of the air on her face in (271a) (i.e. such an event does not unfold together with the air’s motion), I take (271a) as a realisation
of the noncausal final integration Event Change Schema (see also Figure 44). For the sake of completeness, I offer below in Figure 57 a possible representation of the composite structure that we obtain by integrating the slapping event with the air’s motion event.

Figure 57. The composite structure of the noncausal final integration ECS for The sea air slapped her in the face

The sea air as a manipulator (M) has been linked to the change arrow head (i.e. the final position of the sea air as the theme TH) so as to show that the slapping event obtains when the sea air hits her face. A short line connects the two circles representing her (the outer circle) and in the face (the inner circle) so as to show the existence of a part-whole link. The force arrow (F) is shown as extending up to the inner circle (i.e. the face) because such a circle stands for the area of the object referent’s body which was affected by the sea air.

Going back to the examples in (271), I would like to point out that (271b) and (271c) can be viewed as instantiations of the noncausal initial integration Event Change Schema. The events designated by the verbs in (271b) and (271c) are understood as unfolding together with the (metaphorical) motion of the subject referent towards the location denoted by the preposition’s complement.

Finally, it must be observed that the prepositional phrase can be predicated of part of the subject referent only (see the notion of active zone in §2.3.4, note 77), as in (272):

(272) a. Sam buttoned his coat to the top.
    b. Sam slapped Tom on the face.

The prepositional phrase to the top in (272a) is predicated of Sam’s hands, which arrived at the top of the coat. Similarly, Sam’s hand reached Tom’s face in (272b). Strictly speaking, therefore, the examples in (272) should be classified as sublexical subject change constructions. In other words, the change phrase is predicated of an entity which is an active zone with respect to the subject.

2.3.2. Understood manipulee orientation

Let us consider the following example:

(273) Chris filled the bucket to the brim.

The brim stands in a part-whole relation with the direct object the bucket. The entity in motion with respect to the brim is not expressed in the syntax (i.e. it is neither Chris nor the bucket). Rather, it is to be equated with the substance (e.g. water) which Chris poured into the bucket. Since water can be postulated at the conceptual level, the prepositional phrase to the brim can be regarded as a change phrase and the construction as a sublexical change construction. I will call such a construction understood manipulee oriented change construction. The label intends to make explicit the fact that the change phrase is not predicated of the object/manipulee symbolised in the construction but, rather, of the implied manipulee (e.g. water), which is connected to the expressed manipulee (e.g. bucket) through a container-contained relation (i.e. bucket is the container for water). Figure 58 below visualises the semantic import of the construction under discussion. The parallel arrangement of the event and change components depicts their lack of causality. That is, the schema in Figure 58 is a graphical variant (adopted for the sake of convenience) of the three-dimensional diagrams used in the previous chapter for noncausal structures (as seen from the top) and does not explicitly represent the integrated structure (see also the discussion at the end of section 2.1 above).
The understood manipulee oriented change construction results from the merger of an event component, corresponding to a Force Change Schema, and a change component (the bottom box in Figure 58). The former depicts Chris’s action upon the bucket (i.e. m) by way of an instrument I (e.g. WATER) resulting in the bucket’s change of state (see the path P ending up in the target T). The change component depicts the movement of a substance (e.g. WATER) into the bucket and, further, specifies that the water reached the brim of the bucket as is indicated by the path P’ line ending up at the border of the target circle T’. The integration of the event and change components is achieved by projecting the theme TH (WATER) onto the instrument I and the target T’ onto the manipulee m. Moreover, although this conceptual operation is not represented in the diagram, path P’ is converted into path P (standing for the change of state of the manipulee m, the bucket): the change of position of the water is the change of state of the bucket. In sum, the symbolised structure Chris filled the bucket to the brim contains elements from both schemas. The substructure Chris filled the bucket is to be linked to the Force Change Schema (i.e. the event component), whereas the change phrase to the brim is to be related to the change component. (273) can be regarded as a variant of the noncausal Force Change Schema component and a change component and the change phrase is predicated of the (intended) manipulee.

2.3.3. Objects as paths

In some cases it is difficult to say of which entity, either expressed in the syntax or only present at the conceptual level, the prepositional phrase headed by a motion preposition is predicated:

(274) Harry […] drove it [i.e. the sword] to the hilt into the roof of the serpent’s mouth. (J.K. Rowling, Harry Potter and the Chamber of Secrets, 1998: 236)

The hilt in (274) stands in a part-whole relation with the referent of the object pronoun it (i.e. the sword). Interestingly, the prepositional phrase to the hilt is predicated of neither Harry (nor a part of his body) nor the sword. That is, both Harry’s hand and, of course, the sword itself are stationary relative to the hilt. One may take the hilt as denoting the location where the serpent’s mouth arrived. The mouth ended up making contact with the hilt of the sword. In this sense, the prepositional phrase to the hilt can be considered a change phrase predicated of the serpent’s mouth. Nevertheless, we observe that such an interpretation involves a “reversed” scanning of the motion event coded by (274). The sword moved into the serpent’s mouth but, if we want to say that the prepositional phrase to the hilt is a change phrase, then we have to scan the event in reverse fashion, by conceptualising the serpent’s mouth as the trajector (i.e. the entity in motion), rather than the landmark (i.e. the static entity affected by the sword).

Alternatively, we could interpret the prepositional phrase to the hilt as an adverbial which takes for its trajector a process, namely that of driving the sword into the serpent’s mouth. The event of driving the sword into the serpent’s mouth lasted until the subject referent caused the hilt to make contact with the serpent’s mouth.
Although the two analyses proposed above may be on the right track, it is difficult to say whether they are appropriate for the following examples:

(275)  a. She’s up to the hilt in debts. (LDEL)  
    b. We’re mortgaged up to the hilt. (LDEL)

To be sure, to the hilt in (275) has an adverbial value (roughly corresponding to completely), that is, the trajector of the prepositional phrase in question may be equated with a relation (either static or not), as was also suggested for (274). Still, the question remains of why a dynamic preposition such as to is used in either case.

Intuitively, in (275), the negative circumstances (i.e. debts, mortgages) are construed as extended entities just like the sword in (274). To the hilt in (275) prompts us to match the (vertical) extension of the subject referent with that of debts and mortgages (i.e. the latter are reified extended entities and reach the metaphorical hilt of the subject referents). Further, debts and mortgages are seen as dangers to the life of the subject referents (i.e. they can suffocate the subject referents). In sum, the use of the preposition to might involve subjective motion (see section 2.1 above): the conceptualiser scans along entities (conceptualised as) having extension.

I will refer to conceptualiser oriented cases where a part-whole relation obtains between the object referent and the preposition’s complement by saying that the prepositional phrase (e.g. to the hilt) is a measurer. To the hilt in (274), for example, measures the length of the sword which was involved in the process of the sword’s displacement, as is shown in Figure 59.

To the hilt specifies that all the (arbitrary) parts into which the sword can be divided were involved in the event described by the verb. In other words, the conceptualiser scans along all the parts of the sword starting from its point up to its hilt. Therefore, we conclude that conceptualiser oriented change constructions are based on either the reification of an event as a path (as in The prince devastated the town to his heart’s content, see section 2.1 above) or the construal of an extended object (like sword in Harry drove the sword to the hilt into the dragon’s mouth) as a path which the conceptualiser scans along.

To sum up, we have observed in this section that the causal S V O CP structure (where V denotes a unidirectional energy flow) is possible and (only) corresponds to the to the point of construction. Significantly, however, the to the point of construction is independent of the distinction between forcible and non-forcible events (i.e. it can partly be regarded as a generic space with respect to the Force Change Schema and the Event Change Schema). Hence, the arguments put forward for the impossibility of the S V O CP pattern where CP is different from a to the point of phrase remain valid.

3. On indeterminacy and complexity

Change constructions are essentially of two types (see Figure 56 above): unidirectional energy flow independent (see upper half of the circle in Figure 56) – i.e. the nature of the verbal event (energetic or not) is not relevant to the choice of the constructional schema – and energy flow dependent (see lower half of the circle in Figure 56) – i.e. the nature of the verbal event is crucial for the selection of the constructional schema. Cross-cutting this distinction is that between events as forces and events as paths (see left-hand side versus right-
hand side in Figure 56). Further, schemas show some degree of interaction as is the case with the Event Force Change Schema, which can be analysed as a blend of the Force Change Schema and the Event Change Schema.

Although the linchpins of the change network have been related to (hopefully) clear-cut examples, some change constructions may be difficult to analyse unambiguously as realisations of one particular schema. The reasons for this are (at least) two, namely substitution by analogy (on the basis of an above-the-norm reading) and multiple linking (see also the notion of multiple inheritance in Goldberg 1995).

Change phrases are often used as intensifiers (see §2.1.2.2 for example), that is, with an above-the-norm reading (see §5.1.2 for example). They are often paraphrasable as “completely”/“greatly”/“a lot”. Hence, we may expect that a change phrase can be “extracted” from a change construction in which its trajector is easy to identify and “inserted” (by analogy) into a different construction which either makes the identification of the trajector for the change phrase difficult or seems to contradict the patterns expected on the basis of the postulated schemas. Consider the following cases:

(276) a. We laughed silly. (vs. We laughed ourselves silly)
b. He drank to death. (vs. He drank himself to death)

Although (276a) and (276b) are usually judged ungrammatical, they do occur in colloquial language (as a search with any Internet search engine demonstrates). The expected patterns, given in parentheses, contain a reflexive pronoun and are instantiations of the Force Change Schema. The subject referent acted upon itself causing its (possibly metaphorical) change of state. The motivation for the colloquial structures in (276) may stem from the fact that both silly and to death are used as synonyms of “a lot”. Hence, the sentences in (276) are not necessarily change constructions. Still, one could regard the examples in (276) as instantiations of an Event Change Schema whose nature as the complement of the Force Change Schema has been relaxed. In other words, although the subject referents are to be construed as manipulators with respect to themselves, the speaker bypasses the Force Change Schema and activates the event-as-path construal coded by the Event Change Schema directly.

The two lines of reasoning (i.e. synonymy with quantified expressions such as a lot versus Event Change Schema instantiation) are not mutually exclusive in principle. Only the future development of the English language will tell us which is the more appropriate (e.g. other expected Force Change Schema examples occur as instantiations of the Event Change Schema).

Let us now move to the second source of complexity in the analysis of change constructions. Consider the following examples:

(277) a. He enjoyed life [to the full].
b. He supported her [to the hilt].

Both bracketed prepositional phrases convey an above-the-norm reading. It may however be difficult to establish which schema such examples instantiate. Neither (277a) nor (277b) codes a causal relation but it is not clear which entity is the theme of the preposition to. Both verbal events can be conceptualised as paths leading to the metaphorically interpreted states full and hilt. If we regard the subjects as themes for the dynamic prepositional phrases, then (277a) and (277b) instantiate the noncausal initial integration Event Change Schema. If we regard the conceptualiser as the theme for the prepositional phrases, then (277a) and (277b) are to be linked to the conceptualiser oriented change construction appropriate for examples like I love you to the moon and back (see section 2.1 above). In sum, a given construction may in principle be associated with more than one schema. Crucially, the connections between such a construction and the relevant schemas may have different “weights” (as in a neural network), thus accounting for the differences in interpretation without excluding (partially) contrasting analyses.
4. Verb classes

The question must now be addressed as to what verbs usually occur in the (variants of the) Event Change Schema and, more generally, how specific verb classes interact with the proposed schemas. By looking at the examples considered so far, we can draw an important conclusion concerning the event component in the Event Change Schema. The event component usually designates either a motion event, or a change of state event, or an emission event (e.g. sounds emitted by an inanimate entity), as is summarised in Table 2 below.

<table>
<thead>
<tr>
<th>example</th>
<th>ECS type</th>
<th>verb (i.e. E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The mansion burned down.</td>
<td>causal EC</td>
<td>change of state</td>
</tr>
<tr>
<td>Chris bled to death.</td>
<td>causal EC</td>
<td>emission</td>
</tr>
<tr>
<td>We danced across the room.</td>
<td>causal CE</td>
<td>sound emission</td>
</tr>
<tr>
<td>The car screeched to a halt.</td>
<td>(initial integration)</td>
<td>sound emission</td>
</tr>
<tr>
<td>The module clicked into place.</td>
<td>causal CE</td>
<td>sound emission</td>
</tr>
<tr>
<td>Joyce roared out of the lot.</td>
<td>noncausal</td>
<td>sound emission</td>
</tr>
<tr>
<td>Penny limped into the room.</td>
<td>(initial integration)</td>
<td>sound emission</td>
</tr>
<tr>
<td>Sally crashed into the wall.</td>
<td>noncausal</td>
<td>sound emission</td>
</tr>
</tbody>
</table>

Note further that with (nonpunctual) sound emission verbs the subject referent is by default interpreted as an inanimate entity in motion. For example, Joyce roared out of the lot means that Joyce’s car emitted a roaring sound while in motion (i.e. the possessor for possessed metonymy is involved). Crucially, if the event component does not (by default) imply either a change of state/position or the emission of an entity, the Event Change Schema pattern is virtually impossible ([278a] and [278b] are based on Rappaport Hovav and Levin 2001):

(278) a. *The children played into the room.
   b. The children played leapfrog into the room.
   c. ?? Sally laughed into the room.
   d. ?? Sally shouted out of the room.
   e. The train whistled into the station.

The intended meaning of (278a) is that the playing event caused the children’s motion into the room (i.e. a causal Event Change Schema interpretation). However, if we do not add an object like leapfrog which implies movement (see [278b]), the pattern in (278a) is not acceptable. Similarly, Sally laughed, see (278c), does not by default imply a motion event and its combination with a directional phrase is virtually excluded. Still, some speakers find a similar noncausal example like (278d) acceptable (see note 72 in chapter 2 for discussion and the attested example Bridget hiccupped off into the sunset, which appears on the back cover of Helen Fielding’s [2000] Bridget Jones. The Edge or Reason). If the subject referent is inanimate (e.g. train in [278c]), the acceptability of the noncausal pattern under examination is much improved.

It seems therefore that the so-called Direct Object Restriction (see §3.1.2) in its semantic version is correct. The change phrase must be predicated of a theme, that is an entity undergoing a change of state or position. The change of state or position may be either explicitly coded by the verb (as with burn) or hinted at by it (as with dance and bleed, which may both imply a change of position/state). Alternatively, the entity of which the change of state is predicated is conceptualised as being in motion (as is the case with verbs of sound emission). (279) sums up this important point:

(279) The event component generalisation
The trajector in the event component of the Event Change Schema must be interpretable as a theme.

It is worth pointing out that the event component generalisation does not need to be stipulated independently of the (variants of the) Event Change Schema but is an intrinsic part of its representation.
To be sure, in the CE cases (i.e. the change component determines the event component), the trajector in the event component is necessarily a theme because the change component conceptually precedes (i.e. determines) the event component. More interesting are EC instantiations (i.e. E determines C) and noncausal instantiations. In these cases (as well as the initial CE case, trivially), the event component generalisation can be read off the upper box in the Event Change Schema. Not only does the projection of the squiggly arrow and the straight arrow onto each other indicate temporal dependency (i.e. the E and C events unfold together), but it can also be taken to mean that the C and E events can be interpreted as the same process. In other words, if an entity is a theme in the change component, it must also be a theme in the event component since the upper box does not distinguish between the two processes. In the terminology of Fauconnier and Turner (2002), the two processes are blended and the theme-“nature” of the trajector of the event component established in the blend is projected back into the event component itself.

This is the case, for example, in *The clothes dried wrinkled* because *The clothes dried* by default implies the clothes’ change of state. Nevertheless, the fact that the verbal event activates the notion of change does not mean that only a specifier interpretation can obtain (as in *He broke the vase into pieces* where into pieces specifies the extent of the breaking event) and no causal relationship between the event of drying and the event of the clothes’ becoming wrinkled cannot be detected. The specifier interpretation has to do with the upper box within the Event Change Schema, whereas the causal interpretation involves the order (or lack thereof) of the boxes below and their link with lexical items (see the discussion in §5.1.2.1 for example).

Moving to noncausal examples, we observe that a sentence like *She drank Pina Coladas well into her twilight years* is compatible with the noncausal initial integration Event Change Schema because objects and people are necessarily themes (independently of any event in which they are involved and hence also in the events in which they are involved). All entities move metaphorically through time (because of our linear concept of time). Further, the temporal domain is the domain evoked by the prepositional phrase into her twilight years. On the other hand, if we consider *??Penny laughed into the room*, it is difficult to think of the laughing event as a motion event. Of course, such interpretations depend on world knowledge. This motivates why transitive cases such as *Penny loves Sam to distraction* and *They fought the enemy to the death* could be analysed as instantiations of the Event Change Schema if they are not regarded as realisations of the Force Change Schema (see §5.2.3.2). The event of loving and that of fighting can be easily conceptualised as paths (see the love-as-a-journey metaphor in Kövecses 2000). Similarly, *East Timor may beat Britain into the Eurozone* (see §5.2.3.1) implies that the relation between East Timor and Britain is viewed as a path.

In sum, the blending of the event component and change component in the (variants of the) Event Change Schema requires us to construe the trajector in the event component as a theme (with respect to the scenario evoked by the verb instantiating the event component). This means that the activation potential for a change interpretation is high with respect to the verbal event instantiating the event component. Two more examples will suffice to further illustrate the point. Consider *Tom bled to death* for example. Despite what is claimed by Rappaport Hovav and Levin (2001) for intransitive change constructions, such an intransitive example undeniably codes a causal relation. The paraphrase “The fact that Tom bled a lot caused the fact that Tom died” works perfectly. Still, the activation potential for the change event (i.e. to death) is high because of our world knowledge (i.e. we can easily associate losing blood with fatal consequences). On the other hand, the impossibility of *Sally punched silly* (see end of section 1 above) might depend on the conceptual distance between the physical verb punch and the psychological change of state hinted at by silly (i.e. the activation potential for the latter is weak given the former verb). That is, the subject Sally is a manipulator but not an explicit theme; if we want to construe Sally as a manipulee, we must resort to the Force Change Schema.

I now turn to examining how particular verb classes interact with the postulated schemas by dealing with examples which, more often than not, pose rather complex problems.
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4.1. Middle verbs

Verbs that refer to actions performed upon one’s body (often referred to, more generally, as middle verbs, see Kemmer 1993 among others) can usually be used intransitively:

(280) Chris washed (himself).

Interestingly, the reflexive pronoun can be left out in change constructions too:

(281) a. Chris stripped (himself) naked.
    b. Chris washed (himself) clean.
    c. Chris shaved (himself) smooth.

The verbs in (281) all refer to actions that can be conceptualised in terms of a unidirectional energy flow, that is, they can be regarded as instantiations of the event component within the Force Change Schema. Therefore, they are not compatible with the causal Event Change Schema, which requires non-unidirectional forcible events. Rather, they can be taken as realisations of either the causal Force Change Schema or the causal Event Force Change Schema. I will take the reflexive variants as realisation of the Force Change Schema because the Event Force Change Schema prevents us from realising the affected entity as an object in the syntax. On the other hand, I think it is immaterial to decide upon the question of which schema we should link the reflexiveless variant to. The reflexiveless variant can be viewed as an instantiation of the Force Change Schema because the optionality of the reflexive pronoun may be argued to be independent of the change construction in question (viz. the reflexive is optional even if the verb is used in isolation). Still, the reflexiveless variant can be taken as an instantiation of the Event Force Change Schema because the Event Force Change Schema requires the affected entity not to be expressed as an object in the syntax.

4.2. Verbs of manner of motion

Verbs of manner of motion such as wriggle in (282) (based on Rappaport Hovav and Levin 1999)

(282) Chris wriggled (himself) free.

allow the reflexive object to be omitted as was the case with body-part verbs. Indeed, the verb wriggle could be analysed as such. Hence, I take the reflexiveless variant of (282) as an instantiation of (potentially) both the Force Change Schema and the Event Force Change Schema (see the previous subsection).

Manner of motion verbs also pose the question of their schematic representation in cases such as (283):

(283) a. Sally limped to the swimming pool.
    b. Sally ran to the swimming pool.
    c. Sally walked to the swimming pool.
    d. Sally slid across the frozen river.

Although superordinate causality always obtains (e.g. the fact that Sally moved caused the fact that Sally was at the swimming pool in all the examples [283a-c]), the acceptability of subordinate causality in relation to a specific manner of motion verb depends on the “distance” between such a verb and the superordinate move (see §2.1.2.1 and also §2.1.3). The subordinate paraphrase obtains when the prepositional phrase is interpreted as referring to an abstract transition (from state A to state B) and the verbal event saliently evokes translational motion (i.e. a change event, as is required by the event component generalisation of section 3; see also §2.1.3). Intuitively, limp primarily describes a property (that of having a limp); run usually implies a displacement event but also focuses on the speed with which we move our legs; walk is the default way to move, but also specifies the way in which we move our legs; finally, slide describes continuous motion along a surface. Hence, given differences in the
The EFCS and verb classes activation potential for the translational motion reading, we expect differences in the plausibility of the causal subordinate paraphrases.

I take the sentences in (283) as instantiations of the (noncausal) Event Change Schema, as is shown in Figure 60 for (283b).

Figure 60. Manner of motion verbs

The blended structure in Figure 60 (i.e. the box in the middle) has been linked to both a parallel arrangement for the manner and change components and a causal arrangement for an event component (corresponding to move) and a change (of state) component. That is, we have a case of multiple linking in the sense of section 3 above. The parallel arrangement at the bottom captures the lack of the causality reading whereas the sequential arrangement at the top visualises (superordinate) causality. Further, the move event component has been linked taxonomically to the manner event component so as to account for subordinate causality (which rests on the substitution of the manner of motion verb for the verb move). The potential for such a reading depends on the “weight” on the connection (i.e. the inverse of the conceptual distance) between move and the manner verb: the greater the weight, the easier it is to access the subordinate reading.

4.3. Verbs of accompaniment

A change phrase can sometimes be predicated of both the subject and object referents:

(284) a. [Penny], rode [the horse], [to town].
    b. [Sam], followed [Penny], [into the kitchen].

Both Penny and the horse in (284a) ended up in town. Similarly, Sam and Penny in (284b) were both, at some point in time (but not necessarily the same point in time), in the kitchen. The examples in (284) also demonstrate that double orientation for the change phrase can occur with either verbs that designate control (such as ride) or verbs that do not imply the exertion of a force (such as follow).

We can regard (284a) as an instantiation of the Force Change Schema because the subject referent of ride “manipulated” the horse. Double orientation for the change phrase arises from the fact that the subject and object referents are conceptualised as being linked to each other (i.e. Penny was on the horse). Importantly, (284a) also has an objectless variant, namely Penny rode to town. As was the case with verbs denoting actions performed upon one’s body, I regard such a sentence indifferently as a realisation of either the Force Change Schema or the Event Force Change Schema.

Example (284b) should be considered alongside (285):


Watch is similar in meaning to follow because it signifies that its trajector follows the landmark, which is in motion, with his or her sight. Nevertheless, into the kitchen is predicated of both the subject and object referents in (284b) whereas out of sight in (285) refers to Hedwig alone (unless we interpret watch as indicating the imaginary emission of rays out of one’s eyes to the location occupied by the object referent, see below). In sum, (285) exhibits object orientation for the change phrase out of sight even though the verb does not denote a
forcible event. At closer inspection, (284b) could also be said to contain a (primarily) object oriented change phrase: Sam’s motion depended on Penny’s motion, after all.

Having established (primary) object orientation for the change phrases in (284b) and (285), it remains to be decided which schema they instantiate. (284b) seems to be similar to (286), which was analysed in the preceding chapter:

(286) *I love you to distraction.*

In §5.2.3.2, I claimed that subject orientation for the change phrase *to distraction* may stem from the construal of the sentence trajector *I* as a manipulee in the billiard-ball model scenario evoked by the blend (i.e. *you* is analysed as a, possibly unwitting, manipulator). In analogous fashion, we can view *Penny* in (284b) as a, not necessarily conscious, manipulator. *Penny*, who is in motion, attracts like a magnet (i.e. exerts a force upon) *Sam*, who is therefore to be equated with a manipulee. In sum, (284b) can be taken as a realisation of the Force Change Schema. The differences between (286) and (284b), as is illustrated in Figure 61 (which should be self-explanatory by now), are, firstly, that the change component in (284b) (i.e. Penny’s motion into the kitchen) determines the event component (i.e. Sam’s motion) and, secondly, that the verb *follow* lexicalises both the change component and the event component.

More complex is the case of (285) since the change phrase *out of sight* can be said to be predicated of imaginary rays coming out of the subject referent *Harry* only in a derivative sense. That is, such rays ended up in a position (i.e. *out of sight*) where they could no longer make contact with the observed object (i.e. *Hedwig*). In similar fashion to (284b), we can view the change component (i.e. Hedwig’s motion) as being the cause of Harry’s directing his attention to Hedwig (i.e. the event component) and we can analyse the verb *watch* as lexicalising both components, as is summarised in Figure 62.

The main difference between Figure 61 and Figure 62 amounts to the fact that the entity construed as a manipulee at the level of the blend in Figure 62 is not Harry himself but, rather, the rays coming out of his eyes (i.e. the emitted entity). One more difference involves the path P (which is symbolised by *out*) in Figure 62. Such a path has not been linked to the path arrow in the blend since Harry’s sight did not strictly speaking go out of sight. Rather, Harry’s sight achieved a position where Hedwig was out of sight. Hence, T’ in the blend (i.e. the state/position achieved by Harry’s sight) has been linked to T in the C component, which stands for the final position achieved by Hedwig.
Although the analyses proposed above are tentative and future research into this and similar patterns is much needed, the schematic representations in Figures 61 and 62, if correct, show that the potential CE ordering (i.e. C determines E) within the Force Change Schema may not be impossible. To put it differently, the same flexibility in the arrangement of the components of the Force Change Schema is observed as in the Event Change Schema (i.e. CE ordering, EC ordering and parallel ordering).

4.4. Emission verbs

Emission verbs are similar to verbs of manner of motion as far as the absence of causality is concerned:

(287) a. The man was sobbing into his hands.
    b. The man was sobbing his sorrow into his hands.

No causal relation can be detected between the event of sobbing (i.e. emitting sobs) and the motion of the sobs into the man’s hands in (287a). Rather, the event of sobbing is simply construed as a directional event of which his hands represents the target (T), see the simplified diagram below.

![Figure 63. A simplified representation for sound emission verbs](image)

Further, his sorrow in (287b) expresses the psychological state associated with the sobs, as noted in §2.3.2.1 (see example [61]). Still, the interpretation in which the man in (287) is conceptualised as a manipulator cannot be excluded. Under this reading the man “acted” upon himself so as to direct his sobs (or sorrow) into his hands. Therefore, whereas the event of sobbing and that of the sobs going into the man’s hands are not causally related, there can be a causal link between the man and the sobbing event.

Change constructions containing sound emission verbs such as sob also pose the question of which schema they should be linked to. The Force Change Schema is an unlikely candidate because the force interpretation is not always evoked. Further, although the sound emission event is construed as a directional event (i.e. as an event implying a path P), the Event Change Schema is not a possible candidate either because it implies subject orientation for the change phrase. On the other hand, emission verbs imply that the change phrase is predicated of the conceptual object. I propose we regard verbs of sound emission as instantiations of the change component alone. The source (S) with the change component is the emitter and the theme (TH) corresponds to the emitted substance. Figure 63 illustrates the case where the directed sound emission event is due to the emitter itself. Now consider (288) (see [50] in §2.2.4):

(288) John rattled out a box of candles.

(288) means that John moved a box of candles out of some location and thus caused a rattling sound to occur. (288) can be analysed as the integration of a force component (i.e. John is a manipulator with respect to the movement of the box of candles) and a change component. The latter describes both the motion event and the sound emission event, which unfolded together. In other words, the change component corresponds to an Event Change Schema in its causal variant (the motion of the box caused the sound emission event). This is summarised in Figure 64.

The upper diagram in Figure 64 shows that the C component contains both an E subcomponent, the squiggly arrow (relevant to the sound emission event), and a P subcomponent, the straight arrow (visualising the motion event). The F subcomponent (i.e. the force exerted by John onto the box) has not been linked directly to rattle so as to point out that rattle is a causative verb in (288). The source (S)
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region has not been emboldened because it is implied by *out* but is not expressed in the syntax. The diagram in the lower half of Figure 64 shows the C component (i.e. the Event Change Schema) in more detail.

![Diagram of the Event Change Schema](image)

Figure 64. A schematic representation of John rattled out a box.

It must be stressed that change constructions containing sound emission verbs may exhibit multiple linking (see section 3 above) in the same way as change constructions with manner of motion verbs. Consider (289) for instance:

(289) *The fly buzzed out of the room.*

(289) can be interpreted causally (see §2.3.2.2). Motion can be regarded as the cause for the sound emission (i.e. the buzzing sound). Still, flies can also buzz without moving. In other words, (289) can activate (or be associated with) more than one schema, as is visualised in Figure 65.

![Diagram of multiple linking with emission verbs](image)

Figure 65. Multiple linking with emission verbs

*The fly buzzed out of the window* has been shown in Figure 65 to have a complex structure, which specifies that both a noncausal association (see the lower part of Figure 65) and a causal association (see the upper part of Figure 65) of the motion component with the emission component are possible (although, of course, their “weight” might be not identical).

Example (289) also shows that when we have a verb of emission and an entity which is by default conceptualised as a moving entity, the change phrase (if it denotes a physical location) is predicated of the entity in motion. The change phrase can also be predicated of the emitted substance if the association of the motion event with the emission event implies that the former is to be construed as an instance of either allative or ablative motion. As a matter of illustration consider the following sentences:

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The man was weeping into his handkerchief.
The train whistled into the station.
The car screeched to a halt.
The fly buzzed out of the window.

The prepositional phrase into his handkerchief is predicated of the emitted substance (i.e. tears), which is realised only at the conceptual level, since a man is not by default conceptualised as a moving entity. "Into the station" in (290b) can be said to be predicated of both the subject and the emitted substance: the train and the whistles went into the station. This is so because the motion event associated with the sound emission event is not an instance of movement in general, but of the specific train's movement into the station (i.e. the train whistled as it entered the station). If, however, the preposition's complement does not designate a physical location as in (290c), where we have a noun referring to a state (i.e. halt), the prepositional phrase is of course predicated of the subject referent alone; this is so despite the fact that the sound emission (as in the previous case) is associated with telic motion. Finally, the sound emission event in (290d) is not associated with ablative motion (i.e. motion out of the window) but with movement in general and, hence, the prepositional phrase is predicated of the subject referent alone.

In conclusion, with Event Change Schema examples implying an emission event and a motion event, the motion "feature" must shared (as was pointed out in the event component generalisation in section 4). "Sally laughed into the room" is virtually impossible under the reading "Sally went laughing into the room" because Sally does not (by default) have the feature [+motion]. Similarly (and more generally), "Sally played into the room", which is constructed by merging a motion predicate (i.e. into) with a generic activity predicate (i.e. play), is not acceptable because the complex Sally played does not (by default) imply a motion event.

4.5. Verbs of transformation and creation

In this subsection I will illustrate how the proposed schematic model handles cases of transformation and creation, see (291) and (292) respectively:

Penny kissed the frog into a prince.
Sally cut the piece of wood into a toy.
They cut a bench into the corner.

(291) implies the transformation of the frog into a prince. (292) shows how the same verb (i.e. cut) can be used to evoke the notion of transformation/creation in different ways. (292a) and (292b) basically imply that the whole piece of wood became a toy. (292b) however differs from (292a) in that the process of creation is construed as a metaphorical movement of the created entity (the toy) out of the piece of wood. (292c) denotes the fact that probably only part of the corner was transformed into a bench and the act of creation is conceptualised as an instance of motion of the effected entity (i.e. bench) into the corner. Let us see how we can represent our intuitions concerning the examples above starting with a schema for (291).

(event (E) component)  (change (C) component)
(Penny) (kissed) (the frog) (into) (a prince)
The verb *kiss* in Figure 66 is construed as a force which causes a change of state, depicted as the C component. The theme (*TH*) and source (*S*) in the change component coincide because Penny acted upon the "essence" of the frog (intended as the substance which is shared by both the frog and the prince) so as to remove it from its frog shape and convert it into a human (prince-like) shape.

Let us now turn to the examples in (292). The schematic representation of (292a) is almost identical to the one in Figure 66, hence I have not included it. *Wood* stands for both the entity which undergoes the transformation and the source region out of which, metaphorically speaking, the manipulated substance is removed. The only difference lies in the fact that *cut* is a causative verb and therefore must be linked to both the force component and the change component (as in Figure 33 for example). The schematic representation for (292b) is more complex:

![Figure 67. Creation as movement out of a location](image)

What is referred to as an E component in Figure 67 is in reality a Force Change Schema: it describes the event of Sally's acting upon the piece of wood (*THc*, the theme of the E component), thus causing it to end up in the state represented as *T* (i.e. the state which is referred to as *toy*). The theme (*THc*) and the source (*Sc*) coincide because the whole piece of wood is (approximately) transformed into a toy. The C component visualises a metaphorical change of position, namely that of the toy (*THc*, the theme of the C component) which comes out of the piece of wood (*Sc*, the source of the C component), as indicated by the dashed correspondence lines. To put it differently, we construe the event of transformation of the piece of wood (viz. cutting off pieces of wood), see the event component, as motion of the final product out of the piece of wood, see the change component. The two components are blended into the structure represented as the upper box, where the force responsible for the change of shape of the wood (e.g. *cut*) is construed as the force responsible for the (metaphorical) change of position of the toy. This fact, coupled with the correspondence between *THc* and *Sc* (i.e. *piece of wood*), on the one hand, and the correspondence between *T* of the E component and *THc*, on the other, ensures the identity of interpretation between the event of cutting as transformation and the event of cutting as motion.

Let us now consider the representation for (292c):

![Figure 68. Creation as movement into a location](image)

The event component in Figure 68 represents the change of state of the corner, part of which is transformed into a bench (i.e. *TE*, the target of the E component). In order to make explicit the fact that only a part of the corner is being transformed, I have drawn *THc* (the theme of the E component) as being inscribed in *S* (the source of the E component). The relation between the theme and the source, however, is not simply one of containment (as indicated by the symbol ⊂
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in Figure 68) but also of identity: the subject referent acted upon part of the corner. Hence, I have connected the theme and the source through a short continuous line. The C component, as was the case in Figure 67, describes a change of place event, that of a bench going into the corner. The blending of the event and change components accounts for the interpretation of the force responsible for the change of state (i.e. cut) as the force responsible for the motion event. By virtue of the correspondence established between \( TH_e \) and \( T_e \) (the target of the change component), on the one hand, and the identity of \( T_e \) and \( TH_e \) (the theme of the change component), on the other, we interpret the event of change of state as a motion event (and vice-versa).

5. Conclusion

In the last two chapters I have elaborated a representational model for change constructions based on the notion of schema in the sense of Cognitive Grammar. Change constructions can be linked to entrenched schemas (i.e. units), which form a network revolving around two basic modes of conceptualisation of events. Events can be conceptualised either as forces (as in the Force Change Schema) or as paths (as in the Event Change Schema) (or both, as in the Event Force Change Schema). The postulated units (i.e. the Force Change Schema and the Event Change Schema) allow for a high degree of flexibility in the compositional processes that give rise to specific change constructions. In other words, both the Force Change Schema and the Event Change Schema comprise variants that differ as to how the same basic conceptual units (i.e. a unidirectional energy flow event, a non-unidirectional energy flow event, and a change event) are integrated with each other. Further, both schemas have causal and noncausal variants. In particular, the noncausal variant of the Force Change Schema codes the notion of mild-causativity, where an event is construed as a force which causes a co-occurrent change of place. For the sake of completeness, it can be noted that the distinction between causal and noncausal variants extends also to LIKE change constructions (see §2.3.3). Consider the following two examples and the paraphrases given in the SOED for their emboldened verbs:

(293) a. ‘You’ve come so far; you’re not thinking of chickening out of the job now, are you?’ (OPV)
b. We all supposed you had beetle off to London as you always do when things get difficult. (OPV)

(294) a. chicken out: fail to act, back down, from motives of cowardice (i.e. causal interpretation)
b. beetle off: move or fly (like a beetle); make one’s way; go, take oneself off (i.e. noncausal interpretation)

(293a) implies that the fact that the subject referent can be metaphorically described as a “chicken” (i.e. a coward) caused the fact that he left. On the other hand, beetle in (293b) merely describes the great speed that characterised the subject referent’s motion but does not evoke a causal scenario.

A basic tenet of Cognitive Grammar is that much in language is a matter of degree. Indeed, there are some cases (e.g. The surgeon cut into the body, Sally punched out at seven o’clock) which can be thought of as sharing features with both the Force Change Schema and the Event Change Schema. Therefore, we can think of the Force Change Schema and the Event Change Schema as the two opposite poles of a linguistic continuum whose interaction gives rise to in-between variants (i.e. the Event Force Change Schema). In more detail, the Force Change Schema, the Event Change Schema and the Event Force Change Schema can be viewed as forming a (change) network where the Event Force Change Schema is analysed as a blended structure. Further, we can (partially) equate the generic space for such a network with the to the point of change construction, which ignores the distinction between forcible and non-forcible events and establishes the orientation for the change phrase on the basis of our world knowledge.
unidirectional energy flow, but phonologically null m;
causal ordering: C determines E;
transitive instantiations

Figure 69. Causal ordering

unidirectional energy flow; no causal ordering;
no temporal sequencing

Figure 70. Noncausal ordering
Not only is the interaction of the Event Change Schema and the Force Change Schema conducive to the creation of "hybrid" variants, but the very nature of the Force Change Schema and the Event Change Schema depends on the tendency to interpret one schema as the complement of the other. To put it differently, actions that can be construed as forces are excluded from the (causal) Event Change Schema. Similarly, the Event Change Schema codes subject orientation for the change phrase, whereas the Force Change Schema (usually) codes object orientation.

I have summarised in Figure 69 and Figure 70 some of the change construction types examined in the last two chapters so as to explicitly show the change network that they form. Figure 69 groups together causative change constructions, Figure 70 noncausative change constructions (intended here as also subsuming mildly causal change constructions). The ellipses in which two or more schemas are inscribed intend to capture visually the degree of similarity existing between the schemas if we imagine them as making up a continuum.

Chapter 7

At-constructions

Change constructions containing an emission verb such as laugh and a subject referent which is not conceptualised (by default) as a moving entity as in Sally laughed into her drink are regarded as instantiations of the change component (see §6.4.4). Sally was the source (S) for the theme (TH) laughs which moved into the target (T) her drink. Emission verbs can also be used in another pattern illustrated by Sally shouted at Tom, where the use of the preposition at in place of the preposition to (e.g. Sally shouted to Tom) indicates hostility. In other words, Sally’s shouts are to be interpreted as a force capable of affecting Tom. To be sure, this sentence cannot instantiate the change component since the change component does not include the notion of force. Interestingly, however, the notion of force appropriate for the example under scrutiny differs from the one considered so far. The latter consists in an energy flow from a manipulator to a manipulee. Such a force can obviously also be traced in Sally shouted at Tom: it describes the action performed by Sally upon herself so as to direct her shouts at Tom. But the notion of force which needs to concern us here involves the emitted object itself, which is construed as a force in motion. By this I mean that Sally did not simply emit shouts (by acting on herself) but also intended to use the shouts as an instrument with which to affect Tom. This is not dissimilar from what is the case with a sentence like I crashed the television with a hammer, where I used the hammer as an instrument in order to affect the television (i.e. the hammer exerted a force upon the TV set). There is an important difference, though, between the at-example and the with-example. The former does not imply that the instrument (i.e. the shouts) reached the target (i.e. the instrument is simply in motion towards it), whereas the latter does.177

In this chapter I will offer a detailed discussion of sentences such as Sally shouted at Tom, which I call at-constructions. Traditionally, they are called conative constructions (see Levin 1993) because they
express the notion of attempt. I will show however (see section 1.1) that such a label is not appropriate for all cases to be considered below. Further, I will suggest that, contrary to what is argued by van der Leek (1996), a constructional (or schematic) approach rather than a compositional approach – to so-called conative constructions is needed, see section 1.2. More in general, I will contend that we need to recognise (at least) three conventionalised scenarios, which I refer to as the Allative Schema (see section 2.1), the Ablative Schema (see section 2.2), and the Allative/Ablative Schema (see section 2.3). The latter shares features with both the Allative and Ablative Schemas, as was the case with the Event Force Change Schema (see the previous chapter). The chapter concludes with a critical discussion of Pesetsky’s paradox (viz. *The article in the Times angered Bill at/with the government vs. The article in the Times made Bill angry at/with the government*) and proposes a non-generative solution to it, see section 3.

1. The conative alternation

In this section I will point out some problems for the definition of conative construction and propose that we replace it with the more neutral label of *at*-construction, see section 1.1. Secondly, in section 1.2 I will review van der Leek’s (1996) seminal analysis and try to show that it does not satisfactorily handle all the cases to be taken into account here.

1.1. Levin’s (1993) definition and list

Conative constructions (see [295b] and [296b] from Levin 1993) are usually discussed with reference to the conative alternation, which Levin (1993: 42) defines as “a transitivity alternation in which the object of the verb in the transitive variant [see (295a) and (296a)] turns up in the intransitive conative variant as the object of the preposition in a prepositional phrase headed by the preposition *at* [see (295b) and (296b)].” She also points out that “the intransitive variant describes an “attempted” action without specifying whether the action was actually carried out” (Levin 1993: 42).

(295)  

a. Paula hit the fence.

b. Paula hit at the fence.

(296)  

a. Margaret cut the bread.

b. Margaret cut at the bread.

Levin (1993: 41) also provides us with a list of verbs that can and cannot undergo the conative alternation, which I have reproduced below (starred classes do not alternate; the text in square brackets is mine).

I. VERBS OF CONTACT BY IMPACT  

a. HIT VERBS: bang, bash, batter, beat, bump, butt, dash, drum, hammer, hit, kick, knock, lash, pound, rap, smack, smash (where no effect implicated), strike, tamp, thump, thwack, whack  
b. SWAT VERBS: bite, claw, peck, punch (person), scratch, shoot (gun), slug, stab, swat, swipe  
c. *SPANK VERBS: belt, birch, bludgeon, brain [head], cane, clobber, club, conk [head], cosh, cudgel, cuff [with the palm of the hand], flog, knife, paddle, paddywhack, pummel [especially with the fists], sock, spank [with the open hand or something flat], strap, thrash, truncheon, wallop, whip, whisk  

II. POKE VERBS (some): dig, jab, poke, stick  

III. VERBS OF CUTTING:  

a. CUT VERBS: chip, clip, cut, hack, hew, saw, scrape, scratch, slash, snip  
b. *CARVE VERBS: bore, bruise, carve, chip (potatoes), chop, crush, cube, dent, dice, drill, file, fillet, gash, grate, grind, mangle, mash, mince, mow, nick, notch, perforate, pulverize, punch (paper), prune, shred, slice, slit, spew, squash, squish  

IV. SPRAY/LOAD VERBS (some): dab, rub, splash, spray, squirt, swab  

V. *ALTERNATING VERBS OF CHANGE OF STATE including:  

a. *BREAK VERBS: break, chip, crack, crush, crush, fracture, rip, shatter, smash, snap, splinter, split, tear
b. *BEND VERBS: bend, crease, crinkle, crumple, fold, rumple, wrinkle
VI. *TOUCH VERBS: caress, graze, kiss, lick, nudge, pat, peck (=kiss), pinch, prod, sting, stroke, tickle, touch
VII. PUSH/PULL VERBS: ?draw, heave, jerk, press, pull, push, shove, ?thrust
VIII *DESTROY VERBS: annihilate, blitz, decimate, demolish, destroy, devastate, exterminate, obliterate, ravage, raze, ruin, waste, wreck
IX. VERBS OF INGESTING:
   a. EAT VERBS: drink, eat
   b. CHEW VERBS: chew, chomp, crunch, gnaw, lick, munch, nibble, pick, peck, sip, slurp, suck
   c. *GOBBLE VERBS: bolt, gobble, gulp, guzzle, quaff, swallow, swig, wolf
d. *DEVOUR VERBS: consume, devour, imbibe, ingest, swill
X. *VERBS OF SENDING AND CARRYING including:
   a. *SEND VERBS: airmail, convey, deliver, dispatch, express, FedEx, forward, hand, mail, pass, port, post, return, send, shift, ship, shunt, slip, smuggle, sneak, transfer, transport, UPS
   b. *SLIDE VERBS: bounce, float, move, roll, slide

Some observations are in order. First, Levin’s classes are defined on the basis of syntactic tests (see Levin 1993: 5-11 for exemplification). Although in most cases we obtain classes which appear intuitively to share the same basic semantic content (e.g. BREAK verbs, BEND verbs, DESTROY verbs, verbs of ingesting, and verbs of sending and carrying), Levin’s syntactic approach leads her to group verbs as diverse as bite, shoot, and scratch into the same class (i.e. SWAT verbs), which seems counterintuitive from the point of view of meaning.

In general, semantics does seem to play a role. An interesting case in point is class Ie verbs, which are said not to enter into the conative alternation. They seem to be rather specific in meaning (as any dictionary would show). They evoke a punishment scenario and usually combine only with few objects (e.g. conk takes head as its only possible object); many code the use of an instrument (but note that the verb hammer is included in class Ia) and/or imply a specific way of carrying out the relevant action (e.g. spank implies the use of an open hand or a flat object). It is also worth mentioning that the verb spank is a synonym of slap and smack but contrasts with them as to the range of possible objects (e.g. one can slap, but not smack, a door, see sense 3 of slap in the SOED, for example) and the ability to undergo the conative alternation.

Second, despite the use of the term “conative”, the combination of verbs of ingestion with an at-phrase, as in (297), does not yield the reading of attempted action (see also van der Leek 1996: 367; Rice 1987; and usage books such as Collins Cobuild English Guides, Prepositions, 1991: 16): part of the water is indeed consumed in (297).

(297) He sipped at a tumbler of water.

(297) implies that we must distinguish at least (see section 2.3 for a further variant) between two cases in which the at-phrase appears, namely sentences like (295b) where the action denoted by the (transitive use of the) verb does not necessarily take place and sentences like (297) where the verbal event does take place, though in a bit-by-bit fashion (i.e. the whole substance evoked by the preposition complement referent is not necessarily consumed). The semantic difference between the two groups of examples shows that the label “conative” is misleading and indeed not warranted. Hence, I suggest that we dispense with the label “conative” construction and replace it with the more neutral label of at-construction.

It must also be observed that the same verb can occur in either construction. The verb kick, for instance, is usually described as occurring in the “conative” at-construction (i.e. what I will call the allative at-construction in section 2.1). Nevertheless, an example such as (298), where an at-construction is used, clearly shows that the event of kicking was successful (i.e. the wall was reached and affected).

(298) Some of the lads start kicking at a broken wall, breaking away chunks of brick and masonry. (John King, The Football Factory, 1996: 28)
In other words, we have here the same “imperfective” interpretation which was appropriate for the semantic characterisation of (297) above.

Third, some of the allegedly non-alternating verbs do appear in conjunction with an at-phrase, as shown in (299), see also (300), (302b), (311), (314) below:

(299) Patting at his now heavily burdened pockets, Omally entered the Flying Swan. (BNC: HR2 1835)

We cannot say that pat is rightly excluded by Levin (1993) because the construction in which it appears does not evoke the notion of attempt. If this were the case, the verb sip in (297) should also be excluded.

Fourth, it is unclear whether metaphorical usage is taken into account in Levin’s list. Consider (300):

(300) Cold winds knifed at them… (BNC: GUM 2139)

Levin excludes the verb knife from the conative alternation and yet it appears in conjunction with an at-phrase as in (297) if used in the metaphorical sense of “attacking”. Such usage seems to depend on the existence of a translational motion component associated with the subject (see sections 2.1 and 2.3 below).

Fifth, verbs such as clutch and grasp do not appear in Levin’s list (nor are they discussed in van der Leek 1996). In more detail, Levin (1993: 145) states (in her section 15.1) that hold verbs (e.g. clasp, clutch, grasp, grip, handle, hold, wield) do not enter into the conative alternation, a fact which is simply not true (at least for some of these verbs). For example, Collins Cobuild English Guide, Prepositions (1991: 15) explicitly mentions that verbs like clutch, grab, grasp, snatch can all be followed by at. This is shown in (301) ([301b] illustrates a figurative use of the verb grasp):

(301) a. He clutched desperately at the branch as he fell. (LDELC)

b. He grasped at the first flimsy excuse that came to his mind. (LDELC)

Finally, the use of a verb in an at-construction does not depend on the verb’s meaning alone. For instance, the verb swig apparently does not occur in conjunction with an at-phrase because (see van der Leek 1996: 375) it is incompatible with a bit-by-bit interpretation (see [302a]). However, the following example shows that this line of reasoning is not sufficient since the bit-by-bit interpretation (or repetitive/imperfective meaning) may be evoked by a suitable (i.e. replicate mass) object as in (302b):

(302) a. *Sam swigged at the glass of vodka.

b. While the Russians swigged away at bottles of Sambucca... (Zadie Smith, White Teeth, 2001: 108)

We conclude that verb classes à la Levin (1993) are not completely adequate because only in some cases does syntactic grouping satisfactorily correlate with semantic grouping (e.g. verbs of ingesting vs. SWAT verbs). Further, the specificity of the scenario(s) associated with a given verb (see class Ic), as well as nonliteral usage (see [300]) and object-selection (see [302b]), are neglected as factors contributing to the availability of at-constructions. Crucially, the very notion of “attempt” cannot be applied to all examples referred to as “conative” constructions (as van der Leek 1996 also points out).

1.2. Van der Leek’s (1996) analysis

At-constructions have been the object of investigation of three main different approaches: Pinker’s (1989) lexical approach, Goldberg’s (1995) constructional approach, and van der Leek’s (1996) compositional approach. Van der Leek (1996) criticises both Pinker’s and Goldberg’s analyses on the grounds of their inability to motivate the exclusions of certain verbs from at-constructions in a non-arbitrary fashion.
Pinker’s approach is based on the distinction between a broad-range lexical rule and a set of narrow-range rules. The former rule takes a verb which has the meaning of \( X \text{ acts-on } Y \) and converts it into \( X \text{ goes toward acting-on } Y \). The latter rules describe what classes of verbs (which might potentially undergo the general rule) actually participate in the conative alternation. Van der Leek (1996: 365) correctly observes that his narrow range rules are “purely stipulative” and that “[t]here is no explanation why verbs that express motion and contact – and not even all of them at that – should enter into the alternation to the exclusion of verbs that do not [cf. cut, a verb of motion, contact, and causation, vs. break, a verb of causation only].”

Goldberg’s approach is similarly problematic because she proposes the semantic structure \( \text{DIRECT-ACTION-AT} <\text{agent, theme}> \) for the syntactic structure \( V <\text{subject, oblique}> \) (see §5.1.4 for details on this symbolism). In other words, Goldberg’s rule is too general and does not exclude \( \text{BREAKING/SPANKING/CARVING/GOBBLING/DEVOURING} \) verbs, which can all be compatible with the abstract predicate \( \text{DIRECT-ACTION-AT} \).

Both Pinker’s and Goldberg’s approaches are in a sense constructional in that we already know what the value of the construction as a whole is and we slot specific verbs into it. Van der Leek’s (1996) line of reasoning is altogether different. She starts from the “building blocks” of the \( \text{at}-\)construction by suggesting that the meaning of the \( \text{at}-\)construction is obtained compositionally (according to what she calls a natural (i.e. non-conventional explanation). The skeletal meaning of the verb (illustrated for \( \text{pull} \) in [303]) is merged with that of the \( \text{at} \)-phrase, which “identifies a point of contact without signalling a path […]” (van der Leek 1996: 368)

(303)  a. The horse pulled and pulled, but the cart would not budge. [skeletal meaning of \( \text{pull} \): no motion necessarily implied]
   b. She pulled the thread out of the piece of cloth. [enriched event structure: motion implied]
   c. The horse pulled at the cart.

The verb \( \text{pull} \) in (303a) does not necessarily imply motion. Therefore, van der Leek argues that the motion feature is not part of the skeletal meaning of the verb \( \text{pull} \). If a prepositional phrase like the one headed by \( \text{out of} \) in (303b) is used, then we obtain the reading in which the thread was moved out of the piece of cloth. The motion meaning is obtained compositionally by merging the skeletal meaning of \( \text{pull} \) with the “separation” meaning implied by \( \text{out of} \). If we combine the skeletal meaning of \( \text{pull} \) with an \( \text{at} \)-phrase as in (303c) we do not get a motion reading because neither the skeletal meaning of \( \text{pull} \) nor the \( \text{at} \)-phrase necessarily imply a path. Hence, (303c) is interpreted along the lines of (303a). It must be observed that the natural interpretation of (303c) is that the pulling event (as in [303a]) consisted of more than a single pulling event. In my view, however, the repetitive interpretation of the verbal event in (303c) is not obtained compositionally but is a feature of the construction as a whole: the skeletal meaning of \( \text{pull} \) does not imply that repetitive instances of the event named by the verb took place. Be that as it may, let us consider van der Leek’s analysis in more detail.

The fact that the \( \text{at} \)-phrase does not designate a path leads van der Leek to distinguish between two readings for \( \text{at-} \)constructions, an estimated-point-of-contact reading, appropriate for examples such as (304) (from van der Leek), and a point-of-contact reading, appropriate for examples such as (297) above (i.e. \( \text{He sipped at a tumbler of water} \)). The former obtains with verbs that designate forceful motion, the latter implies a bit-by-bit process.\(^{178}\)

(304)  a. Sam threw a handful of mud at Sandy.
   b. Sam sprayed at the trees with some insecticide.
   c. She was dabbing at her cheeks with a powderpuff.

A verb like \( \text{throw} \) in (304a) indicates forceful motion (i.e. the thrown entity follows a path), whereas the \( \text{at} \)-phrase indicates a point of contact. Since the \( \text{at} \)-phrase does not denote a path (contrary to the preposition \( \text{to} \) in \( \text{Sam threw a handful of mud to Sandy} \)), van der Leek claims that the whole construction denotes movement along a path without signalling the achievement of the target. It remains un-
solved, however, why the composition of a path with a target cannot give rise to the reading where the target is reached. Why do we have to code the path twice (i.e. through the verb throw and through, for example, the preposition to) in order to obtain such a reading? After all, there seems to me to be no conceptual difficulty in viewing the composition of a path with a location as producing a path ending in such a location (e.g. Sally put the book on the table, where on can be regarded as static, see also Goldberg 1995: 159). The compositional value of “path towards a target” is not simply the result of the sum of the path implied by the verb and the location indicated by the at-phrase (which could in theory yield the interpretation where the target is reached) but stems from contrasting the possible values of the composition of verb and at-phrase with those of the composition of verb and to-phrase. In other words, the composition of the verb and the at-phrase is not only regulated by the meanings of these two components but also by their interaction with other elements (e.g. the to-phrase) in the linguistic system.

Let us go back to the examples in (304). It is not clear why (304c) (as well as [304b]) should be grouped together with (304a). Dab denotes a continuous action in (304c), whereas throw in (304a) does not. Further, (304a) does not imply success, whereas (304c) (as well as [304b]) to some extent, see section 2.3) does. Finally, (304c) involves a bit-by-bit interpretation since bits of powder ended up on the subject referent’s face, whereas such a similar reading is impossible in (304a). We must remember at this juncture that the bit-by-bit interpretation is linked to the point-of-contact reading, although, admittedly, with a “destruction” (or consumption) meaning in cases such as (297), He sipped at a tumbler of water. In sum, it seems that (304c), as well as (304b), shares features with both (304a), since it involves motion, and (297), He sipped at a tumbler of water, since it involves a continuous, bit-by-bit process.

In some cases it is difficult to isolate the skeletal meaning of a verb. For example, if we take the verb dab, can we say that its skeletal meaning does not include the notion of either addition, as in (304c), or removal, as in (305) below? If so, is the notion of skeletal meaning relevant only to the theoretical description of a language or does it have psychological relevance for the speaker of that language (or both)?

(305) She dabbed (at) the wound with a wet cloth. (LDEL C)

Van der Leek’s analysis also fails to explain why certain verbs cannot appear with an at-phrase. She points out that the estimated-point-of-contact reading (which does not necessarily imply success) is impossible for a verb like break because such a reading would involve a violation of the “essence” of the denoted event (i.e. an entity ends up in a broken state). If this were correct, the at-construction use of clutch (see [301a]) should be impossible as well since the “essence” of the verb (i.e. “to hold tightly”) would be violated. The difference lies in the fact that break implies an affected entity, whereas clutch refers to a final configuration but does not imply a change of state of the object (in its transitive use). Further, van der Leek argues that the meaning of the verb in an at-construction must be somehow retrievable. For example, sip at a tumbler of water is grammatical because the verb is compatible with a continuous reading, whereas *gulp at a tumbler of water is impossible because the constructional meaning forces a bit-by-bit interpretation onto gulp, thus contradicting the verb’s meaning in isolation. But it is difficult to say if the meaning of clutch as “to hold tightly” is retrieved in (301).

It is also not clear why whip cannot appear in an at-construction if we accept the notion of merger proposed by van der Leek. Whip, after all, evokes a forceful action and yet is excluded from the conative alternation (see section 2.2 for further discussion).

It must be observed that the value of the at-construction does not simply arise from the merger of the meaning of the verb and that of the at-phrase. We saw above that the compositional process must take into account other options available within the linguistic system (e.g. the possibility to use a prepositional phrase headed by to). Further, components other than the verb and the preposition at sometimes license a certain example. For instance, the metaphorical use of knife in (300), Cold winds knifed at her, reveals that the features associated with the subject also count in the operation of composition.
In (300), the subject is a moving entity, whereas in *Tom knifed at her Tom is not necessarily conceptualised as such. Similarly, we will see below that a sentence like Tom whipped at the horse is acceptable because the action of whipping was conducive to the (intended) movement of the horse. To put it differently, the view that the interpretation of an at-construction stems only from the merger of the meaning of the verb with that of the at-phrase does not always give us the correct interpretation. In Tom whipped at the horse, the compositional interpretation would imply that Tom (repeatedly) whipped the horse; but the construction as a whole means that such a repeated action was intended for the purpose of making the horse move.

Finally, van der Leek assumes the correctness of Levin’s verb classes, which I have tried to show are not always satisfactory (see the discussion concerning swig). In sum, although van der Leek’s analysis may shed light on how at-constructions originated (diachronically and/or psychologically), her compositional mechanism is not sufficient to motivate all the attested examples, i.e. plausible diachronic/psychological motivation for the existence of a construction need not coincide with synchronic principles of usage. The problem of why certain verbs cannot appear in conjunction with an at-phrase must be evaluated on the basis of a (non-deterministic) interplay between the scenario(s) coded by the at-construction(s) and the scenario(s) associated with the verb. In other words, an approach à la Goldberg (1995), or along the lines of Pinker (1989), cannot be dismissed on the grounds of the alleged superiority and naturalness of the compositional mechanism because the latter also ‘overgenerates’ (why is whip excluded in *Sally whipped at Tom or break in *Sally broke at the glass?) and does not explain why sentences such as (300), Cold winds knifed at them, are possible.

2. The allative and ablative scenarios

Contrary to what is argued by van der Leek, it seems necessary, therefore, to rely on the postulation of two scenarios (or schemas): the Allative Schema (see section 2.1) and the Ablative Schema (see section 2.2). Their linguistic instantiations will be called allative at-construction and ablative at-construction, respectively. As we observed in connection with (304c), She was dabbing at her cheeks with a powderpuff, we also need to postulate an in-between schema, which results from the interaction of the Allative and Ablative Schemas by sharing features with both. I will refer to it as the Allative/Ablative Schema (see section 2.3).

2.1. The Allative Schema: Translational motion with possible contact

The allative at-construction is appropriate for examples such as (306) and (307):

(306) a. Sally kicked at the wall. [emitted entity: Sally’s leg]
   b. Sally shouted at Chris. [emitted entity: shouts]
   c. Sally threw the stone at Sam. [emitted entity: stone]
   d. He clutched desperately at the branch as he fell. [emitted entity: arm] (= [301a])

(307) a. Sally ran at Chris.
   b. Sally ran to Chris.

Let us examine (306a) first, whose diagrammatic representation in a Cognitive Grammar format is given in Figure 71a. The diagram in Figure 71a is made up of smaller units which describe a complex event unfolding in time (the long arrow t is the time arrow). They represent successive configurations of the entities involved in the process in question. Starting from the leftmost component in Figure 71a, we note that it describes an interaction between Sally (the big
circle on the left) with an entity represented as a smaller circle, corresponding to a part of her body (hence the dashed arc connecting the two to indicate the relevant part-whole relationship). The body-part is Sally’s leg which is moved towards the wall (represented as the big circle on the right) as indicated by the dashed arrow pointing at it. The body-part can be viewed as an emitted entity which is construed as a force. Sally’s leg moves from her body towards the target (i.e. it is an emitted entity) and must be interpreted as an entity capable of making a forcible impact on the wall. I will therefore say that Sally’s leg is a force in motion. The construal of the emitted entity as a force has been represented through the thick arrow in Figure 71a. The thick arrow therefore stands for both the notion of Sally’s action onto a part of her body (as indicated by the portion of the arrow connecting the two relevant circles) and the emission of a force, as shown by its pointed part.

The following diagrams in Figure 71a show that the action of kicking (see instance 2 and the dots following it, which stand for more possible occurrences of the kicking event) can be repeated (irrespective of success, as implied by the absence of a diagram analogous to the third one in instance 2), although continuity is not necessarily implied (see also [304a]). Figure 71a can be contrasted with Figure 71b, which illustrates the transitive use of the verb kick (although for simplicity’s sake I have represented only one instance of the kicking-event). We note that the verb kick is linked to all three components and not to the first two as in Figure 71a because success is implied. It is worth noting that if we opt for these diagrammatic representations, we imply that in (304a) a process of focalisation on the force emission part of the scenario associated with the semantic pole of kick takes place.

The translational force component does not always have to do with the emission of an entity (i.e. a part-whole relationship) but can also involve the movement of the whole entity referred to by the subject of the construction, as in (307a), diagrammatically illustrated in Figure 72a. Sally in (307a) is construed as a force which, in the course of time, approaches the target Chris (as shown by the second diagram in Figure 72a). As in Figure 71a, contact, although possible, is not necessary; hence, the third diagram (which depicts forceful contact) is not linked to run in analogy with kick in Figure 71a. Figure 72b shows the nonforceful use of the verb run as implied by the absence of any force arrow.

The fact that the allative scenario suggests that affectedness is possible but not necessary excludes those verbs like break which designates a change of state that do not primarily refer to the emission of a force (such as kick or beat). Still, the allative scenario is compatible with verbs which designate a final configuration, such as
clutch, or forceful impact (such as slap or smash) because the notion of affectedness (i.e. change of state) is not implied.

(Sally) (ran at) (Chris) (see [307a])

(Sally) (ran to) (Chris) (see [307b])

Figure 72. Run at versus run

The observation concerning the lack of necessary affectedness correlates with notions such as randomness, attack, and difficulty, which are often associated with the allative construction (see also Ikegami 1985). This motivates the impossibility of (308):

(308) * Sam spanked at the child.

Spank, although a synonym for slap and smack, can be considered as a hyponym of the latter two (remember that spank takes a very restricted range of objects, see section 1.1), by evoking a scenario where affectedness is implied. The behaviour of verbs must be evaluated not in isolation, but in relation to other options. The verb spank is highly specialised in that it is used to refer to a very specific scenario, which does not evoke the notion of emission of a force moving along a path and not necessarily making contact with the target. In order to convey that interpretation, we can avail ourselves of less specific verbs such as slap and smack.

Further, the use of a verb in the at-construction may be a matter of construal. For example, Ikegami (1985: 280) states that beat cannot occur in an at-construction. Still, we find such examples as (309):

(309) The Woman smashing him to the ground and beating at his face. (BNC: AC4 1383)

Interestingly, the interpretation of (309) is that the subject referent deals random blows onto the face of the person referred to by his. We conclude that the use of a verb in the allative at-construction depends on the possibility of coercing a verb into the allative scenario. But this is no mechanical matter; it depends both on the context and the relation of a lexical item to other similar lexemes in the linguistic system. The value of a classification à la Levin (1993) resides in its capturing prototypical associations of verbs with the allative scenario but her classification cannot be taken as an objective description of verbal meaning.

The question must now be raised as to what kind of components (i.e. force component, change components, etc.) can be recognised in the Allative Schema. To be sure, we have a force component corresponding to the subject referent’s acting on either a part of its body (as in [306a]) or its whole body (as in [307a]) although for simplicity’s sake such a reflexive component in not represented in Figure 72. The other portion of (each instance of) the diagrams in Figure 71a and Figure 72a illustrates a force in motion. The (simplified) force in motion component is represented here as Figure 73 (based on [306a]).

Figure 73. The force in motion component

The force in motion component cannot be regarded as either a Force Change Schema, or an Event Change Schema, or an Event Force Change Schema. The Force Change Schema does not predicate a
change of state/place of the manipulator. On the other hand, the entity in motion in Figure 73 can be referred to as a manipulator (as indicated by \( M \) in Figure 73) because it is intended to make forceful impact on the wall (i.e. to manipulate the wall). The Event Change Schema and the Event Force Change Schema are also unlikely candidates since, when the notion of force is relevant, they describe events where an energy flow actually occurs, as indicated by the force arrow ending onto the affected entity (see Figure 20 in chapter 5 for example).

For these reasons, I take the force in motion component illustrated in Figure 73 as a variant of the change component. I argued (see §6.4.4) that the change component is suitable for describing the semantic import of verbs of emission (i.e. the emitted entity \([TH]\) moves towards a target \([T]\)). Kick in (306a) can also be regarded as a verb of emission: Sally’s leg is emitted towards the target the wall. The additional feature of the force in motion component is that the emitted substance is construed as a force.

2.2. The Ablative Schema: Necessary contact without translational motion

The ablative scenario, illustrated in Figure 74, is associated with continuous actions (either by repetition or by prolonging one single instance of the action; remember that continuity is not a necessary feature of the Allative Schema, see [304a] above) and contains a component (i.e. the ablative component) which refers to the (attempted) movement (either literal or metaphorical) of an entity (i.e. it contains a change component), as will become apparent in the discussion below. The continuity feature is illustrated through the use of dots preceding and following each diagram in Figure 74.

As Figure 74 shows, the Ablative Schema comprises three cases, which I refer to as (a) removal, (b) release, (c) creation/destruction. The removal case, (a) in Figure 74, accounts for three main subcases. The first subcase is (a1)/(a1'), where the construction evokes attempted movement of the preposition’s object referent from position B to A as in (310a).

Figure 74. The ablative scenario

The horse, the circle on the left in the relevant diagram, acts (as indicated by the force arrow) upon another entity, indicated by the circle on the right, so that the latter may move from B to A (A is placed between the subject referent and B because pull implies movement to-
At-constructions

wards the agent). The arrow from B to A has been dashed because
the change of place is not necessarily realised. A variant of this sce-
nario obtains when the entity acted upon is placed within another, as
in (310b), where the bigger circle on the right stands for the cloth. In
order to show that the source location, the cloth, may not be realised
in the syntax, I have depicted it as a circle with a lighter line as com-
pared to the (inscribed) circle representing the thread.

Although verbs denoting the use of an instrument (see class Ic) do
not usually occur in conjunction with at-phrases, we cannot exclude
their use tout court:

(311) He whipped at his horse with his reins. (BNC: HA3 2928)

(311) shows that whip does occur with an at-phrase, contrary to what
is stated by Levin (1993). Crucially, its use is not associated with the
"punishment" scenario of class Ic verbs and the prepositional object referent is a (potentially) moving entity, as required by the ablative
scenario.

The subcase (a2) deals with examples such as (312) (and [302b]):

(312) a. Sam chipped at the rock.
    b. He sipped at the tumbler of water.
    c. Rust ate at the gutters.

Here, a bit-by-bit process of removal of the entity acted upon obtains
and success is therefore implied. (312a) means that chips came off the
rock; (312b) refers to a repeated process of ingestion of water; (312c)
shows that verbs of ingestion can also be used metaphorically
to denote "erosion". (312a) is illustrated in Figure 74(a2), where the
outer circle on the right refers to the rock as a whole and the smaller
inscribed circle, with a lighter line, stands for chips of the rock being
removed from it. The verb chip has been linked also to the inscribed
circle because it also refers to the result of the action (i.e. it specifies
that chips were produced). In the case of (302b) (i.e. swig at a bottle
of Sambucca), the outer circle stands for the replicate mass bottles of
Sambucca and the inscribed circle for a part of it.

Finally, (a3) in Figure 74 describes the semantic import of exam-
pies such as (313)

(313) a. ... the poor dog kept gumming at himself... (Charles Bukowski,
    Betting on the Muse, 1998: 86)
    b. ... he, continued to bite at his body...(Charles Bukowski,
    Betting on the Muse, 1998: 83)
    c. The old crone licked at the saliva frothing on her lips.
       (BNC: H90 678)

where the ablative component corresponds to the (attempted) re-
moval of the source of discomfort (e.g. "fleas" in [313a]).

The release case, (b) in Figure 74, codifies the coming about of a
perceptual state that can be predicated of the entity associated with
either the object, as in (314a), or the subject, as in (314e) (or both for
that matter). Note that it occurs with TOUCH verbs, which Levin
(1993) excludes from the conative alternation, as shown in (314):

(314) a. his fingers stroking at the base of her neck, sending de-
     lightful shivers, signals of desire, up and down her spine.
        (BNC: HGT 4112) [sensation felt by entity referred to by
        her]
    b. His tongue tickled at her hand. (BNC: JY6 4330)
    c. ... and tears stung at her eyes. (BNC: HGK 2219)
    d. ... the hunger pain pinched at his stomach. (BNC: CJT
       1132)
    e. He licked at her throat hungrily. (BNC: GUM 529) [sen-
       sation felt by entity referred to by he]

The first subcase, (b1), is called sensation and is exemplified in (314)
and (299) above. Figure 74(b1) shows that an entity (the circle on the
left) acts upon another (the circle on the right) so that a sensation (or,
more generally, impulse), indicated by the squiggly arrow (used to
indicate abstract motion) moving from the latter entity, obtains. The
evoked sensation can be one of pain, as in (314c), pleasure, as in
(314a), and reassurance, as in (299) (or a mixture of the latter two, of
course). In sum, the impulse is therefore an emitted entity, which moves from the affected area (e.g. the base of the neck in [314a]) to the location (or target) where it can be experienced (i.e. the “mind” of the referent of the pronoun her in [314a]). For simplicity’s sake, the target for the squiggly arrow has not been represented in Figure 74.

The impossibility of (308) (i.e. *Sam spanked at the child*) also deserves special attention at this juncture since one could argue that the action of spanking involves the coming about of a sensation of pain. We have seen that the allative reading for *spank* is excluded since no implication of random translational motion seems to be associated with it. On the other hand, the difference between *spank* and *stroke* in (314a) is as follows. The former implies that the exertion of force upon the affected entity may go on even after the intended effect has been achieved (“punishment”, and above all, as far as the ablative scenario is concerned, “pain”); the latter, on the other hand, implies that the action carried out by the subject is necessary (or is considered as such) to keep up the perception of the sensation in question.

Finally, subcases (b) and (c) are discussed in the next subsection with reference to the Allative/Ablative Schema because (b) does not seem to occur independently of it and (c) can be viewed as involving metaphorical motion.

### 2.3. The Allative/Ablative Schema: Translational motion with necessary contact

The Allative/Ablative Schema, illustrated in Figure 75 for the sentences in (316), shares features with both the Allative Schema (i.e. it involves translational allative motion) and the Ablative Schema (i.e. it contains an ablative, or change, component).

(316)  a. Sam sprayed at the trees with some insecticide. (= [304b])
  b. Sarah ducked her head to dodge low branches; brambles tore at her legs. (BNC: A0R 2245) [subjective motion]
  c. Cardiff nudged at that swollen head with his shoe. (BNC: G0E 3258)
  d. He was working at this painting.

The motion feature can be evoked by either the verb or the subject as we will see below. Let us now examine the *at*-constructions in (316). The diagrammatic representation for (316a) is similar to that of (306a) (instead of the dots in Figure 75a for representing an arbitrary repetition of the event in question I have used the label “instance 3”). There are two important differences though.
First, the third diagram contains a dashed arrow inscribed within the rightmost circle. The arrow indicates a change of state of the prepositional object referent, *the trees*, which most probably will be covered with some insecticide.\(^{185}\) Such a component corresponds to the ablative component if we interpret the latter in a more general sense as indicating a change of state or position of an entity A. Second, the fact that the affected reading is not necessary has been represented, in analogy with (306a), by linking the verb *spray* with the first two components. The implication that the affected interpretation is highly likely has been indicated by including two components evoking success (i.e. two diagrams of the same type as the third one) for two out of three instances of the action (the first instance beginning with the first diagram, the second with the fourth diagram, and the third with the sixth diagram).

(316b) contains two remarkable features. The context in which the *at*-construction appears makes it clear that there is a motion feature to be attached to the subject referent: the brambles are construed as subjectively moving towards the legs.\(^{186}\) Moreover, we have a verb of change-of-state, *tear* (excluded by Levin 1993), which forces us to link it with the three components shown in Figure 75b: contact with the object referent is made (third diagram) and a change of state is brought about (inscribed arrow). Note that not all instances of the action must be successful, as shown by the second instance (starting with the fourth diagram and ending with the fifth) which lacks a change (or ablative) component. However, the fact that the tearing event is understood to occur several times has been accounted for by showing two successful instances out of three.

(316c), illustrated in Figure 75c, resembles the previous case, but differs from it with respect to the ablative component. Whereas successful contact with the prepositional object referent (*head*) is implied, the ablative component must be interpreted as referring to the getting of some piece of information concerning the status of the animate entity evoked by the head (i.e. dead or alive).

The squiggly arrow which stands for the “release” of information has not been placed in the third diagram (the one implying successful contact with the head) because such an interpretation, although pos-
sible, is not necessary. It should be noted therefore that the notion of attempt in the ablative case must be understood as referring to the effect of the action. It is also worth mentioning that the possible effect may be coded in various ways, as shown by the examples in (314). The effect may be made explicit in the rest of the sentence (e.g. *shivers* in [314a]) or coded by the verb (as in [314b], [314c], [314d]; and note that in such cases the effect is achieved) or inferred (as in [314e]).

To conclude this section, I would like to point out that I have included as a case of the allative/ablative variant example (316d), which contains the verb *work*. The rationale for this choice is the interpretation of such a verb as metaphorically denoting the movement of efforts (the smallest circle in each component diagram, according to a part-whole relationship existing with the subject referent) towards the prepositional object referent. Such efforts are conducive to a change of state of the prepositional object referent (or the material of which it is made), as indicated by the ablative (or change) component included in the sixth diagram. Once again, the ablative reading is possible but not necessary, hence the absence of the ablative component from the third diagram. The ablative component considered here has in common with the “destruction” sense of (a2) the notion of change of state of the object referent. However, it does not evoke the movement (of part) of the entity acted upon.

If one does not agree with the metaphorical interpretation proposed for *work*, one can represent sentences such as (316d) in an analogous way to (314a) or (315b) on condition that one replaces the squiggly arrow with the dashed inscribed arrow indicating a change of state. Still, the notion of metaphorical motion (i.e. efforts directed towards a target) might be the overarching interpretation which motivates the use of *at*-constructions. The investigation of such a possibility is beyond the scope of the present work, which aims, more modestly, at a detailed description of (some) *at*-constructions and the exposure of the inaccuracies of previous analyses.

3. Pesetsky’s (1995) paradox

The Allative *at*-Schema takes verbs that can be construed as denoting the emission of a force (i.e. a force in motion is implied). This is an important conclusion because it can motivate the impossibility of sentences such as (317a), based on Pesetsky (1995):

(317)  a. *The article in the Times (Causer) angered Bill (Experiencer) at/with the government (Target).
   b. The article in the Times made Bill angry at/with the government.
   c. The article in the Times (Causer) angered Bill (Experiencer).

Pesetsky tries to explain, within a generative framework, why (317a) is impossible with the meaning of (317b). (317a) differs minimally from (317c) in that it contains the PP *at/with the government*. The *Times* in (317a) is labelled *Causer* because it is the entity which is intended to make Bill experience anger with the government. *Bill* is therefore called an *Experiencer* and the *government* is the intended *Target* of Bill’s anger. In sum, (317a) illustrates the following para-
At-constructions

dox, which I will call Pesetsky’s paradox: “why can’t Causer, on the one hand, and Target […] on the other, cooccur with the same predicate?” (Pesetsky 1995: 60).

For completeness’s sake, I must include Pesetsky’s solution, which may be of interest to readers trained within the generative paradigm. His solution can be summed up in the two diagrams in Figure 76 and Figure 77 (Exper = Experiencer).

![Figure 76](image_url)

![Figure 77](image_url)

Pesetsky supposes that transitive anger is a complex verb formed by the root /anger/ (which does not occur in English on its own, but is possible in Italian [i.e. irritarsi]) plus the causative morpheme /aus/, which is affixed to the former in the lexicon and 0-selects Causer. The complex /anger/ plus /aus/ takes as its complement a PP headed by /aus/, which 0-selects Causer (identical to the former). Now, /aus/ does not license Case on its object, thus forcing it to move into a Case position, namely the one occupied by the Causer selected by the /aus/. Furthermore, /aus/ forces the movement of /aus/ because it has strong features. The movements of /aus/ and Causer are possible in Figure 76 because nothing blocks them. On the contrary, in Figure 77 the movement of /aus/ towards /aus/ is blocked by the [-affixal] feature of the preposition at. This explains the difference in acceptability between (317c) and (317a).

There are, however, some theoretical and empirical issues that must be considered in connection with Pesetsky’s approach. First, Pesetsky implicitly assumes that syntax is “blind”. In other words, Pesetsky ignores that different structures may convey different meanings. (317a) differs from (317b) in that Bill in (317b) is both the subject of the infinitive complement and the object of the verb at least in terms of case-marking (the “real” object being the whole infinitive complement); in (317a), on the other hand, Bill is only an object. Hence, we may expect the noun Bill to show properties typical of objects, such as their manipulable nature, to a greater degree in (317a) than in (317b). Indeed, the meaning that (317a) is intended to convey is that of an entity which is forced into a given emotional state. Before developing this line of reasoning, I would like to note that the exceptions to his explanation (for which he proposes an ad hoc solution whose problematic nature he himself recognises, see Pesetsky 1995: 215) are very numerous. Interestingly, the “exceptional” cases, summarised in (318)-(322) all share typical motion prepositions, like into, onto, etc.

(318) inchoative verbs
John broke the cookie into little pieces.

(319) verbs of “accompanied motion”
John walked the dog to his grandmother’s house and back.

(320) deadjectival en- causatives
The riots embittered us forever towards the police.

(321) verbs of inspiring and discouraging
a. Sue’s remark aroused us to action.
   b. The rain discouraged us from our tasks.
(322) verbs of accustoming and alienation
a. The orientation lectures acclimatized us to our new surroundings.
   b. His remarks alienated the voters from the party.

Furthermore, problematic examples like (317a) can be improved by the addition of a (spatial) particle, as in (323), as noted by Pesetsky himself.

(323) verb + particle
a. *The election results really irritated Sue at the media.
   b. The election results really riled Sue up at the media.
   c. *The article angered Bill at Mary.
   d. The article really pissed Bill off at Mary.

These two observations (the use of motion prepositions and the addition of a particle resulting in acceptable or improved examples) point to the fact that the exceptional examples are indeed the expected cases if triadic constructions coding causation imply the movement of the object referent into/out of the preposition complement. Such a movement is explicitly coded through the choice of motion prepositions/particles in (318)-(323). If the preposition at is used and an allative interpretation must be evoked, the constructional verb must be compatible with the emission of a force. To be sure, this is not the case with anger in (317a): no entity is emitted out of the subject referent which can be construed as a force. In other words, (317a) is not compatible with the allative at-scenario.

4. Conclusion

In this chapter I have introduced the notion of at-construction which can be linked to (at least) three scenarios: the Allative Schema (associated with verbs like kick and clutch, which, contrary to verbs such as break, do not necessarily contain a change of state feature), the Ablative Schema (associated with continuous actions), and the Allative/Ablative Schema, which shares features with both the Allative and Ablative Schemas. The allative/ablative case has previously not been considered in the literature and the ablative variant has been shown to include three subcases (removal, release, and creation/destruction), of which only the removal case is discussed by van der Leek (1996). Further, the notion of attempt, when applicable, has been shown to refer to either the verbal event (as with the allative variant) or its consequences (as with the ablative variant).

I have also tried to show that verb classes à la Levin (1993) are not satisfactory, nor is van der Leek’s (1996) analysis adequate to motivate all the examples taken into consideration. Therefore, I conclude that an approach based on the interaction between constructional (or schematic) meaning and verbal meaning (in the sense of the scenarios with which verbs are associated) is needed.

We must now comment on the “nature” of the allative and ablative components within at-constructions. The allative component is taken to be a variant of the change component, which I have called the force in motion component. The emitted entity (i.e. the entity which is intended to make forceful contact with the preposition complement referent and which is conceptualised as coming out of another entity) is construed as a force (represented as a thick arrow in Figure 73) which moves towards a target – remember that the dashed arrow in Figure 73 indicates that the target is not necessarily reached. The allative at-construction can be viewed as a change construction if the notion of intended position is included in the definition of change phrase, as in (324):

(324) Definition of change phrase (revised)
A nonverbal phrase XP, which is neither a subject nor an object, is said to be a change phrase (CP) if it refers to a state, position or circumstance possibly achieved by an entity a involved in an event E, provided that a can be postulated at the semantic pole of the relevant construction.

The at-phrase designates a location (i.e. a surface) towards which an entity a postulated at the conceptual level moves. The entity a can be
either understood (e.g. LEG is Sally kicked at the wall) or expressed in the syntax (e.g. Sally fired a bullet at Penny). Similarly, the allative/ablative variant contains an allative component; hence, it can be analysed as a change construction. More complex is the issue of whether the ablative at-construction can be regarded as a change construction. If the definition of change phrase requires that a non-verbal XP refers to a possibly achieved location, then the ablative at-construction is not a change construction. The at-phrase refers (either directly or indirectly as in (315b)) to the location out of which an entity, sensation or state of attention comes from. Therefore, the construction contains a change component because an entity, either literally or metaphorically, is subject to a change. Nevertheless, the at-phrase does not denote an emission location by itself. The ball in John kicked the ball out of the room ended up out of the room, whereas chips in John chipped (away) at the rock were not at the rock, but away from it. Since the at-phrase primarily denotes a location where a repetitive action took place (see the away at variant, note 189), I do not regard the ablative at-construction as a change construction.

Chapter 8
Conclusion

1. Overview

In this book I have studied the instantiations of the syntactic structure NP, V (NP) XP, where XP stands for a dynamically construable predicate, which I have called change phrase. The notion of change phrase represents the common core of many (change) constructions that contain a non-verbal phrase predicated of some entity (not necessarily expressed in the syntax) which undergoes a change of either state or position. Among the constructions amenable to a unified treatment are not only Levin’s (1993) resultative construction (e.g. Sally laughed herself silly) and van der Leek’s (1996) conative construction (e.g. Sally hit at the fence), but also largely ignored types such as intransitive and transitive sublexical change constructions (e.g. John was weeping into her arms; He buttoned his coat to the top), transitive subject oriented change constructions (e.g. East Timor may beat Britain into the Eurozone), conceptualiser oriented change constructions (e.g. I love you to the moon and back), LIKE change constructions (e.g. They were cowed into submission), force-spatial change constructions (e.g. The bullet tore into his leg), creation constructions (e.g. They cut a bench into the corner), mildly causative structures (e.g. The butler bowed the guests in), and asymmetric resultatives (e.g. Sally kissed the anxiety away from Chris). Further, I have developed a representational system for such change constructions based on the postulation of schemas (along the lines of Cognitive Grammar) which account for the flexibility of compositional processes.

Change constructions have been discussed according to five dimensions of variation: causality (are the events coded by V and XP causally dependent?), selection of the change phrase (what are the syntactic realisations of XP?), orientation of the change phrase (is XP predicated of NP1, NP2, both, or neither?), transitivity (why are
sentences such as Zola headed Chelsea level possible if Chelsea is not an argument of the transitive head?), and temporal dependency (are the events coded by V and XP temporally dependent?).

The existence of a common core for various change constructions implies that they define a change network (comprising what are called the Force Change Schema, the Event Change Schema, the Event Force Change Schema, the Allative Schema, and the Allative/Ablative Schema). Such a claim fits into the cognitive view of linguistic items not as independent units but as interconnected elements within a system. In particular, by subscribing to the theoretical underpinnings of Cognitive Grammar, I have tried to shed light on the nature of the change system. The change network is argued to revolve around the categorisation of events in terms of either forces (as in the Force Change Schema, e.g. He tore the article out of the newspaper) or paths (as in the Event Change Schema, cf. The clothes dried wrinkled) or both (as in the Force in motion component and the Event Force Change Schema, e.g. Sally slammed off into her office).

Force categorisation coincides with the activation of a very basic cognitive model, Langacker’s billiard-ball model, as a means of linguistic symbolisation. Path categorisation by default structures those events which are not regarded as involving a (causal) unidirectional energy flow. Both force categorisation and path categorisation can involve the integration of two subevents. Complexity, however, does not only pertain to the multi-faceted instantiations of a given schema but also involves the interaction between (or blending of) schemas. Some structures can be described adequately only as instantiations of a given schema but which share features with both the opposite poles of the imaginary schematic continuum.

2. Summary

After having introduced the basic tenets of Langacker’s Cognitive Grammar in chapter 1, I have explored resultative constructions (as defined by Levin 1993) in terms of temporal dependency and causality in chapter 2.

I have proposed that temporal dependency between the two subevents which make up a resultative construction depends on the notion of visibility (i.e. the temporal generalisation). If the resultative phrase refers to a visible condition, then no temporal gap is allowed between the two subevents:

(325) a. John wiped the table clean.
b. John danced his feet sore.

Clean in (325a) refers to a visible condition of the table, hence we expect no temporal gap between the event of wiping and the event of the table’s becoming clean. On the other hand, sore in (325b) refers to a physical state experienced by the subject referent John (which may have taken some time to develop), coextension between the event of dancing and John’s feet becoming sore is not guaranteed.

As for causality, I have argued that it is a complex notion exhibiting gradience. Contrary to what is claimed by Rappaport Hovav and Levin (2001), I have shown that causal paraphrases can also apply to intransitive resultative cases. The causal reading improves if the conceptual distance between the meaning of the verb and that of the alleged resultative phrase is great (although the subject referent must always be construable as a theme, see the event component generalisation in §6.4):

(326) a. The river froze solid.
b. The clothes dried wrinkled.

(326b) seems more amenable to a causal paraphrase (e.g. “The clothes became wrinkled because they dried”) than (326a). As a matter of fact, freeze means “to become solid”, whereas dry does not signify “to become wrinkled”. Still, a causal paraphrase cannot be excluded in toto for (326a) either, since it makes sense (in an appropriate context) to ask “Why is the river solid?” and answer “Because it froze”. 
Further, I have introduced the notions of superordinate and subordinate causality to account for differences in acceptability of causal paraphrases for manner of motion verbs (for which a specifier interpretation seems to be the preferred one):

(327)  a. The door slid shut.
  b. John limped to the store.

If we interpret slide and limp as subordinates of move and regard shut and to the store as hinting at an abstract change (i.e. a change of state), both (327a) and (327b) are paraphrasable in a causal fashion (i.e. “The door moved; this caused the door to end up in a shut position”; “John moved; this caused him to end up at the store”). If we focus on the verbs independently of their being subordinates of move, the causal interpretation works better with (327a): “The door slid; this caused to door to end up in a shut position” versus “??John limped; this caused him to end up at the store”. This is so because only in (327a) does the verb readily evoke translational motion. Limp primarily describes a physical state (cf. to have a limp, to walk with a limp); hence, the subject referent is difficult to categorise as a theme (see the event component generalisation in §6.4).

I have concluded chapter 2 by arguing that the distinction between states and positions implicit in Levin’s (1993) definition is problematic. Consequently, I have introduced the more general notion of change phrase, which allows us to group together a variety of constructions ranging from clear-cut instantiations of Levin’s resultative construction through emission verb constructions to LIKE change constructions:

(328)  a. He was sobbing into his hands. (verb emission construction)
  b. He beetled off to London. (LIKE change construction)

Both sentences in (328) contain change phrases. Into his hands in (328a) spells out the location where the emitted substance (i.e. sobs) ended up. (328b) compares the movement of the subject referent to London (the change phrase) to that of a beetle (although the perceptual salience of such a comparison may be low).

Chapter 3 and chapter 4 have tackled the questions of transitivity and change phrase selection. Chapter 3 has shown that the subcategorised object of a transitive verb is not necessarily inherited as the object of the resultative construction but can correspond to the landmark of the motion scenario coded by the change complex (i.e. the complex formed by the affected entity and the “resultative” phrase):

(329)  a. Sally kissed the anxiety away (from Chris).

The anxiety in (329) moved away from Chris thanks to Sally’s kisses. In other words, the anxiety is the trajector and Chris is the landmark within the motion scenario alluded to by away. I have called examples like (329) asymmetric resultatives.

Not only is the landmark often optional in the syntax as in (329), but it can also be linked via metonymy (or active zone/profile asymmetry) to the transitive object:

(330)  a. He cut himself free (from his family).
  b. He cut the ties with his families.

What the subject referent cut in (330) were of course the ties with his families.

I have also proposed that asymmetric resultatives do not (necessarily) result from the re-categorisation of the verb as a verb of removal (contra Levin and Rappaport Hovav 1995’s lexical approach). Rather, I have defended a constructional approach where the primary source for the interpretation of an asymmetric resultative is equated with the change complex:

(331)  a. They frightened an admission out of him. (from Rivière 1995)
  b. They frightened him into an admission. (from Rivière 1995)
It does not make much sense to say that *frighten* in (331a) and *kiss* in (329) are re-categorised as verbs of removal. If we did so, we would be forced to conclude by analogy that *frighten* can also be a verb of creation in (331b) (since the third pronoun referent made an admission).

The discussion of transitivity in chapter 3 has been rounded off by detailing a number of possible allative and ablative interpretations for the change complex - such as motion into a visual perception location, see (332a), and creation as movement out of a location, see (332b) – and by detailing the mechanisms responsible for prepositional selection, see (333).

(332)  
\begin{enumerate}
\item He disappeared into the darkness.
\item He cut a toy out of this piece of wood.
\end{enumerate}

(333)  
\begin{enumerate}
\item The cat jumped in(to) the box.
\item Il gatto saltò nella scatola. (Italian)
the cat jumped in-the box
\end{enumerate}

It has been noted that non-dynamic prepositions like *in* do not only focus on a final configuration (see Goldberg 1995: 159) but also occur with punctual verbs such as *jump* in (333a), which is probably a case of iconicity (i.e. a punctual verb co-occurs with a “punctual” preposition). Remarkably, Italian manner of motion verbs do not usually allow for a telic interpretation (e.g. *Gianni zoppicò nella stanza* with the intended meaning of “Gianni limped into the room”, see §2.3.1). Still, punctual manner of motion verbs such as *saltare* (i.e. *jump*) do so if used in combination with the static preposition *in* (i.e. English *in*), see (333b).

In the second part of chapter 3 I have dealt with the restricted range of possible adjectival change phrases (see also Wechsler 2001). I have proposed the objective affectedness generalisation: colloquial usage aside, only adjectives that refer to objective properties of necessarily affected entities (e.g. *flat* in *John hammered the metal flat*) are used in change constructions:

(334)  
\begin{enumerate}
\item John painted the room {#nice/nicely}.
\item John loaded the truck {#heavy/heavily}.
\end{enumerate}

Although we could describe the room as being nice as a result of the painting event mentioned in (334a), the adjective *nice* is banned from such a sentence, colloquial usage aside. Crucially, the ascription of the property “nice” to the room depends on the conceptualiser’s evaluation (i.e. it depends on subjective evaluation). Heaviness in (334a) does not necessarily imply that the truck was affected (since it might have been much heavier than the total weight of the crates placed on it). Rather, heaviness refers, strictly speaking, to a property of the crates and is attributed to the truck by way of an inferential process on the part of the conceptualiser: a large number of crates on the truck, for example, suggests the property “heaviness” to him or her. Adverbs, rather than adjectives, are used if the conceptualiser’s evaluation is involved, as is illustrated in (334).

Finally, I have pointed out that the objective affectedness generalisation is reminiscent of Goldberg’s (1995) Unique Path Constraint. Still, I have argued that the two are not identical in that the Unique Path Constraint is not always correct:

(335)  
The tyrant ordered them to jump to their death off the castle.

(335) violates Goldberg’s (1995) Unique Path Constraint because the path is not traced within a single landscape (one landscape pertains to physical motion, the other involves the physical state of being alive or dead).

Chapter 4 has demonstrated that subcategorised objects of so-called obligatorily transitive verbs may not be inherited at the constructional level at all:

(336)  
Vialli headed Chelsea in front.

Neither *Chelsea* nor the landmark of the implied motion scenario, that is Chelsea’s opponents, are possible objects for the verb *head* when used independently of the change construction in (336). This is
further evidence of the fact that change constructions are not always obtained by adding some material at the end of a simpler, related structure (e.g. *John scrubbed the table* → *John scrubbed the table clean*), but rest primarily on the interpretation assigned to the change complex. I have proposed that verbs exhibiting complete lack of inheritance of the subcategorised object are construed as emission verbs. More in general, I have underlined the importance of the notion of motion scenario (involving either the subject referent or the intended object referent as a landmark) for the licensing of all change constructions which do not inherit the intended subcategorised object (see the motion scenario implication in §4.1.3 and §4.2.1). This allows us to ignore the notion of obligatorily transitive verb, which is difficult to define in a clear way.

(337)  
(a) *Alice surfed the net.*  
(b) *Alice surfed herself silly.*  
(c) *Sally danced a piece from Swan Lake.*  
(d) *Sally danced her feet sore.*  

Both *surf* in (337b) and *dance* in (337d) do not take their intended subcategorised objects (i.e. *the net* and *a piece from Swan Lake*). We can adequately describe their occurrence in the change construction, independently of their transitivity, by noting that they both evoke a motion scenario involving their intended subcategorised objects. *Alice* metaphorically moved along *the net* and *a piece from Swan Lake* is an emitted entity because it is created by *Sally* (cf. the use of the preposition *from* in Football English to indicate the agent as in *a cross from Beckham*). Similarly, the intended object in (336), *ball*, is an emitted entity because it moved (on its own) from the subject referent’s head to another location.

One more example which illustrates the importance of the notion of motion over that of inheritance of the subcategorised object is given in (338) below, which has not been discussed so far:

(338)  
*His impulse was to tear the book out of her hands.* (Paul Auster, *City of Glass*, 1990: 64)

(338) contains what would usually be termed an obligatorily transitive verb (i.e. *tear*). However, neither *the book not her hands* are possible objects for it under the intended interpretation (*He tore the book* would mean that he destroyed the book). Further, no other entities metonymically linked to them (as in *He cut himself free from his family*, see §4.1.1) can immediately be recognised as suitable intended objects for *tear*. We could argue that the intended object for *tear* corresponds to the configuration defined by the book plus the hands. Much more simply, the entity referred to by the possessive determiner *his* wanted to pull (or, more generally, remove) the book out of *her hands*. That is, the verb *tear* is used in the construction (338) because it can be interpreted as a verb of forceful removal, independently of its transitivity (i.e. *the book is a possible object for remove or pull but not for tear* under the intended interpretation). If this line of reasoning is correct, *tear* appears in the change construction in (338) thanks to the fact that its change complex (i.e. *the book out of her hands*) is connected to the verbs *pull/remove* (i.e. the change complex suggests a removal configuration by itself) and the latter can be viewed as superordinates of *tear* (i.e. *tear-pull-remove-[the book] out of [her hands]*). Further, (338) compiles with the motion scenario implication proposed in §4.2. An unsubcategorised object is used in (338) with respect to the verb and, as expected, a motion scenario obtains where the subject referent is a landmark: the book is intended to be moved towards the entity referred to by the possessive determiner *his*. Of course, the construction with *tear* in (338) is highly entrenched; moreover, the forcible removal scenario and the destruction scenario overlap to some extent. Therefore, we could regard (338) as involving a new sense of the verb *tear* as a verb of forceful removable rather than destruction (as dictionaries do).

In conclusion, (338) may lead to three very important claims (which I leave open to future research). First, (complex) prepositions may not differ from verbs in terms of summary versus sequential scanning (see Langacker 1987) but in terms of *schematicity*. Prepositions are more schematic than verbs as indicated in the hierarchy *tear-pull-move-[the book] out of [her hands]* above. Their schematicity might motivate why grammarians often regard them as lying
between functional and lexical categories (see Croft 2001: 263). Second, the difference between obligatory and optional transitivity involves the notion of motion scenario: a verb can be “syntactically” intransitive (i.e. its intended object is omitted in the syntax of the change construction) when it implies a motion scenario (either by itself or because of the construction in which it appears). In more detail, a motion scenario is evoked where either the intended subcategorised object or the subject referent is the landmark within such a scenario (see §4.2.2). It remains to be studied whether the activation of the motion scenario is also relevant to intransitivity independently of change constructions and whether it can be viewed as a de-emphasising strategy along the lines of Goldberg (2001). Third, lexical polysemy may be regarded as derivative. It results from two factors: the high degree of entrenchment of a given construction and the existence of systematic links and hierarchies between items in the grammar.

I have also speculated that the crucial role played by the notion of motion might reflect the more general tendency for change constructions to code tightly linked events through the establishment of various vital relations (in the sense of Fauconnier and Turner 2002). In (336), not only is the ball “emitted” out of Vialli (i.e. a part-whole relation exists between the two), but Vialli entertains a part-whole relation with the constructional object Chelsea (i.e. his team) and the ball itself is linked to Chelsea because they are the team who profited from its movement into the net. On the other hand, the impossible sentence “The bear frightened the campground empty (under the interpretation that the bears frightened the hikers and as a result they left their campground) exhibits loose links between its constituent subevents. The bears were not necessarily on the campground when they frightened the hikers (vs. They drank the pub dry, where they were in the pub), nor were the hikers necessarily there when they got frightened. Rather, the campground simply denotes the location where the hikers were based.

In the second part of chapter 4, I have concluded the discussion concerning the selection of adjective phrases which had begun in chapter 3. I have argued that adjective selection is a matter of degree (see Verspoor 1997, Boas 2000) relative to entrenched scenarios (see the expected consequence generalisation and the preference for short adjectival forms and basic verbs) and cannot be captured by a formal system à la Wechsler (2001). Wechsler’s approach, among other things, only accounts for subcategorised object cases. However, variation also involves unsubcategorised object cases:

(339) Pat laughed herself {to death/*dead}.

The contrast in (339) seems to point at the fact that if adjectives are used with prolonged events, then the adjective is phonologically shorter than the related preposition’s complement (cf. He wiped it [clean/*to cleanness], She danced herself [to fame/*famous]). This might be one more case of iconicity (see the discussion of prepositional selection above concerning [333]). Furthermore, I have introduced the part-whole affectedness generalisation: only those adjectives are used which (if possible) apply to every part of the affected entity (i.e. gestalt adjectives are not used):

(340)  a. John hammered the metal flat.
     b. ?? John hammered the metal [triangular/beautiful].
     c. Milton read himself blind.

Triangular and beautiful in (340b) are gestalt adjectives in that they describe the metal as a whole but cannot be predicated of every part of it. On the other hand, flat is a part-whole adjective since it describes any arbitrarily chosen part of the metal. Blind in (340c) is not a part-whole adjective but rather a punctual adjective. Its occurrence is expected since the only possible interpretation for (340c) is that only Milton’s eyes were affected not his whole body, of course.

I have suggested that both the object affectedness generalisation and the part-whole affectedness generalisation are needed although they may overlap in some cases (as in the analysis of the variant of [340b] with the aesthetic adjective beautiful). This accords with a redundant view of the linguistic system (see also Croft 2001). Further, I have stressed that the distinction between adjectives and adverbs in
sentences with a resultative interpretation (where adverbs crucially would involve the conceptualiser’s ascription of a property to the affected entity) is often ignored in the colloquial language, see (341). Of course, some expressions may have unit status, such as Color Me Beautiful in (341c). This trivially implies that generalisations (i.e. abstract schemas) do not only often overlap but must also be relativised to the context of utterance.

(341) a. He painted it all {nice/really nice}.  
   b. He painted it nice and shiny.  
   c. ‘I’m taking you to have your colours done! And don’t keep saying, “what”, please, darling, Color Me Beautiful. I’m sick to death of you these dingy slurries and fogs…’ (Helen Fielding, Bridget Jones’s Diary, 1997: 130)

In the final part of chapter 4 I have refined on the temporal generalisation advanced in chapter 2 by arguing that another parameter to be taken into consideration when dealing with the notion of temporal dependency is the concept of animacy (i.e. the revised temporal generalisation). Temporal dependency obtains if and only if the resultative phrase refers to a visible condition of an inanimate entity or a position of an animate entity.

(342) a. Sally sprayed her skin soft.  
   b. Sally sprayed her skin wet.

The skin in (342a) may have become soft some time after the spraying event ended because the skin is conceptualised as an animate entity (i.e. some of its intrinsic properties are also responsible for its change of state). On the other hand, (342b) implies temporal co-extension because the skin is conceptualised as at an inanimate surface. Further, if homomorphism does not obtain, the verbal event (usually) refers to an action carried out in an above-the-norm fashion (e.g. He ate himself sick implies that the event of eating took place in an above-the-norm fashion). Crucially, temporal dependency does not systematically correlate with transitivity (contra Wechsler 2001).

In chapters 5 and 6 I have proposed that change constructions be linked to three schemas: the Force Change Schema, the Event Change Schema, the Event Force Change Schema. All three schemas are shown to have both causal and noncausal variants (contra Rappaport Hovav and Levin 2001), as well as to make use of different integration strategies (i.e. compositional flexibility).

Chapter 5 has analysed the Force Change Schema and the Event Change Schema. Both result from the blending (in the sense of Fauconnier and Turner 2002) of an event component and a change component. The event component in the Force Change Schema is construed as a force component in the blend often via an above-the-norm reading (see the above-the-norm generalisation in §5.1.2). The blend depicts Langacker’s cognitive model dubbed billiard-ball model scenario and, hence, the Force Change Schema is viewed as a cognitively grounded unit of grammar.

The causal Force Change Schema is appropriate for both subcategorised object and unsubcategorised object cases based on transitive verbs (viz. Sally battered Tom senseless, Sue kissed the anxiety away from Tom). Interestingly, the distinction between symmetric and asymmetric structures (i.e. Sally battered Tom senseless vs. Sue kissed the anxiety away from Tom) can also be observed with intranitive verbs (viz. Sally shouted at Chris → Sally shouted some sense into Chris). This finding reveals that the creation of tight links between subevents (i.e. the fact that addressee is saliently evoked by the verb shout) is more important than transitivity for the use of a given change construction (see also the discussion above concerning the motion scenario).

Since Causal Force Change Schema sentences involve an energy flow from a manipulator to a manipulee (cf. *They crossed the field flat vs. They trampled the field flat), the notion of causation between two subevents is not a sufficient condition for the use of the causal Force Change Schema: the notion of one entity’s exerting a (possibly metaphorical) force on another entity must be evoked. Admittedly,
the construal of an (unsubcategorised) constructional object as a manipulee can be quite complex. Consider the following example which has not been mentioned before:

(343) I have tried 'smoking' goals in (Arsenal once scored as three of us were lighting cigarettes, … (Nick Hornby, Fever Pitch, 1996: 110).

The verb smoke in (343) is construed as a force which may act on the players with Arsenal (i.e. the team supported by the narrator) so as to cause them to bring goals “into existence” (i.e. what in probably stands for). In other words, in the integrated structure goals is a manipulee with respect to smoke.

Chapter 5 has also underlined that constraints like Goldberg’s (1995) are not always correct since our ability to construe a situation in terms of an energy flow is quite flexible (as well as context-specific).

(344) Since the flora and the fauna which we call native to Britain came northward at this period to replenish a land swept bare by the snow cap of the last ice age… (G. M. Trevelyan, A Shortened History of England, 1987: 18)

Contrary to what is argued by Goldberg (1995), (344) shows that a maximally inanimate entity such as snow cap can be construed as a manipulator (see also Verspoor 1997 for a similar point). In sum, Goldberg’s (1995) constraints should be taken as paraphrases of the (schematic) conceptualisation captured by the Force Change Schema, that is, the viewing of an event as an energetic interaction between a manipulator and a manipulee (within a single scenario, see §3.3.3 and end of §5.1.4).

The noncausal variant of the Force Change Schema has been argued to code mild causativity and describes the meaning of sentences such as Sam cut the salami into the bowl, where the verbal event cut does not, strictly speaking, determine the displacement event (which is brought about by the force of gravity). Rather, the force within the event component underlying the meaning of cut is interpreted as a force capable of bringing about a displacement event (that of the salami in pieces into the bowl). Importantly, it seems that temporal coextension must obtain between the two relevant subevents in the case of the noncausal Force Change Schema.

The Event Change Schema results from the integration of an event component which is never construed as an asymmetric energy flow and a change component. The causal variants of the Event Change Schema are of three types: either the event component determines the change component (as in The mansion burned down), or the change component determines the event component and initial integration obtains (as in The car screeched to a halt), or the change component determines the event component and final integration obtains (as in The module clicked into place, where the module’s clicking occurred at the end of the event of its moving into place and not during the motion event as in the previous example). The first two cases imply temporal coextensiveness, the third one does not, of course.

Both the initial integration and final integration variants of the Event Change Schema have been argued to have noncausal counterparts (e.g. The train whistled into the station, The car crashed into the wall). It has been underlined that instantiations of the Event Change Schema can be transitive (e.g. The children played leapfrog across the park) and imply an energy transfer (albeit a bi-directional one as in They fought him to the death). In either case, subject orientation for the change phrase obtains. The important conclusion is therefore that the Event Change Schema is compatible with an energy transfer scenario insofar as neither of the two entities involved in it can be construed as being more energetic than the other. Interestingly, the same verb can occur both in a Force Change Schema example and in an Event Change Schema example. The sentence He fought back his tears, which contains the same verb as They fought him to the death, implies that the subject referent prevailed over his tears; hence, the example is a Force Change Schema instantiation, not an Event Change Schema instantiation.

Noncausal variants of the Event Change Schema are often associated with a temporal interpretation, as in She drank Pina Coladas
well into her twilight years. Such examples have been distinguished from those in (345), see §5.1.3.1:

(345)  a. The butler bowed the guests in.
       b. We sat around in the sling chairs and talked the dusk into night. (from Rivière 1981)
       c. I found the play terribly tedious – I don’t know how I managed to sit it out. (OPV)

The sentences in (345) have a temporal interpretation (e.g. “We talked until it got dark” in [345b]). Still, they are regarded as instantiations of the noncausal Force Change Schema, the temporal interpretation stemming from the obligatory character of temporal coextension for the noncausal Force Change Schema (see §5.1.3.1). The emboldened verbal events, although not obviously causally related to their respective change events, can be construed as (metaphorical) forces that cause them to occur. The action of talking in (345b), for example, can be conceptualised as a force capable of transforming the dusk into the night. Of course, the relatively high degree of entrenchment of this and similar examples (i.e. their unit status) may blur the perception of the causal interpretation (i.e. the motivation for the structure of a construction is not necessarily perceptually salient to the language user from a synchronic point of view).

Finally, I have pointed out that some change constructions may be difficult to assign unambiguously to either the Force Change Schema or the Event Change Schema. For example, I love you to distraction could either be viewed as an instantiation of the Event Change Schema (if the notion of asymmetrical energy flow is not saliently evoked) or as a realisation of the Force Change Schema (if we interpret the landmark you as a, potentially unwilling, manipulator with respect to the trajector I). The latter analysis implies that the Force Change Schema may have a subject oriented variant where the verbal landmark rather than the verbal trajector is equated with the energy source.

In chapter 6 I have introduced the Event Force Change Schema, which results from the (inter-schematic) blending of the Force Change Schema and the Event Change Schema. Like the former, it involves a force component and, like the (initial integration variants of the) latter, it requires temporal coextension between its (force and change) components. In other words, forces are interpreted as paths.

I have argued that sentences like Sally punched out at seven o’clock and Sally slammed off into her office can be taken as instantiations of the causal and noncausal variants of the Event Force Change Schema, respectively. In the former sentence, Sally’s punching her card (potentially) determined the event of Sally’s leaving work. In the latter sentence, Sally’s slammed (for example) the door of her office and entered it without there being a causal relation between the two events. Admittedly, it may sometimes be difficult to exactly pinpoint the intended manipulee for Event Force Change Schema examples (viz. They broke in through an upstairs window, where the breaking of a part of the house such as the upstairs window did not necessarily take place). Nevertheless, insofar as the verb saliently evokes the notion of asymmetric energy flow, such cases cannot be regarded as realisations of either the Force Change Schema (because the affected object cannot be expressed in the object slot in the syntax) or the Event Change Schema (because asymmetric energy flow scenarios are the province of the Force Change Schema). Hence, a new schema needs to be postulated.

What is peculiar to the Event Force Change Schema is the impossibility of expressing the intended manipulee in the constructional object slot. For example, Sally slammed the door off into her office would mean that Sally hurled the door into her office. Still, the intended manipulee can often be coded as a prepositional complement:


The subcategorised object of the verb tear, his leg, is expressed as the complement of the preposition into. The event of tearing is conceptualised as both a force event and a motion event. As a matter of
fact, the Event Force Change Schema seems to always involve (physical) motion. In (346), the motion “feature” is clearly associated with the subject referent, the bullet.

Since Event Force Change Schema examples (which are all intransitive) demonstrate that subject orientation for a change phrase is possible (even if the verb denotes an asymmetric energy flow), in the second part of chapter 6 I have dealt with possible counterexamples to the claim that the causal transitive structure $S_i V O CP_i$ (where $V$ denotes an asymmetric energy flow) is not found in English. "Sally cooked the cookies dirty" (meaning "Sally cooked the cookies and, as a result, she got dirty") is not acceptable because Sally is not explicitly construed as a manipulee, as is required by the Force Change Schema (cf. Sally cooked herself dirty). Further, such an example cannot be an instantiation of the (causal) Event Change Schema because English speakers cannot access the (causal) Event Change Schema independently of the Force Change Schema. The latter schema “filters out” asymmetric energy flow scenarios (if the manipulee is to be realised as an object in the syntax). As a matter of fact, noncausal Event Change Schema examples containing asymmetric energy flow verbs do occur (e.g. It cut me to the heart).

The first problematic case I have taken into consideration is illustrated by the sentence The prince devastated the town to his heart’s content, which contains the forceful verb devastate. I have argued that the relevant prepositional phrase is not subject oriented but, rather, conceptualiser oriented. This and similar sentences originate from the blending of a (possibly complex) event input (i.e. the fact that the prince devastated the town caused him to become happy), input 1, and a change (i.e. path) input, input 2. Input 1 is projected onto input 2, which contributes the preposition to to the blend. That is, an event is conceptualised as a path which the conceptualiser scans along.

The proposed analysis also extends to cases such as I love you to the moon and back, where input 1 does not consist of a sequence of events but is the simplex event of loving someone. Still, the prepositional phrase to the moon and back is predicated of the conceptualiser (I and you) who scans along love as a path.

A more serious challenge to the claim that the causal structure $S_i V O CP_i$ (where $V$ denotes an asymmetric energy flow) is impossible in English comes from the analysis of the to the point of construction. Such a construction does exhibit subject orientation (viz. She peeled onions [to the point of tears]) although this is not always the case (e.g. They decimated [the fish populations] [to the point of near extinction of many species]). Indeed, force dynamics does not seem to play any role for the orientation of the change phrase, which depends on world knowledge; nor does the to the point of construction necessarily involve force dynamics (viz. She worked (*herself) to the point of exhaustion). Hence, I have taken the to the point of construction as the realisation of a schema akin to a generic space in conceptual integration theory. Such a schema simply specifies that an entity involved in an event E undergoes a change (of state), irrespective of the nature of the verbal event.

The second part of chapter 6 concludes with more cases exhibiting lack of object orientation for the change phrase in transitive structures where the verb does denote an asymmetric energy flow and a part-whole relation obtains between the object and preposition’s complement referents. I have argued that such cases can divided into three groups. The first group includes structures where the change phrase is predicated of the subject referent (e.g. The sea air slapped her in the face) or part of it (e.g. She buttoned his coat to the top); such examples have been analysed as instantiations of the noncausal Event Change Schema. The second group has to do with change phrases predicated of an understood manipulee (viz. Chris filled the bucket to the brim); the relevant change constructions have been regarded as realisations of the noncausal Force Change Schema. The third group accounts for those examples where the change phrase is predicated of the conceptualiser (e.g. Harry drove the sword to the hilt into the serpent’s mouth, where the conceptualiser scans the extended manipulee sword from its point to its hilt); hence, they have been treated as instantiations of the conceptualiser oriented change construction.

After having pointed out (once more) that the attribution of a given change construction to one of the postulated schemas may be a
complex issue (because of substitution by analogy and multiple linking, see §6.3), in the last part of chapter 6 I have discussed the interaction between the postulated schemas and various verb classes, namely middle verbs (e.g. Chris stripped [himself] naked), verbs of manner of motion (e.g. Chris wriggled [himself] naked), verbs of accompaniment (e.g. Penny rode [the horse] to town), emission verbs (e.g. The man was sobbing [his sorrow] into his hands), verbs of transformation and creation (e.g. They cut a bench into the corner).

As a general premise, I have proposed that the trajector in the event component must be construable as a theme (i.e. the event component generalisation). Such a generalisation is reminiscent of Levin and Rappaport Hovav’s (1995) Direct Object Restriction but need not be postulated independently of the proposed schemas (i.e. it can be read off them) and is compatible with more data than the Direct Object Restriction is. For example, since we conceive of both ourselves and the objects surrounding us as entities which move through time independently of physical motion (i.e. our linear concept of time), temporal sentences such as Sally drank Pina Coladas well into her twilight years are compatible with the Event Change Schema: Sally is moving along the abstract time line, that is, she is a theme in the event of drinking. On the other hand, the deviance of ??Sally laughed into the room is motivated by the fact that humans are not by default (physical) themes in an event of laughing as is required by the spatial prepositional phrase into the room.

Of particular interest has been the discussion of verbs of accompaniment since change constructions containing them could be taken as instantiations of the “force in motion component”. More in general, I have argued that at-constructions (a neutral term to be preferred to the unwarranted label “conative” construction) must be analysed by resorting to two schemas: the Allative Schema (associated with verbs like kick and clutch, which, contrary to verbs such as break, do not necessarily contain a change of state feature, cf. John kicked at the fence), the Ablative Schema (associated with continuous actions, e.g. He sipped at a tumbler of water). As was the case with the Force Change Schema and the Event Change Schema, the Allative Schema and the Ablative Schema can be blended, thus giving rise to a schema (to be termed Allative/Ablative Schema, cf. Sarah ducked her head to dodge low branches; brambles tore at her) which contains “features” of both (contra van der Leek 1996).

Finally, I have proposed that the change network includes the Force Change Schema, the Event Change Schema, the Event Force Change Schema, the to the point of and conceptualiser constructions (see also Figure 6.8), the Allative Schema and the Allative/Ablative Schema.

To conclude, I would like to stress once more that the analysis of change constructions has highlighted the systemic nature of grammar. Schemas interact with each other, for example, by giving rise to new schemas or by being linked (with different weights) to the same example: (347) a. Sarah laughed her head off at Tom. b. The train whistled into the station.

Although not considered in the text, (347a) shows that the Allative Schema and the Force Change Schema can be blended, thus creating a construction that contains features of both. Sarah’s laughs in (347a) were directed against Tom (who was probably also the cause for Sarah’s laughing) as in the Allative Schema. At the same time, the intensity of the laughing event is metaphorically described as causing the movement of Sarah’s head off her body. Put differently, the
Force Change Schema is also involved since the laughing event is a force affecting Sarah’s body.

(347b), which was discussed in §6.3.4, illustrates that the same example can potentially be linked to more than one schema. We can regard (347b) as involving no causal relation between the event of the train’s whistling and the event of the train’s moving into the station (i.e. [347b] is an instantiation of the noncausal initial integration Event Change Schema). However, we could also regard the event of the train’s moving into the station as a circumstance likely to determine the train’s whistling. In other words, although clear-cut cases exist, many examples may be instantiations of different (though) related schemas.

Notes

1. Of course, flatness can also be described as a property. I will use the terms state and property in an intuitive sense (and often as interchangeable expressions), the elucidation of their nature being a matter of philosophical investigation. Basically, however, something can be in a given state, but cannot be in a property; on the other hand, something can have a certain property, but cannot have a state.

2. For ease of exposition, I have separated with three dashes the material, in square brackets, which seems to be added to a “simpler” structure (i.e. a structure containing the same subject, verb, and, when possible, the same object as in the more complex structure).

3. Of course, there can be cases where only a spatial prepositional phrase seems to be added to a simpler structure, as in He kicked me out the room (cf. He kicked me).

4. Goldberg (1995) uses capital letters also for the resultative construction (i.e. Resultative Construction). In this monograph, I will use such a convention only when referring specifically to Goldberg’s analysis.

5. The term subevent is meant to explicitly indicate that the two events in question are not realised syntactically as two separate clauses but are conflationed into the same clause.

6. One may suggest that (2d) involves metonymy because one aspect of the motion stands for the motion itself, see also note 7. However, I will say that, in (2d), limping is moving into the room rather than that limping stands for moving into the room. The latter choice (i.e. stands for) may engender confusion because, if limping stands for moving into the room, then we would expect motion into the room not to be explicitly coded. Further, limp (although mainly describing a property) automatically (i.e. taxonomically) evokes motion (although not necessarily telic motion as in [2d]). That is, limp is classifiable as a manner of motion verb (as is also explicitly stated in the text). As Panther and Thornburg (2002) put it, “the latter is not deniable without contradiction”, see also note 7. Although we can focus on limp as designating a property, one cannot limp without moving. In sum, the verb limp has no vicarious function in the fully symbolised structure (2d), John limped into the room.

7. Radden and Kövecses (1999: 39) analyse constructions containing sound emission verbs like The car screeched to a halt as involving EFFECT FOR CAUSE metonymy. Screech, for example, stands for braking. One might add that to a halt also stands for braking; hence, both the verb and the prepositional phrase could be said to be linked metonymically to the braking event. Further, screeching is, in a sense, moving to a halt and vice versa (as will become apparent in §5.2.1, where the Event Change Schema is discussed). Such
a metonymic analysis can also be extended to an example like The fire trucks wailed out of the firehouse (mentioned in Radden and Kivéees 1999). Although there is no causal relation between the wailing event and the motion of the trucks out of the firehouse (vs. the previous example where motion to a halt causes the screeching sound), both the sound emission and the movement of the trucks are metonymically related to the existence of danger (e.g. a fire). On the other hand, an example like (2e) might not show any metonymic link with a superordinate event. That is, the rumbling event is caused by the motion of the truck into the driveway. Although we can still say that the rumbling of the truck is the truck’s moving into the driveway, I will not say that the rumbling of the truck stands for the truck’s moving into the driveway in the relevant example. Even if the difference may be a subtle one and not agreed upon by some analysts, I prefer the former choice (with the verb is) because the verb stand for is likely to cause confusion, see also note 6. If something (the metonymic target) stands for something else (the metonymic source), we “naturally” expect the source not to be expressed. This is not the case in (2e) since the cause for the rumbling event (not being a superordinate event like braking or the existence of a fire as in the previous two examples) is expressed by the prepositional phrase. One case where the stand-for terminology is more appropriate is (i) below (if we suppose that the truck always makes a rumbling noise when it is driven into the driveway):

(i) The truck’s rumbling again! (i.e. the truck is moving into the driveway again)

In (i), the cause for the rumbling sound is not expressed. This position is much in the spirit of Panther and Thornburg’s (2002) view of metonymy. They write that

“[metonymy is based on] a contingent (i.e. conceptually non-necessary) relationship between conceptual entities … From [this] follows that the link between a metonymic source and its metonymic target is in principle cancellable”

and

“in an utterance such as I have to water the tulips the concept TULIP automatically evokes the concept FLOWER and, in fact, the latter is not deniable without contradiction [i.e. this is not a case of metonymy]. This kind of conceptual necessity does not exist in uncontroverted [emphasis mine] cases of metonymy, like … [The piano wants a glass of Chardonnay]. The concept PIANO can be focussed on without necessarily evoking the concept PIANO PLAYER”

The car screeched to a halt and The fire trucks wailed out of the firehouse exhibit uncontroversial metonymy because a car can screech to a halt even without the driver’s braking (e.g. the pistons seized) and the fire trucks can wail out of the firehouse without there being any fire (e.g. it was a fire drill). On the other hand, the relation between the rumbling sound and the motion into the driveway in (2e) cannot be cancelled.

8. As is customary practice in linguistic analysis, I have indicated orientation of the resultative phrase (or any phrase that entertains a predicative relation with another for that matter) by making use of a subscript index.

9. The asterisk (or star) indicates an impossible sentence (see §4.3. for more details on the use of this diacritic).

10. The only case (colloquial usage aside, see §3.3.2 and note 105) where an aesthetic adjective can be used with a “resultative” meaning obtains when the semantically vague verb make is used, as in She made herself beautiful. However, such an example would not be traditionally considered a resultative sentence because the verb does not name any particular action (see Levin’s 1993 definition quoted at the very outset of §2.1). On the other hand, the example under consideration counts as a change construction on the basis of the definition of change phrase given in (7) below. Consequently, the ban on aesthetic adjectives must be understood here as being relativised to educated language and as not taking the verb make into account. For this reason, both the objective affectedness generalisation (see chapter 3) and the part-whole affectedness generalisation (see chapter 4) makes reference to “resultative” constructions and “resultative” adjectives.

11. This is what happens with “ordinary” adjuncts such as in the garden in the example offered above in the text (i.e. Chris fed the cat in the garden). In the garden is predicated of both the subject and object referents. Of course, the view that (prepositional) adjuncts are predicated directly of the entities involved in an event is not the standard analysis (which would regard such predication relations as entailments). It seems to me, however, that the difference between the two views is not substantive but is a matter of perspective (at least for the examples examined in this monograph): the standard analysis regards the event as primary (i.e. it is a top-down approach), whereas my analysis focuses on the entities involved in the event (i.e. it is a bottom-up approach).

12. The hole is an effected entity, that is an entity brought into being. Note also that I have used the convention of the three dashes in (4) to indicate what is structurally identical between the resultative and non-resultative structures.

13. To the best of my knowledge, examples such as (4b’) have never been discussed in the literature so far.

14. See example (298) in chapter 7 for a non-conative interpretation (i.e. what I will refer to as an allative/ablative reading).

15. I have ignored the ablative at-construction because, although at the rock in (5b) could be said to be predicated of John (i.e. John is “at” the rock), John
did not necessarily move either away from or closer to the rock. I will com-
ment on the difference between (3e), The two men laughed into their drinks,
and (5b) in §7.4.
16. The notion of circumstance is needed for sentences like John talked Mary
into taking the exam, where the prepositional phrase intuitively does not refer
to either a state or a position. For simplicity’s sake, I often subsume the no-
tion of circumstance under that of state (intended as not referring to a position
in physical space).
17. One could argue that a change phrase must be neither a verbal phrase nor a
noun phrase in order not to have two change phrases in (8). Nevertheless, this
line of reasoning would imply that a sentence such as (i):

(i) He painted the fence a beautiful shade of green.

does not contain any change phrase since a beautiful shade of green is a noun
phrase. The gist of (7) is that sentences such as (8) emphasise the metaphori-
cal reading of wakefulness as an entity moving into John’s eyes. In other
words, the structure in (8) imposes a particular image (see below in the text
for this concept) on the change event in question (i.e. John became awake).
Finally, I must point out that I employ the term object as referring to noun
phrases only (i.e. the prepositional phrase at me in She laughed at me is not
an object as far as [7] is concerned).
18. I am grateful to John Taylor for having pointed out to me the examples in (9).
19. As a matter of fact, I implicitly referred to a sublexical entity also in connec-
tion with (5a), where only a part of the entity designated by John (i.e. his leg[s]) moved towards the wall.
20. As this example makes it clear, the semantic content of an expression is ab-
breved as a capitalised noun in square brackets and the phonological pole is
shown as the phonetic transcription of the linguistic item in square brackets.
For ease of representation, however, I will often use true (or tree/tree) for
either the phonological pole or the semantic pole (or both). The context will
make such usage clear. Finally, it is worth remembering that square brackets
indicate that a certain structure (be it phonological or semantic) has unit status
(see below in the text for this concept).
21. I am not claiming, contrary to Langacker (1987: 39), that the prepositional
dative construction and the double object construction have the same truth
value. If by “truth value” we mean that the two propositions evoked by the
prepositional dative construction and the double object construction are true
in the same and only the same worlds, then this is clearly not the case. Con-
sider the following contrast (from Zubizarreta 1992):

(i) a. I handed the sandwich to John, but he couldn’t take it because his
hands were tied.

The sentence I handed John the sandwich is not true if John was not able to
take the sandwich, whereas the sentence I handed the sandwich to John is.
For some recent discussion on dative verbs and ditransitive constructions see
22. Units are not restricted to lexical elements. Expressions such as Where did
you go? What did you say? I think that…, etc. are all units.
23. Other basic domains include time, pitch, taste, smell, emotion.
24. Squares are employed to represent entities, which can correspond to things
e.g. table or relations e.g. near). When one wants to visualise the difference
between the two, a circle, instead of a square, is used to represent things.
25. The similarity between verbs and prepositions is also highlighted in Halli-
day’s (1994: 158) Functional Grammar. He notes that we can often substitute
a verbal expression for a prepositional phrase (e.g. He cleaned the floor using
a mop for He cleaned the floor with a mop). Generative Grammar captures
such a similarity by defining prepositions as [-V, -N] and verbs as [+V, -N]
(see Radford 1997: 64). In other words, prepositions and verbs share the fea-
ture [-N].
26. Purely for graphical reasons, I will use a dashed line instead of a dotted line
in the following diagrams.
27. The vertical line in (6b) is intended to highlight the path traversed by the ball.
28. The distinction between into and enter seems rather to be a matter of specific-
ity. Transitive enter implies a relation between an animate entity and a con-
crete location (cf. its combination with under in abstract cases such as This
word entered into the English language in the 18th century, but see also The
talks have now entered their third week). On the other hand, into does not im-
pose such restrictions (cf. Translate this sentence into Italian).
29. The term grammatical construction in Cognitive Grammar refers to any lin-
guistic item. Therefore, a morpheme such as –er and a noun like cut are both
grammatical constructions.
30. The landmark is schematic in the sense that it is not specified for parameters
such as animacy, countability, etc.
31. Note that contrary to the highly schematic representation in Figure 4, the
landmark is depicted here as being placed above the trajector. This is so be-
cause the diagram in Figure 7 is more specific than the one in Figure 4 and re-
flects actual spatial orientation: the trajector of [UNDER] is below its land-
mark in three-dimensional space.
32. In some cases, “there is no intrinsic basis for identifying a profile determi-
nant” (Langacker 1987: 291). A killer bee, for example, is both a killer and a
bee. Langacker (1987: 291, note 12) assumes nevertheless that “the second
member of the compound is a profile determinant, since that is the pattern ob-
served for English compounds in general”. In other cases, no component
qualifies as a profile determinant. The noun pickpocket is made up of pick, which designates a process, and pocket, which designates a thing corresponding to the landmark of that process. The entity designated by pickpocket, however, corresponds to the trajector of pick.

33. Square brackets are used for expressions with unit status. Parentheses are reserved for items lacking unit status. Of course, this is a gross simplification since entrenchment varies along a continuum.

34. The distinction between noun phrase and determiner phrase (DP) (see Haege- man 1994 for an overview) does not play any role here. Hence, the metal can be referred to either as an NP (the phrase head being metal) or as a DP (the phrase head being the).

35. The term merger is used here in an intuitive sense. Technically, it can be taken as a synonym of integration (see §1.2.3) or fusion. It must be borne in mind that the integration (or merger) of two elements A and B is not to be interpreted (as will become apparent in chapter 5) as the “sum” of A and B. Integration can also involve construal (cf. also Langacker’s well-known distinc- tion between the building block metaphor and the scaffolding metaphor, see Langacker 1999: chapter 5, for example). The term composition is also to be understood in this sense.

36. The subscript index i indicates the referential identity of the subject pronoun and the possessive determiner.

37. If the object of the resultative construction is also a possible object of the verb in isolation under the same interpretation, I will refer to such an object as a subcategorised object, as is customary in generative approaches to grammar. I will use this term as a convenient descriptive label without subscribing to its theoretical implications.

38. Such a claim will be demonstrated further in §4.3.1.3.1.

39. As we saw above, she writes that “it is the continuous eating” that made the subject referent sick.

40. Of course, this implies that resultative adjectives do not negate expected con- sequences. I will return to this issue in chapter 4 (see §4.4.2.2 in particular).

41. Wechsler’s (2001) model excludes (28b) also because the adjective sick in not a maximal endpoint adjective (cf. ?? completely sick, see §4.3.1 for details). In §4.3, I try to argue that such a requirement does not always make correct predictions. Hence, we must resort to an alternative explanation for the (usually) deviant status of (28b).

42. Walk and run do not refer to a property of the subject referent as limp does but nor do they imply directed motion as slide does.

43. The diagram summarises native speakers’ intuitions. I am fully aware that psychological experiments should be devised in order to test its accuracy but this is beyond the scope of the present work.

44. Of course, the label “resultative phrase” is a misnomer here since, according to Levin’s (1995) definition, a resultative phrase can only refer to a change of state. For this and other reasons (see §2.3), I will substitute change phrase for such a term.

45. I am not saying that fino a expresses only a temporal relation. Rather, I as- sume that fino a primarily has a temporal interpretation.

46. Motivation for the former case may come from the fact that subcategorised object examples are based on the metaphorical interpretation of nonforcible events as energy flows (i.e. forcible events, see §4.3.5 and §5.1.2.1 in particu- lar). Intuitively, nonforcible events can be categorised as forces if they either are repeated several times or are associated with some peculiar feature (e.g. Sally laughed Tom out of the room may imply either a prolonged event of laughing or louder than usual laughs on the part of Sally). As for change verbs, we may note that, if the nonverbal phrase specifies the endpoint of a scale (implied by the verb), the interpretation that the event took place in a non-default way (i.e. completely) may easily follow.

47. One might argue that to death in (33b) refers to a visible condition (i.e. a con- dition with visible properties) and hence temporal dependency should obtain. Although the temporal dependency reading may be the preferred one, it is not the only possible reading for such an example. I will account for this by distin- guishing between visible conditions of animate entities and visible condi- tions of inanimate entities (see §4.4.2.1).

48. The consecutive paraphrase does not obtain by default for example in She rocked the baby to sleep.

49. For some discussion on adverbs such as beautifully see Geuder (2000) and §3.2 and §4.4.2.2 of this work. In §3.3.2, it is observed that resultative ad- jectives are restricted to those denoting objective properties. In §4.4.2.2, I ar-gue that such a restriction may be a subcase of the part-whole affectedness generalisation. However, in accordance with the need to avoid the rule/list fallacy (i.e. redundancies must not be eliminated at all costs, see §1.2.1), I suggest that we do not dispense with the former restriction within the “archi- tecture” of grammar. Note also that Nakamura (1997) discusses a variety of adverbs from a Cognitive Grammar point of view but does not deal with “re- sultative” adverbs.

50. We have already seen that this does not imply that directed uses of motion verbs are impossible in Romance languages. They simply resort to alternative strategies (e.g. they make use of a temporal expression, see §2.2.1).

51. A sentence like *Sally arrived tired is impossible under the interpretation that the event of arriving (i.e. the culmination of the motion event) caused the event of Sally’s feeling tired. This is so because, when a causal link is sup- posed to exist between the verbal event and the process alluded to by the ad- jective, the two events must unfold together (see §2). This is clearly not the case under the intended interpretation of the sentence in question.

52. I do not exclude that there may be some speakers who find the sentences in (47) not completely impossible (see also Rappaport Hovav and Levin 2001). This may be due to their envisaging scenarios in which the subject refers
are construed as manipulators. This may be difficult (but not impossible) because, as it was made clear in the text, the subject referents are affected entities themselves.

53. A search with the search engine Google showed that cases of this kind do occur. For instance, a baby can be *gently loved into sleep*. This point will be discussed in §5.2.3.2.

54. It must be admitted that cases such as (33c) may be highly lexicalised (cf. *I love you to happiness*).

55. Resultative phrases referring to concrete entities do not occur with stative verbs:

(i) a. *John sat the grass flat.*
   b. *The bears sat out the winter in their cave.*

Sitting in (ia) implies the exertion of a force onto the surface where John sat. The impossibility of combining stative verbs with resultative phrases (referring to concrete entities such as *grasses*) may be due to the fact that we naïvely conceptualise forces as being dynamic, that is, linked to some kind of displacement. Further, note that the similar structure (ib) does not exactly code a causal relation: winter would have ended even if the bears had not been sitting in their cave. Hence, (ib) is not regarded as instantiating the same (intended) pattern as (ia), see §5.1.3.1 for details.

56. XP is more precisely what I will call a change phrase in the next section. Hence, I will replace XP with CP (for change phrase).

57. I use this term as a synonym for asymmetrical. At the level of specificity of the Force Change Schema, where fine-grained distinctions are ignored, an asymmetrical energy flow is conceptualised as a unidirectional one. This point will be illustrated in more detail in §5.2.3.

58. When I refer to the energy flow as represented by the thick arrow, I will use *F* (capitalised and italicised). When I refer to the whole forcible event (i.e. the force component), I will use *F* (capitalised only).

59. The terms *energy source* and *energy sink* are taken from Langacker (1991: 292).

60. *S* does not necessarily correspond to the state of being awake because the example is also compatible with the scenario in which the baby was already drowsy.

61. A search with the search engine Google gave only two occurrences for this combination.

62. The cognitive grounding of the schema appropriate for intransitive cases such as *The biscuits burned black*, i.e. the Event Change Schema (see chapter 3), consists in our viewing events as paths, see chapters 5 and 6.

63. Neither is it a necessary condition if we adopt the (broad) definition of resultative phrase (i.e. the notion of change phrase) to be given in the next section. Some change cases are not based on a causal relation between two subevents.

64. The options in (55) may be due to phonological and/or semantic factors, see §4.3.1.3.2.

65. This definition will be revised in order to account for the case of the allative at-construction, see §7.4.

66. See the discussion of (?) as regards both the need for the XP to be neither a subject nor an object and the concept of circumstance. Remember also (see §2.2.1) that, in this study, I will generally ignore cases where the CP is either an -ly adverb as in *Tom painted the room beautifully* or a noun such as *crack* in *Tom opened the door a crack*.

67. The tendency to avoid redundant information (and, if occurring, its interpretation in terms of intensifying or emphatic functions) has already been observed in connection with resultative sentences, see the discussion of (26b) in section 1.2.2.

68. Motion, in *shout a message up into leaves*, refers to that of the message, whereas the manner is “shouting”.

69. I am indebted to René Dirven for this point.

70. Emission verbs can also be combined with ablative prepositional phrases, that is, phrases headed by prepositions indicating origin. But the overall meaning can be quite different from that of the examples in (58). Consider:

(i) *She yelled out of frustration.* (Pesetsky 1995: 196)

(ii) means that the subject reference yelled because she was frustrated. Put differently, (i) illustrates that an activity (i.e. the emission of shouts) can be conceptualised as coming out from a *circumstance* (i.e. the state of being frustrated). When an activity originates from a circumstance, the circumstance is interpreted as being the cause for the activity. Now consider the following examples:

(ii) a. *Doing cartwheels and handstands out of sheer exhilaration.* (SOED)
   c. *Hummel ran a printing business out of a tiny office in the old town.* (SOED)

(iia) shows that the possibility of construing an activity as coming out of a circumstance is not limited to verbs of emission. (ib) demonstrates that the landmark of the prepositional predication is not always a psychological state but can refer to a *concrete object* such as money (Danegeld was the money...
An alternative explanation might rely on the different scenarios involved in the interpretation of the two sentences above. If screaming is the result of, say, fear or anger, moving into a room, either in order to relieve oneself from fear/anger or to put an end to its cause, is a more "specific" and complex event than moving away from the place (e.g. a room) where such emotions occur. The movement-into-the-room scenario involves two stages: (a) movement away from the location where distress is experienced and (b) either movement into a place which is regarded as safer or movement into the place which is associated with the source of distress (which does not need to correspond to the location where distress is experienced) with the aim of putting an end to it. The movement-out-of-the-room scenario, on the other hand, simply involves stage (a). It might be the case that the more complex and specific (i.e. less easily accessible or less entrenched) scenario associated with screaming and moving into a room affects the grammatical judgment of the sentences in (i).

In general, however, there seem to be two groups of speakers, those who do not require the existence of a (quasi-)causal link between a sound emission verb and a directional phrase and those who do. Interestingly, the former group of speakers (see Goldberg 1995, 1996) also allows for patterns like to whistle one’s way out of the pub under the interpretation that to whistle expresses the manner of action without implying that it was a means for going out of the pub (as in John bludgeoned his way across the room, where John moved across the room by hitting people).

71. A sentence like The truck rumbled into the driveway does not mean, of course, that rumbles went into the driveway.

72. It must be observed that, at least for some speakers, animate subjects of sound emission verbs can indeed sometimes be combined with change phrases without having to be interpreted as inanimate entities (via part-whole or container-contained relations) with respect to the verb:

(i) a. Sue screamed out of the room.
   (intended meaning: “Sue went out of the room screaming”)

   b. Sue screamed into the room.
   (intended meaning: “Sue went into the room screaming”)

Further, although the acceptability of sentences such as (i) varies among speakers, it seems that most of them perceive a contrast in acceptability between (ia) and (ib) to the extent that the former is judged better than the latter. In other words, it seems easier for an English speaker to associate screaming with leaving a room than with entering it.

There might be at least two reasons for the contrast in (i). On the one hand, we note that, if both the subject and the (sublexical) object reading were available in principle, then the sublexical reading for the prepositional phrase would be more readily available for (ib) than (ia). Out of the room does not denote any particular location (i.e. it simply stands for any location which is not the room), whereas into the room singles out a specific location (i.e.: a room), where we might easily assume that someone is sitting, for instance. Hence, it makes more sense to say that screams went into the room where a potential recipient can be easily thought of than out of the room. Other things being equal (i.e. both [ia] and [ib] lack a causal interpretation), the diminished plausibility of the sublexical reading for (ia), compared to (ib), might in turn make the subject reading for (ia) more easily available than for (ib).

73. Indeed, I have pointed out that many change constructions are lexicalised (see §2.2.5, for example, and also Boas 2000) and that less easily accessible scenarios, given the default value of the elements employed in a construction, may affect the acceptability of a change construction (see the discussion of *He fed the cat sick in §2.1.1 and the previous note).

74. Some exceptions are sgattaiolare ("run away quickly like a cat") and squaglierela ("run away quickly like a quail").

75. A similar example is (93i) in the next chapter.

76. I am not making any claims to originality here. The aim of this subsection is simply to motivate why I categorise so-called phrasal verbs (see Bolinger 1971 among many others) as change constructions, although this does not need to be the case with all phrasal verbs. For instance, on in He walked on is not regarded as a change phrase because it codes an aspectual feature (i.e. continuity), see McIntyre (2001) for a detailed analysis.

77. Langacker (1999: 62) notes that “relatively few expressions resemble [ia], in which every part of the subject participates equally in the profiled relationship, as does every part of the object. More typical are examples like [ib], where certain portions of the dog (notably the teeth and jaws) are directly and crucially involved in the biting … By the same token, only some (unspecified) portion of the cat enjoys the privilege of directly participating in the action.”
(i) a. The spacecraft is now approaching Venus.
   b. Your dog bit my cat.

78. The above-the-norm reading may correlate with up as a particle indicating
    completion. For instance, He ate the cake up implies that the whole cake was
    eaten, whereas He ate the cake does not.

79. Support for this view may also come from Hampe’s (2000) examples with the
    verb face:

    (i) a. Huge problems faced us.
        b. We faced huge problems.
        c. *Huge problems faced up to us.
        d. We faced up to huge problems.

First, the non-default situation of being in trouble is conceptualised as an up-
ward region. Second, such an above-the-norm region has a negative value
here (i.e. up is not always “good”).

80. I use this term both as a general label to refer to the grammatical status of a
    verb (i.e. it includes the notions of unergativity and unaccusativity) and, more
    specifically, as a label opposed to unergativity and unaccusativity. The con-
text disambiguates the sense in which the term is used.

81. An in-depth analysis of the notion of transitivity is beyond the scope of the
    present work, although this matter will be touched upon in §4.2. What needs to
    concern us here is that there exists an undeniable contrast in acceptability
    between such pairs as I laughed vs. I frightened *(the hikers). I will refer to it
    by saying that laugh is an intransitive verb and that frighten is transitive. But,
    as most (and possibly) all linguistic facts, even transitivity is matter of degree.

82. In this and the following chapter, I use the term resultative as implying the
    notion of causality independently of the distinction between states and posi-
tions.

83. The parentheses indicate optional material in the syntax.

84. It may be the case that resultative constructions are related to so-called PRO
    structures like (i) (see also Wierzbicka 1988):

    (i) John persuaded Bill to leave.

    In (i), the entity who is expected to leave is Bill, not John. Generative gram-
    mar captures this intuition by positing the existence of a phonetically null
    pronoun called PRO, which is coindexed with the matrix verb’s object, as
    shown in (ii):

correctly, as referring to abstract semantic representations and not syntactic ones.

89. A sentence like

(i) John followed Mary into the room.

which will be categorised as a change construction (see §6.4.3), implies two motion relations: one between y and z (i.e. Mary went into the room) and one between x and z (i.e. John went into the room). The latter crucially depends on the verb’s meaning. Further, in some cases there exists only one motion relation but the semantically linked elements are s and z rather than y and z; in John danced mazurkas across the room it is obviously John (x) that traversed the room (z), see §5.2.3.1 for details.

90. The conceptual relation between y and z has been indicated by making use of the two abstract predicates AB (for “ablative”) and AL (for “allative”). In this chapter I do not examine cases where neither ablative nor allative motion obtains (e.g. He was pushing the crate along the pavement). We must also bear in mind that the preposition into can be used atelically, as in The chauffeur was relaxing into his monologue (Ian McEwan, The Child in Time, 1992: 140), see §5.2.1 for details.

91. Relations such as above, below, etc. depend on the spatial axis chosen for orientation.

92. Quirk et al. (1985) do not define explicitly what they mean by abstract condition and circumstance (see below in the text), but exemplify them through (97a). However, we can take a noun referring to a circumstance as standing for a process (e.g. the circumstance noun fight stands for the process of fighting), see also note 97 below.

93. The conceptualisation of agents as spatial sources (as revealed by the use of the ablative preposition from) is very common in Football English (see Brocias 2001c), where we find expressions such as a goal from Beckham, a cross from Poyet, etc.

94. The preposition from, which is not discussed in the text, seems to be usually employed when “a material is changed into a completely different form” (Swan 1995: §328), as in Paper is made from wood and My mother makes wine from blackberries. From is also used to introduce spatial locations conceptualised as points (c.f. Sally came back from England last December vs. Sally came out of the room).

95. A verb like jump can of course be used in the progressive. The point here is that the progressive usually implies that more than one instance of the action named by the verb (i.e. repetitive jumps) took place.

96. This of course means that on and in are categorised (by either the analyst or the language-user, or both) as static prepositions and their dynamic interpretation is attributable to the dynamic construction(s) in which they occur. In other words, if we want to distinguish between lexical and constructional semantics, it may be the case that the meaning of lexical items is very specific (i.e. minimal, representing an abstraction over a wide range of possible collo- 
cational contexts). On the other hand, more specific meanings may be better analysed as constructional meanings. To be sure, the distinction is a matter of degree.

97. Further, one could argue that sleep refers to a circumstance and, hence, requires the preposition into.

98. To this group probably belong also sentences such as They went out into the street, where street is construed as a three-dimensional location. I regard visual perception locations as being instances of metonymy. For example, the light in Come over to the light where I can see you stands for “an area that is not dark” (LDELC). This of course does not prevent a visual perception location from being used metaphorically. For instance, the darkness in He disappeared into the darkness does not only refer (metonymically) to an area that is dark but also implies that the subject referent went away (i.e. motion into a dark area stands metaphorically for the event of going away). However, note that such a metaphorical interpretation stems from the use of the verb (cf. He was sitting in the darkness, where no metaphorical interpretation obtains).

99. I have dubbed such a location emission location in Table 3.1 below.

100. This line of reasoning is ignored by Rivière (1995).

101. One could suggest that an examples like (114) is deviant because two changes took place (i.e. the coat’s change of shape and the acquisition of the property elegance on the part of the coat). Consider however the following two examples:

(i) a. He cut elegance into the old coat.  
    b. Sally cut the salami into the bowl.

(ii) implies just the same two changes as (114) is intended to and (ii) also describes two co-occurrent changes, namely the change of state of the salami and its motion into the bowl.

102. It must be stressed that the phrase completely thin is by no means impossible. When one says that thin is not a maximal endpoint adjective one refers to a process (e.g. the circumstance noun fight stands for the process of fighting), see also note 97 below.

103. The conceptualisation of agents as spatial sources (as revealed by the use of the ablative preposition from) is very common in Football English (see Brocias 2001c), where we find expressions such as a goal from Beckham, a cross from Poyet, etc.

104. The conceptualisation of agents as spatial sources (as revealed by the use of the ablative preposition from) is very common in Football English (see Brocias 2001c), where we find expressions such as a goal from Beckham, a cross from Poyet, etc.

105. I am indebted to René Dirven for many of the points raised here and in the following paragraphs of this section.
lowing the adjective *heavy* might contribute to the choice of the latter (in place of the adverb *heavily*), as is also argued, for other examples, by Napoli (1992). She notes that additional, related material placed after (see also [8]) below a usually impossible or deviant adjective improves acceptability. Three examples showing that adjacent (but not necessarily preceding) material affects grammaticality are offered in (i). They are usually regarded as being colloquial (see also example [215] at the very end of chapter 4).

(i) 
- a. He painted it *all* nice.
- b. He painted it nice *and* shiny.
- c. He painted it real(y) nice.

106. In Tom put the book down on the table the book is both down and on the table, but the latter prepositional phrase specifies the general location indicated as down. This is reminiscent of what happens with multiple stative prepositional phrases; they are possible if they can be interpreted in a stacked fashion (i.e. one specifies the location indicated by the other, see Verspoor 1997 among others), as (i) shows:

(i) *Mrs Rose-Cottage’s eldest* Mae, peels off her pink-and-white skin in a furnace in a tower in a cave in a waterfall in a wood … (Dylan Thomas, *Under Milk Wood*, 1995: 16)

107. In *Chris washed his shirt, his shirt indicates the location out of which dirt, for example, is intended to be removed. For this reason, I have said in §4.1 that the transitive object referent can (but must not) be the trajector. In the example under discussion, the transitive object referent is the landmark of the motion scenario. Interestingly, Italian, although lacking resultative constructions in general, licenses the use of sentences similar to (134a):

(i) *Ho lavato via le macchie dalla camicia.*

This may be taken as evidence of the fact that resultative constructions with wash verbs are different from those with verbs like frighten, beat, and kiss. Verbs of removal imply a change component by themselves. Nevertheless, this does not mean that examples like (134a) cannot be classified as resultative constructions, as suggested by Levin and Rappaport Hovav (1995). One thing is the definition of what a resultative sentence is, another is the fact that a verb may code a resultative component by itself.

109. As it will emerge from the discussion in §4.2, “obligatorily” transitive verb stands here for a verb with a very low potential for evoking a motion scenario involving the subject and the subcategorised object referents.

110. A similar line of reasoning applies to to *hammer a hole through the door, to paint the brush to pieces, to sweep the broom to pieces* (based on Ioaoas 2000).


112. *Over the line stands fort into the net, the line being the white line separating the inside of the net from the rest of the pitch.*

113. The term “null object” is used here both in a syntactic and in a semantic sense. It refers, as is mentioned in the text, to the absence of any object noun phrase in the syntax (i.e. the verb is syntactically intransitive) and yet the verb in question is necessarily understood with reference to an affected entity (i.e. the ball). A sentence like *He headed a goal* (i.e. “He scored a goal by hitting the ball with his head”) is not said to contain a null object because a goal is viewed as an object noun phrase in the syntax although, semantically, the affected entity is “ball”, of course.

114. I am not saying that all verbs that can be used with a null object in a change construction are verbs of emission. For example, an article in the magazine *National Geographic* (July 2001) shows the picture of a bear with its mouth wide open. The caption (page 3) reads: “Don’t be afraid. Brody the trained bear opens wide on command.” Open is difficult to categorize here as a verb of emission; rather, it describes an action performed on one’s own body. Such a use may derive from imperative forms, in which null objects are frequent (see Aarts 1995):

(i) *Open wide, please!* (said, for example, by a dentist to her patient)

115. The difference between a verb construed as an emission verb (such as *head* and a “true” emission verb (such as *laugh*) is that the latter allows the emitted substance not to be expressed at all. On the other hand, a verb construed as an emission verb requires the addition of a spatial phrase if the emitted substance is left out in the syntax (unless a noun such as *goal* as in *He scored a goal* is used, see note 113). Note, however, that the spatial phrase does not need to be a prepositional phrase, as is made clear in the text (cf. the example to *head the ball wide*).

116. (161c) is not a resultative construction as this term is used here (i.e. a causal change construction). Nevertheless, (161c) is covered by the motion scenario implication because the motion scenario implication refers to change constructions.
117. The ending -s occurs with all persons in the present tense in “parts of the north of England and especially the south-west and South Wales” (Hughes and Trudgill 1996: 26).

118. Telic events imply an endpoint (see Chierchia [1997] for an overview):

(i) a. The cut will heal up [in a week/*for a week].
   b. He built a house [in a month/*for a month].
   c. He pushed the cart [for an hour/* in an hour].

As the test with prepositional phrases headed by for shows, the eventualities described in (a-b) imply that a final point either will be or was reached. On the other hand, (c) does not describe a bounded (i.e. culminating) event: the action of pushing may have been going on indefinitely.

119. On the need to distinguish between two subcomponents see also Bowers (1997), Levin and Rappaport Hovav (1999), Rappaport Hovav and Levin (1999). They do not tackle however the complexities involved in the intransitive cases and, more in general, the intricacies of transitive nonforcible events (see next chapter for details).

120. Wechsler (see also Kennedy 1999) classifies as non-gradable adjectives like dead, triangular, invited, sold (cf. ?very/quite/extremely (dead, triangular / invited, sold); ?more (dead, triangular / invited, sold)). Gradable adjectives (cf. very/quite/extremely (long, flat, expensive/straight/full/dull); longer, flatter, more expensive, straighter, fuller, diller) can be divided into closed-scale adjectives and open-scaled adjectives. The former, such as full, empty, straight, dry, are associated with a scale with a maximal value (cf. completely full/empty/straight/dry). The latter, such as long, wide, short, cool, do not allow the identification of a maximal value (cf. ?completely long/width/short/cool). Closed-scale adjectives are further divided into maximal endpoint adjectives and minimal endpoint adjectives. With the former, in the absence of a contextual standard, the standard defaults to a maximum (e.g. dry, clean, flat); with the latter, in the absence of a contextual standard, the standard defaults to a minimum (e.g. wet, dirty) and are, thus, de facto open-scale adjectives.


Clearly, “resultative” is here a synonym of causative transitive change construction: some change (independently of the conceptual distinction between states and positions) occurred which was brought about by the entity referred to by the constructional subject. For convenience’s sake (i.e. cross-reference to Rappaport Hovav and Levin’s work), I use here the term “resultative”, although it should be clear to the reader that “resultative” is not employed stricto sensu (as in Levin 1993), but as a synonym for “causative change construction”.

122. In §2.2.5 I have categorised rock as a verb which implies an energy transfer (i.e. a force verb). Rappaport Hovav and Levin use the term verb of exerting force in a more restricted sense, that is as indicating the actions of pulling and pushing. The distinction however is immaterial for the conclusion drawn here. Temporal dependency relies not on the distinction between verbs of exerting force versus verbs on non-exerting force but on the nature of the affected entity (concrete versus abstract, see comedy) and the type of the predicated state (see below in the text).

123. Remember also the contrast between ?Sue screamed out of the room and ??Sue screamed into the room discussed in chapter 2, note 72.

124. The implication as it stands does not exclude (really occurring) sentences such as:

(i) Sally rubbed her eyes into wakefulness.

which is a possible (although perhaps literary) variant of

(ii) Sally rubbed her eyes awake.

125. Note also that verbs used in intransitive examples are usually “basic” as well. More specific verbs such as titter and insult are context-dependent, see (163e).

126. For example, Wechsler states that triangular and tubular do not combine with very, thus showing that they are non-gradable adjectives. In fact, really occurring data (obtained with the search engine Google) show that triangular and tubular do combine with very:?

(i) a. A very triangular roof, the gable allows rain and snow to run off easily.
   b. Scotch Thistle stems are very triangular and the plants have a fuzzy whitish appearance.
   c. It [the snake] was very triangular, featuring excellent tip fill.

(ii) a. The shape [of these seeds] is very tubular, featuring excellent tip fill.
   b. I [the snake] was very tubular (worm-like).
   c. Garfish are very tubular and slender with a readily distinguished beak-like elongation of the lower jaw.

127. Note that adjectives like long and wide do appear in resultative constructions:

(i) a. He opened the door wide.
b. He stretched the reins long.

Wide and long in (i), however, do not refer to the properties “width” and “length”, respectively. Wide in (ii) refers to a position. It describes the fact that the door is wide open, not the fact that the door has the property of being wide. Similarly, long in (ib) refers to the fact that the reins were taut (i.e. not slack). To put it differently, it refers to the state of the reins being taut, not to the property of the reins being long.

128. I am aware of the fact that what constitutes a property may be a subjective notion. The SOED, for instance, defines a property (sense 2 of the noun property) as “[a]n attribute, quality, or characteristic, esp. an essential one; an inherent power or capacity, a virtue”. Of course, such a definition is not very satisfactory (it implies, for example, that we agree on notions such as attributive and quality but the cases considered in this work, even when the notion may prove ambiguous, can all be motivated. Hence, I will not attempt to investigate what a property is in more detail.

The latter structure shows that shoot can be construed as a force.

130. It must be borne in mind the notion of change complex is more general and is a convenient label to refer to the change component in the Event Change Schema. In other words, it refers to the change relation existing between a trajectory and a landmark.

131. It seems that landmarks in the change complex can be omitted with in, out, away, and off only if the landmark refers to a physical location (or entity) and no act of creation is implied, cf. She talked me out *(of taking drugs), She ordered me out *(of the room), She cut a toy out *(of that piece of wood). But since the use of prepositions is a rather intricate area, I will not pursue this matter any further here.

132. A potential example not involving a verb of separation might be the following:

(i) [John] managed to buy himself out of the navy. (CPV)

To buy oneself out of the armed forces means that one pays a sum of money so as to obtain one’s release from the armed forces. It seems that when John bought was (the condition of “himself (being) out of the navy”, so to speak. But, at closer inspection, we can also say that John bought the navy since buy can mean “win the favour of somebody by money” (see sense 4 of the verb buy in the SOED and note that modern English prefers to buy off, although the practice of buying oneself out of the armed forces need not necessarily be dishonest (i.e. it can be provided for by the army regulations). In this sense, a metonymic link obtains as was the case for (202): John bought the favour of the army.

133. Head is a synonym of head, which was used in the example discussed in the text above.

134. Although generative approaches to resultative constructions do not deal with cases such as (201b), (202), and (203), they often invoke the notion of small clause (see Larson 1988; Roberts 1988; Aarts 1992; Carrier and Randall 1992, 1993; Mateu 2001 among many others). His feet sore in He danced his feet sore is analysed as a small clause because, like a clause, it involves predication, but lacks aspectual/tense features. The concepts of change complex and change component are therefore reminiscent of the notion of small clause.

135. Remember that I have hypothesised that the objective affectedness generalisation applies to both subcategorised and unsubcategorised arguments, see §3.3.2.

136. Constructions such as He snapped the stick broken are not counterexamples to the part-whole generalisation for at least two reasons. First, one might argue that broken ultimately refers to a spatial configuration obtaining between parts of the affected entity rather than describing a property of the affected entity. Second, and more importantly, the example under discussion does not contain a resumptive phrase. It is not the case that the event of snapping the stick caused it to break. Rather, the event of breaking the stick caused the stick to emit a snapping sound.

137. As pointed out above, this may also be the reason behind the use of heavily in He loaded the cart heavily. A large number of crates on the cart, for example, by default suggests (or implies) “heaviness”. More problematic are the two options in He cut the bread (thin/thinly). The adverb may be possible because it describes the verbal event (i.e. the subject referent inserted the knife very close to the external surface of the bread, which of course produces thin slices).

138. This generalisation also applies to impossible sentences such as *He rubbed the table wet, which should be acceptable within Wechsler’s (2001) approach.

139. What counts as an expected consequence is a matter of world knowledge (i.e. entrenched scenarios). He danced his feet sore does not seem to negate an expected consequence if too much dancing took place, whereas *He wiped the table wet does (i.e. we expect the table to be clean, not wet). This might be so because the latter sentence, in order to be compatible with the part-whole generalisation, should imply that the whole table ended up wet. But this situation probably obtained only if a lot of wiping was involved and we tend by default to correlate a lot of wiping with a very clean state of the affected entity, not with its being wet. Further, if the intended scenario described by *He wiped the table wet occurred frequently, the grammatical status of the sentence in question would improve significantly.

140. For simplicity’s sake, I have ignored $T$ in the upper box. Such a convention applies in general when either $S$ or $T$ are not symbolised by an adjective or preposition’s complement.
Even if the allegedly unsubcategorised constructional object were used with the verb in isolation (e.g. *She kissed his tears*), the clause would be interpreted as a “reduced” change clause. On the other hand, a sentence like *She kissed him* is not necessarily interpreted so.

This label is mine.

For simplicity’s sake, I have not linked the prepositions appearing in the examples (221a), (221b), and (218a) to conceptual components.

As usual, the manipulation has not been emboldened because it is not symbolised syntactically.

Note that mildly causal examples are only apparently similar to causal ones such as *Vialli nodded Chelsea level* and hence require a different arrangement for their constitutive components. Whereas Vialli’s nodding the ball into the goal necessarily causes Chelsea to go level (cf. *The fact that Vialli scored a header caused Chelsea to go level*), this is not the case with *Sam cut the salami into pieces caused the salami to go into the bowl* (cf. ??The fact that Sam cut the salami into pieces caused the salami to go into the bowl*).

1. (i.e. “intransitive subpart”) indicates that the intransitive variant is a proper subpart of the transitive construction (see Goldberg 1995: 78-79).

Asymmetric change constructions, on the other hand, are easily dealt with in Fauconnier and Turner’s blending analysis (see Fauconnier and Turner 1996 for details).

Goldberg (1995) uses the term generalisations to refer to those “mechanisms” that limit the “generative power” of the CMC and the term constraints for their analogue in the case of the RC. Of course, such a choice is unfortunate because generalisations and constraints are not usually regarded as synonyms and, hence, their place within the theory developed by Goldberg is far from clear.

The label Generalisation 0 is mine.

In other words, if a verb does not denote motion by itself (cf. *ask and beg*), then the object must be presumed to move. This is not the case in (235b) because the object referent’s motion ultimately depends on its decision (see Goldberg 1995: 168). The reader may correctly argue that in (235a) the motion also depends on the object referent’s decision (versus Generalisation 1). This apparent paradox can be solved by observing that cognitive decisions are allowed to the extent that (a) the object referent views himself or herself as a manipulable entity and (b) the verb can be construed as implying a force (see the text below for more details).

(236a) is “acceptable since paying for and arranging a ticket for someone else are conventional ways to have someone travel for interviews” (Goldberg 1995: 169). The reader may correctly argue that in (236a) the motion also depends on the object referent’s decision (versus Generalisation 1). This apparent paradox can be solved by observing that cognitive decisions are allowed to the extent that (a) the object referent views himself or herself as a manipulable entity and (b) the verb can be construed as implying a force (see the text below for more details).

(236a) is “acceptable since paying for and arranging a ticket for someone else are conventional ways to have someone travel for interviews” (Goldberg 1995: 169).
163. Of course, we must motivate why "Sally cooked the cookies dirty" cannot be an instantiation of the Event Change Schema. This issue will be discussed in §6.2. Note also that the only way in which a manipulator can correspond to the theme in a Force Change Schema is when a reflexive is used (e.g. Sally cooked herself dirty). However, the correspondence is here indirect since it is mediated by the reflexive pronoun (which makes the construal of the manipulator as a manipulee explicit).

164. For simplicity’s sake, I will not distinguish between an event causing another to actually occur and an event causing another to potentially occur (as in Sally punched out at five but didn’t leave the office until six). The crucial point captured by the proposed schemas is the existence of a relation (or lack thereof) between two events irrespective of the actual or potential occurrence of one of them. Note also that the motivation for the use of a given construction (i.e. a compositional causal analysis for the sentence under consideration) may become opaque to the language-user and be recovered only by the analyst (see, for example, the discussion of sit something out in §5.1.3.1 below).

165. Of course, insofar as clock in (255b) is analysed as a force dynamics verb, (255b) can also be analysed as an instantiation of the Event Force Change Schema. Alternatively, we could argue that (255b) is linked (with different weights) to both the Event Change Schema and the Event Force Change Schema (see section 3 below on the notion of multiple linking).

166. Notice that the particle off in (259) is not necessary; one can also slam into a room:

(i) Eduardo... slammed into the kitchen with a drawn face. (SOED)

Nor is allative motion necessary:

(ii) She slammed out of the office. (The New Penguin English Dictionary)

167. As for temporal coextensiveness, we can argue that the slamming event and the entering event coincide, both being punctual. If the slamming event were not punctual (because, for example, more than one object was affected), the slamming event would be interpreted as occurring throughout the displacement event. The situation is reminiscent of She drank Pina Coladas well into her twilight years, where the drinking event is construed as obtaining throughout Sally’s life (although, strictly speaking, there were several instants when she did not drink during her life).

168. If one wants to include the change component implicit in the verb tear, one can represent it vertically (relative to the horizontal force arrow) as was done for the relations represented in the F component in Figures 45-47.

169. Of course, it cannot be an instantiation of the Event Force Change Schema because two domains (that of the creation of biscuits and that of the subject referent’s change of state) are involved.

170. No page numbers are included because no page numbers are present in the quoted edition.

171. Even though the verb eat in Figure 55 denotes a force dynamic event, I have not used a force arrow in the event component (i.e. the lower box on the left) for the sake of generality (i.e. the to the point of construction is also compatible with non-forceful events).

172. The change component in the upper half of the diagram is meant to represent the change of position depicted by the change component in the lower half as an abstract change (i.e. a change of state). For the sake of simplicity, I have not represented such a correspondence in Figure 60.

173. A similar example is the following:

(i) I saw Macbeth squinting into night air... (Alan Warner, These Demented Lands, 1998: 205)

(ii) I saw Macbeth sit something out... (Lands, 1998: 205)

(i) implies that Macbeth acted on his eyes so that the imaginary rays coming out of them were directed to some location in the night air.

174. Unfortunately, I have no explanation for this generalization. One might be tempted to suggest that the change phrase is predicated of the entity in motion rather than the emitted sound because the entity in motion is visible, whereas the emitted sound is not. In other words, sight might have primacy over hearing in the choice of trajectors.

175. Similarly, the sentence They cut a cave into the hill implies that only a part of the hill was affected.

176. This chapter is an extended and revised version of Broccia (2002). It is reprinted with permission.

177. One could also use the term instrument in motion to refer to the peculiar conceptualisation of shots in Sally shouted at Tom. I have chosen the label force in motion in order to make the notion of affectedness more explicit (e.g. Tom’s key in Penny opened the door with Tom’s key codes an instrument, but it sounds odd to say that the door was affected by the key). The reader must be aware that this is only a useful label and may reflect a naïve view of physics, of course.

178. In either case, at-constructions usually imply intentionality on the part of the subject referent (but see [300] for example).

179. Remember also the contrast between ??Sally laughed into the room (under the interpretation that Sally went into the room laughing) and The fly buzzed out of the window. The acceptability of the latter sentence seems to be due to the fact that the subject referent is conceptualised as a moving entity by default, whereas this is not the case with a human entity like Sally (see end of §6.4.4).

180. Figure 71b can be taken as a more detailed representation of the F component of the Force Change Schema, of course.
181. I have represented the path arrow $P$ as a dashed arrow so as to indicate graphically that the theme does not necessarily end up making contact with the target. I have also represented the arrow point as touching the target circle (and not entering it), because the notion of inward motion is not relevant for at-constructions. They are concerned with objects as surfaces.

182. This observation also applies to the Force Change Schema, of course.

183. I do not exclude alternative types of categorisation for the force in motion component. My main concern here is to point out that the force in motion component differs from the change component only in that the former constitutes the emitted substance as a force.

184. Of course, if spank does not refer to the punishment scenario described in the text (viz. a mother spanking her child in order to punish him for something he did), the verb can be used both in the ablative at-construction and in the allative at-construction. The former use occurs, for example, when spanking is regarded as a source of sensual pleasure and the latter when spank refers to an action which resembles the event of spanking, as in (i) (obtained through the search engine Google):

(i) Even though I know what is coming I find myself with my back buckling and arching like the recipient of an emergency room defibrillation, my hands helplessly grasping and spanking at my own legs and the cool slick sides of the porcelain sink.

(www.dirtdirt.com/20000725.htm)

185. I have represented the change of state as an inscribed arrow instead of an arrow starting from the affected entity and ending up in a location referred to as target (see Figure 21 in chapter 5 for example) purely for graphical reasons. The arrow has been dashed to represent that the change of place does not always occur.

186. Subjectively here means from Sarah’s point of view.

187. I have not considered here a further problem for Pesetsky’s approach, namely the fact that his solution does not account for some backward binding facts, although he extensively discusses this matter as supporting evidence for his theory. Pesetsky’s model makes correct predictions if the anaphoric referent is explicitly mentioned in a sentence, as in Pictures of himself annoy John, but does not if the anaphoric referent is not mentioned, as in Pictures of myself annoy Mary. In the former sentence, the subject would be generated below the object thus satisfying the required c-commanding relation between John and himself. But this clearly cannot explain the acceptability of the latter sentence. Kuno (1987) has demonstrated that backward binding facts are better captured within a functional approach (see also Broccias 1997; van Hoek 1997).

188. Remember also that the impossibility of categorising the similar verb frighten as a verb of emission (not necessarily of force emission) prevents the use of such a verb in resultative structures like *The bears frightened the camp-ground empty (see chapter 4).

189. At-constructions often denote atelic processes. Such an interpretation can be made explicit by accompanying the prepositional phrase with the particle away (see also Jackendoff 1997), as in (i):

(i) Chris was working away at his thesis.

I refer to (i) as the away at-construction. I leave open to future research a detailed investigation of such a construction. It seems to me, however, that it can be taken as a syntactic variant of the ablative at-construction; away merely makes the continuous interpretation explicit.

190. See note 16 on the notion of circumstance.
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