Chapter 2:
The descriptive framework

2.0 Introduction

The introductory chapter (chapter 1) contained a presentation of the notions of Grammatical Constructions, Mental Spaces, and Conceptual Blending. In this chapter I will describe how these various theoretical elements are combined to define the process of *grammatical blending*. The characterization of grammatical blending processes in this chapter is an adaptation and extension of the blending analysis of grammatical constructions proposed in Fauconnier and Turner (1996). The presentation in this chapter identifies the different conceptual and linguistic constructs involved in the process of grammatical blending, and characterizes sentence generation and interpretation as operations of linguistic "integration" and "de-integration" respectively. This chapter also introduces the graphic and conceptual notation I will be using in the rest of the dissertation for analyzing blending operations in Hebrew, English and their interaction in translation.

2.1 The processing of syntactic constructions.

Fauconnier and Turner (1996) make the point that simple sentence structures can be used to linguistically express a complex sequence of events by *blending* together elements from the event sequence with the simple sentence structure (the construction). The blending is possible if we can find correspondences (similarity) between the original sequence of events and the semantics expressed by the grammatical construction.

The authors discuss one particular grammatical construction, analyzed by Goldberg (1995): the English Caused-Motion construction. The construction, as Goldberg suggests,

has the syntactic form [NP V NP PP][1], and is independently associated with a semantic event schema of caused-motion ("X causes Y to move Z") (see discussion in chapter 1.2.1). Some verbs, like *throw*, already specify in their semantics a caused-motion event, and occur prototypically with the syntactic form [NP V NP PP], as in:

(1) Jack threw the ball into the basket.

Fauconnier and Turner point out that example 1 actually integrates a whole causal *sequence* of events: Jack acts on the ball; The ball moves; The ball is in the basket. The verb *throw* itself specifies both Jack's action and the ball's motion, and the fact that they are causally integrated. But, in English, the syntactic form [NP V NP PP] can also be used with verbs which themselves do not specify caused motion. These verbs typically specify one particular predicate within the caused-motion event. For example, in sentence 2, the verb *sneezed* specifies only the agent's action.

(2) Rachel sneezed the napkin off the table.

In example 3, the verb *trotted* specifies the manner of motion of the moving object (the horse)[2]. The agent's action is not specified.

(3) She trotted the horse into the stable.

And in example 4, the verb does not specify either the agent's action (for example, the commander signing a form or opening the door), or the resulting motion. The verb *let*

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[1] Goldberg (1995) defines the construction on the basis of grammatical *functions* ([SUB [V OBJ OBL]]), rather than grammatical categories ([NP [V NP PP]]). A grammatical function definition allows the association of the same semantic content and blending analysis with grammatical "transformations" of the construction (such as the passive "transformation"). The discussion in chapter 6 of this dissertation suggests however that passive sentences in Hebrew are generated based on *independent* blending operations which are grammatically marked separately from the active forms.

[2] In example (3) the 'trotting' could be attributed metonymically to the trainer as well. The trainer might be riding the horse, in which case though technically only the horse is trotting, one can also attribute the motion to the rider. The trainer could also be walking, holding the horse's bridle, in which case the 'trotting' cannot be attributed to the trainer (Fauconnier & Turner, 1996).

rather specifies the causal relationship between the commander's (unknown) action and the motion of the tank (specifically denoting the removal of restraint and enablement).

(4) The commander let the tank into the compound.

Fauconnier and Turner suggest analyzing these examples as cases of blending between a *prototypical (basic) instance* of the caused-motion construction (as in *Jack threw the ball into the basket*) and a novel conceived caused-motion sequence of events. One input structure (Input 1) is the causal sequence of events conceived in the world (and intended to be communicated). The second input structure (Input 2) is a schematic representation of a prototypical caused-motion event (such as *throwing*). The blending between these two input structures (Input 1 and Input 2) is based on conceived structural similarity. The resulting blend is an *extension* of the basic (prototypical) use of the construction.

In my analysis of grammatical blending operations, the blending is performed *not* between a *prototypical instance* of the caused-motion construction and a conceived caused-motion event sequence, but rather between an *abstract representation of the Caused-Motion construction* and the conceived caused-motion event. That is, in my analysis, one of the input domains to the blend (Input 2) is not a representation of any actual sentence in the language, but rather a representation of the construction's form and semantics - a conceptual schema that is *abstracted* from all instances of the construction[3]. It is only through the blending operation that an actual (phonological) form in the language is generated. Prototypical and non-prototypical instances of a construction are hence all different outcomes of blending operations which differ from each other in the level of entrenchment and frequency of use. The significance of this method of analysis for

[3] The representation of the construction is a *schema* in Langacker's terms with respect to any actual instantiation of the construction in the language. According to Langacker (1987), "Structure *A* is a schema with respect to structure *B* when *A* is compatible with the specification of *B* but characterizes corresponding entities with less precision and detail" (p. 492). The sub-ordinate structure (*B*) is termed an *elaboration* or *instantiation* of the schema (p.68). In the blending analysis, the *blend* (the actual sentence communicated in the language) is an elaboration of the construction.

grammatical blending (in contrast to the original proposal in Fauconnier and Turner, 1996) will become clear in the discussion of Hebrew constructions (chapters 4-6), where no one instance of a syntactic construction can be defined as more *basic* than others. Rather, each instance of a given construction is an outcome of a blending process (where the blending operation is morphologically marked in the main verb).

2.2 Blending operations in the generation of simple transitive sentences.

To illustrate the process of grammatical blending, I will start with a simple example - the grammatical blending operations that underlie the generation of basic transitive sentences in English, such as example 5 below. I will then present the blending analysis of English Caused-Motion sentences, following Fauconnier and Turner (1996). An important claim I will make is that the *same type* of blending operations underlie the generation of the most basic, prototypical sentences (such as example 5), and the more creative instances of the language (such as the Caused-Motion examples (2-4) discussed in the previous section).

Figure 2-1 illustrates the blending operation underlying the generation of sentence 5:

(5) Seana kissed Danny.

The general layout of the figure is the one to be used in the rest of the dissertation in discussing grammatical blending operations in English, Hebrew, and translation. I will therefore go into some detail at this point describing the conceptual and graphic notations used in Figure 2-1.

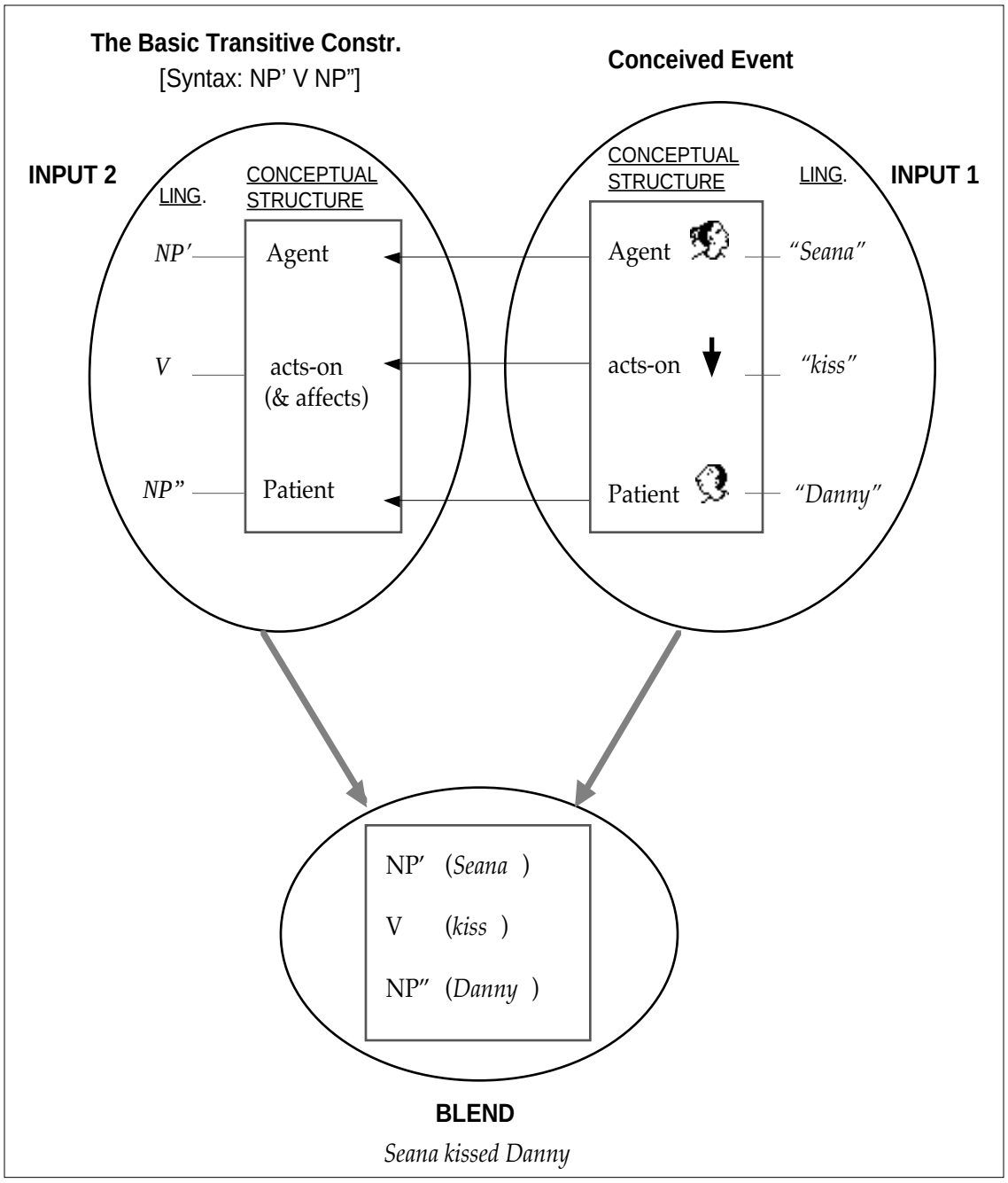

Figure 2-1: The blending operation underlying the generation of the English sentence *Seana kissed Danny*.

On the right side of Figure 2-1 (Input 1) is a schematic characterization of the actual conceived event in the world. There is a person (Seana) who is acting in an agentive way on a patient (Danny). The event is portrayed in the figure by a semantic frame-type representation, where each participant or activity conceived in the world is illustrated with a small icon and identified as an instance of a more generic semantic "role", such as 'agent' or 'patient'[4]. The entities and activities conceived in the world can be further associated with lexical items which conventionally symbolize them in the language: the agentive person, identified as Seana, is associated with the lexical item "Seana"; the patient, identified as Danny, is associated with the lexical item "Danny"; and the activity Seana performs on Danny is identified as "kissing".

Independently of what the speaker conceives in the world, it is assumed that the speaker also has the knowledge of what syntactic constructions are available in her language - in particular, the English Basic Transitive construction represented in Figure 2-1 in the left circle (Input 2). The syntactic form of the Basic Transitive construction is [NP V NP], and its associated prototypical semantics is of an ‘agent acting on and affecting a patient’ (this semantic schema represents the basic "transitive" event as discussed, for example in Givón, 1984[5]). Each semantic role in the construction's semantic schema (e.g.,

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[4] Clearly the event conceived in the world is much richer than the representation in Figure 2-1. However, for the purpose of discussing *grammatical* blending operations, only those aspects which are represented in the sentence will be graphically represented in the figure. Talmy (1978, 1983) observes that grammatical forms represent only *certain* categories cross-linguistically, in particular space and time (hence also location, and motion, force and causation). But, more importantly, they are not free to express just anything within these conceptual domains; rather they are limited to particular aspects and combination of aspects (ones which Talmy suggests constitute the “structure” of those domains). For example, Talmy (1978:2) notes that locative (motion) prepositions such as ‘through’ never specify the kind of *substance* making up the medium. Aspects such as substance will therefore *not* be represented in a *grammatical* blending analysis. As will be discussed later, these aspects however play an important role in the cognitive *elaboration* of blends, and they may show up in the choice of lexical items during translation into another language (see examples and discussion in chapter 8).

[5] This semantic schema clearly represents only the most prototypical use of the basic Transitive construction (see further discussion in section 4.1.1 of this manuscript). A full description of the semantics of any grammatical construction involves a *network* of extensions to the prototypical sense (as suggested in Lakoff 1987, Langacker 1991b, and Goldberg 1995). It is analogous to a description of a prototypical sense of a lexical item which nearly always involves a network of polysemous and metaphorical extensions.

"agent", "patient") is conventionally associated with a grammatical role in the syntactic pattern: the agent role is associated with the first NP (or the *Subject* NP); the patient role is associated with the second NP, and the action is associated with the verbal slot of the syntactic form.

The speaker, we suggest, mentally observes the structural *similarity* between the two input domains (the conceived event in the world and the semantic structure of the Transitive construction), and thus chooses the Transitive construction as the syntactic form by which to express the conceived event. The speaker then maps participants from the conceived event in the world onto semantic roles in the chosen syntactic construction based on the observed analogy. For example, the agent 'Seana' in the conceived event is mapped onto the agent role in the syntactic construction, and the patient 'Danny' onto the patient role in the construction. The arrows in Figure 2-1 depict this conceptual mapping operation.

Following the conceptual mapping, a *linguistic* mapping takes place as well: the mapping of two conceptual-semantic roles onto one another triggers the *formal* (*linguistic*) mapping of the *linguistic forms* associated with the two analogous roles. For example, since the agent 'Seana' in the conceived event (in Figure 2-1) is mapped onto the agent role of the Transitive construction, the linguistic form associated with the agent Seana (i.e., the lexical item "*Seana*") is mapped onto the linguistic form associated with the agent role in the syntactic construction (i.e., the first NP slot).

At the bottom of Figure 2-1 is the resulting *linguistic blend*, which corresponds to the actual linguistic form expressed in communication. The syntactic form of the blend is inherited from Input 2 (the integrating construction), and the lexical items are inherited from Input 1 (the conceived event). Following the mapping operation (discussed in the previous paragraph), in the blend *Seana* is linguistically expressed as the first NP (i.e., *Seana* is the first word in the generated sentence), *Danny* as the second NP, and so on.

Note that each input ‘space’ in Figure 2-1 embodies both a *conceptual-semantic* content

(represented by the semantic roles and frames), and symbolic *linguistic* content (the lexical items in Input 1, and syntactic roles in Input 2). The two structural levels (conceptual-semantic and linguistic) correspond to Langacker's notion of *semantic* and *phonological* poles respectively (Langacker, 1987[6]). To simplify the blending diagrams in this thesis, the two "poles" are represented together in a single 'space'. My analysis in the coming chapters will concentrate on *linguistic* blending operations, but it is important to keep in mind that all the examples I will discuss actually involve mapping and blending operations at two distinct levels: both at the conceptual-semantic level, and at the linguistic-phonological level, where the blending at the conceptual level is what motivates blending at the linguistic level in sentence generation, and vice versa in sentence interpretation.An interesting point to note is that the blending operation underlying the generation of sentence 5 (as illustrated in Figure 2-1) is hardly noticeable to language users. This is probably because the blending operation in sentence 5 is entrenched, and the mapping involved is direct and simple. In the next section, I will discuss the blending operations underlying the processing of Caused-Motion sentences in English, following the analysis by Fauconnier and Turner (1996). As we will see, the mapping operation involved in the generation of these Caused-Motion sentences is not as simple and direct as in sentence 5. One reason is that in sentence 5, a *single* lexical item (*kiss*) has been used, which conveniently represents the *whole* event conceived in the world. The mapping between the syntactic form and the lexical items associated with the conceived event is therefore simple and direct. In the Caused-Motion sentences 2-4 in contrast, the event sequences conceived in the world are not conventionally represented by a single lexeme in the current English lexicon, and therefore their expression via a single clause structure involves a more creative (and less direct) blending operation (as will be discussed below). The creative blending operation

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[6] In Langacker's notations, the *symbolic unit* "Seana" in Input 1, Figure 2-1, is represented as a pair [[SEANA]/[Seana]], the first part representing the phonological pole, and the second part - the semantic pole.

underlying sentences 2-4 makes them highly noticeable. My claim, however, is that the same type of generic blending operation underlies the generation of both types of sentences (both simple transitive sentences such as example 5, and more creative sentences such as examples 2-4).

2.3 Blending operations in the generation of English Caused-Motion sentences.

Figure 2-2 illustrates the blending operation underlying the generation of the English Caused-Motion sentence 2:

(2) *Rachel sneezed the napkin off the table.*

On the right side of Figure 2-2 (Input 1) is a schematic characterization of the causal sequence of events conceived in the world (i.e., 'Rachel sneezing and as a result the napkin is moving off the table'). The causal sequence of events is composed of two sub-events: the *causing sub-event* (Rachel sneezing), and the *effected sub-event* (the napkin moving off the table). The two sub-events are linked by a causal predicate[7]. The actual participants, activities, or relations conceived in the world are identified again as instances of more generic semantic "roles", such as 'agent' and 'patient', or predicate categories such as 'act', or 'move' [8].

[7] This characterization of the causative event sequence is an instance of what I will refer to in the rest of this manuscript as *the generic causative schema*. The schema consists of two sub-events, a causing and an effected sub-event. The causing sub-event usually involves an activity, and the effected sub-event involves either another activity or a change of state. The two sub-events are conceived (by the language user) to be causally related, where the occurrence of the effected event is dependent upon the occurrence of the causing sub-event. This definition of a generic causative schema follows many decompositional analyses of causation (as found, for example, in Jackendoff 1990, Langacker 1987, 1991, Levin & Rappaport (1988), Shibatani 1973, 1976, and Talmy 1976).

[8] There is no one term in the literature that can be used to identify the affected entity in the effected sub-event (i.e., the entity that is moving, the 'napkin', in Figure 2-2). Terms used to semantically describe subject roles (such as "agent", "topic", "energy source", "controller") are inadequate, since they imply control, while the effected event of motion may involve no action, energy, or control at all (Langacker, 1987:233, suggests however that these terms can be used to denote the subjects of *prototypical* events, with extensions from the prototype to account for other events). In the literature, the theme of intransitive motion events is sometimes defined as 'agent/actant/mover' and sometimes as 'patient'. Since no single term

On the left side of Figure 2-2 (Input 2) is a schematic characterization of the English Caused-Motion construction. Its syntactic form is [NP V NP PP], and the generic conceptual (semantic) structure associated with it (as suggested by Goldberg, 1996) is of 'an agent acting on and causing the motion of a patient'. As mentioned before, it is assumed that the construction has evolved from the argument structure of prototypical lexical caused-motion verbs (such as *throw* or *push*), but now has independent existence. The semantic content associated with the verbal grammatical role is an abstraction of the semantics of prototypical *lexical* caused-motion verbs, such as *throw* or *push*, which integrate a whole causal event sequence: i.e., denoting an agent's action, an effected motion, and the force-dynamic causal relation.

The speaker linguistically blends the two structures (based on perceived correlation between the novel causal sequence of events and the semantic structure of the caused-motion construction), thereby expressing the whole conceived caused-motion sequence via a single syntactic construction (the Caused-Motion construction). The arrows in Figure 2-2 describe the mapping between the two input structures, and the blended space (at the bottom of the figure) depicts the actual sentence communicated in the language.

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is provided in the literature, I will use the term *agent* to refer to the themes of both the causing and the effected sub-events in a causal sequence, but this term should not be taken to suggest control or volitionality (I do not use the term 'mover' to define the affected entity in caused-motion events, since this term cannot be extended to represent general causal event sequences, as required for the analysis of Hebrew causative constructions, see chapters 4-6).

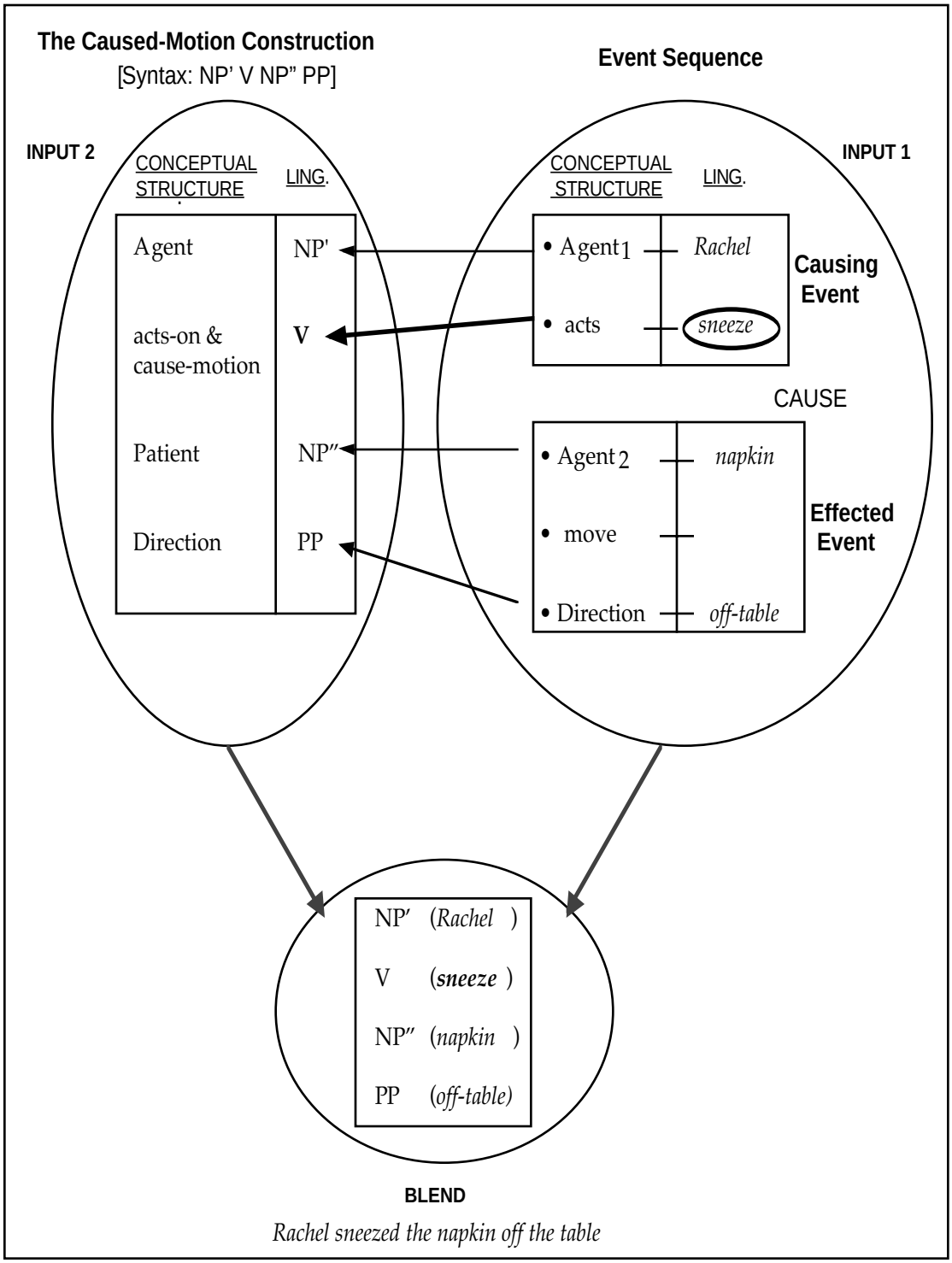

Figure 2-2: The blending operation underlying the generation of the English Caused-Motion sentence *Rachel sneezed the napkin off the table.*

Several general cognitive-semantic principles are proposed as guiding the mapping from the conceptual representation of the event (Input 1) onto the semantic schema of the integrating construction (Input 2). These principles are merely preliminary suggestions and are based on the analysis of blending operations in English and Hebrew in this thesis only. Clearly, much more research is required to identify the principles of grammatical blending, their level of regularity and their cognitive motivation. The proposed principles are viewed as "optimality principles" (rather than "deterministic"). As Fauconnier and Turner (in press, p.4) note, "conceptual blending is not a compositional algorithmic process .. [and] blends are not predictable solely from the structure of the Inputs. Rather ... they comply with competing optimality constraints"**.** The blending operation is viewed as a "constraint-satisfaction" process, where a "best-fit" participant from the conceived event is matched to each available role in the integrating construction, based on guiding optimality principles.

Principle 1: Only roles which are perceived as semantically compatible can be mapped onto each other (this principle follows Goldberg's, 1995, *Principle of Semantic Coherence* for the fusion of verbs and constructions)[9].

Principle 2: When two participants in the conceived event (Input 1) instantiate the same semantic role, and there is only one corresponding slot in the integrating construction (Input 2), then the more "typical" instance of the role (of the two participants) will be mapped onto the integrating construction. For example, in figure 2-2, there are two participants instantiating an Agent role in the conceived event (the agent of the causing event and the agent of the effected event), but there is only one Agent role in the integrating construction. Since a prototypical agent is one who provides the input energy into an event (Langacker, 1991b), the agent of the *causing* event (who also provides the input force for the *whole* complex causal sequence) is mapped onto the Agent role of the integrating construction (rather than the agent of the *effected* event).

Principle 3: No one participant in the conceived sequence of events is mapped onto more than one semantic role in the integrating construction[10].

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[9] Two roles may also be considered compatible (and can be mapped onto one another) if one role is conceived as a *sub-case* of the other role (see section 4.1.2 for an example).

[10] This principle may seem at first to contradict the existence of pronominal *reflexive* sentences (where the same entity is 'mapped' onto both an agent and a patient role). However, note that the causal sequence event in Input 1 represents not the *objective* event that occurs in the world, but rather its *subjective* conception by

Predicates from the conceived sequence of events are mapped onto the *verbal* slot of the integrating construction, and here lies the interesting aspect of the blending process in the English Caused-Motion sentences: the causal sequence of events in Input 1 contains *three* principal semantic predicates: the *causing* predicate, the *effected* predicate, and the predicate designating the *causal link* between the two sub-events. The integrating Caused-Motion construction, on the other hand, has only *one* verbal slot to express semantic predication. However, there is no *one* lexical item in English which integrates in its semantics all three predicates (i.e., there is no one lexical item in the current English lexicon that means "sneezing-that-causes-motion"). Consequently, the speaker must choose *one* predicate from the conceived sequence of events to map onto the verbal slot of the integrating construction. In the case of sentence 2, depicted in Figure 2-2, the speaker has chosen to map the causal agent's action (the causing predicate *sneezing*) onto the verbal slot of the integrating construction. In sentence 3 below, in contrast, it is the motion of the affected entity (the horse) that is mapped onto the verbal slot of the integrating construction (while the agent's causing action, and the causal link are left unspecified). And in sentence 4 it is the type of causal relation between the causing and effected sub-events that is mapped onto the integrating construction.

(3) *She trotted the horse into the stable.*

(4) *The commander let the tank into the compound.*

The blending operations underlying the generation of sentences 3 and 4 are illustrated in Figures 2-3 and 2-4, respectively. The mapping from the conceived event into the integrating construction in each of the Figures 2-2 to 2-4 is *partial*: only some aspects of the conceived event are integrated into the syntactic construction (and linguistically expressed in the blend), while other are left implicit.

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the speaker. As I will suggest in the analysis of reflexive patterns in Hebrew (chapter 6), reflexive events are conceived as involving *two* separate parts of the same entity acting separately as the causal agent and the affected entity. Therefore, reflexive sentences really reflect different *conceptual* participants which are then mapped onto the subject and object slots in the integrating construction.

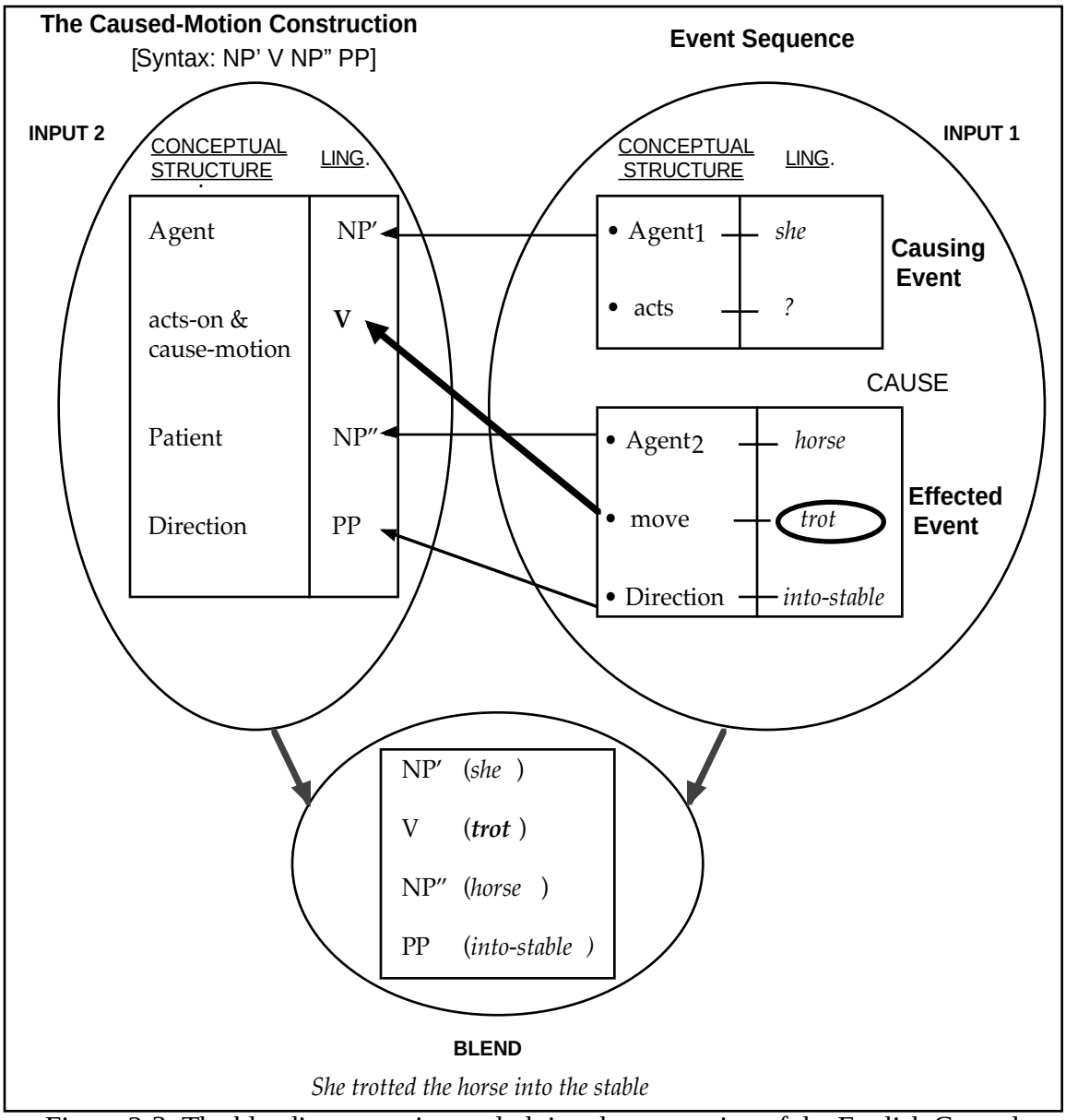

Figure 2-3: The blending operation underlying the generation of the English Caused-Motion sentence *she trotted the horse into the stable*.

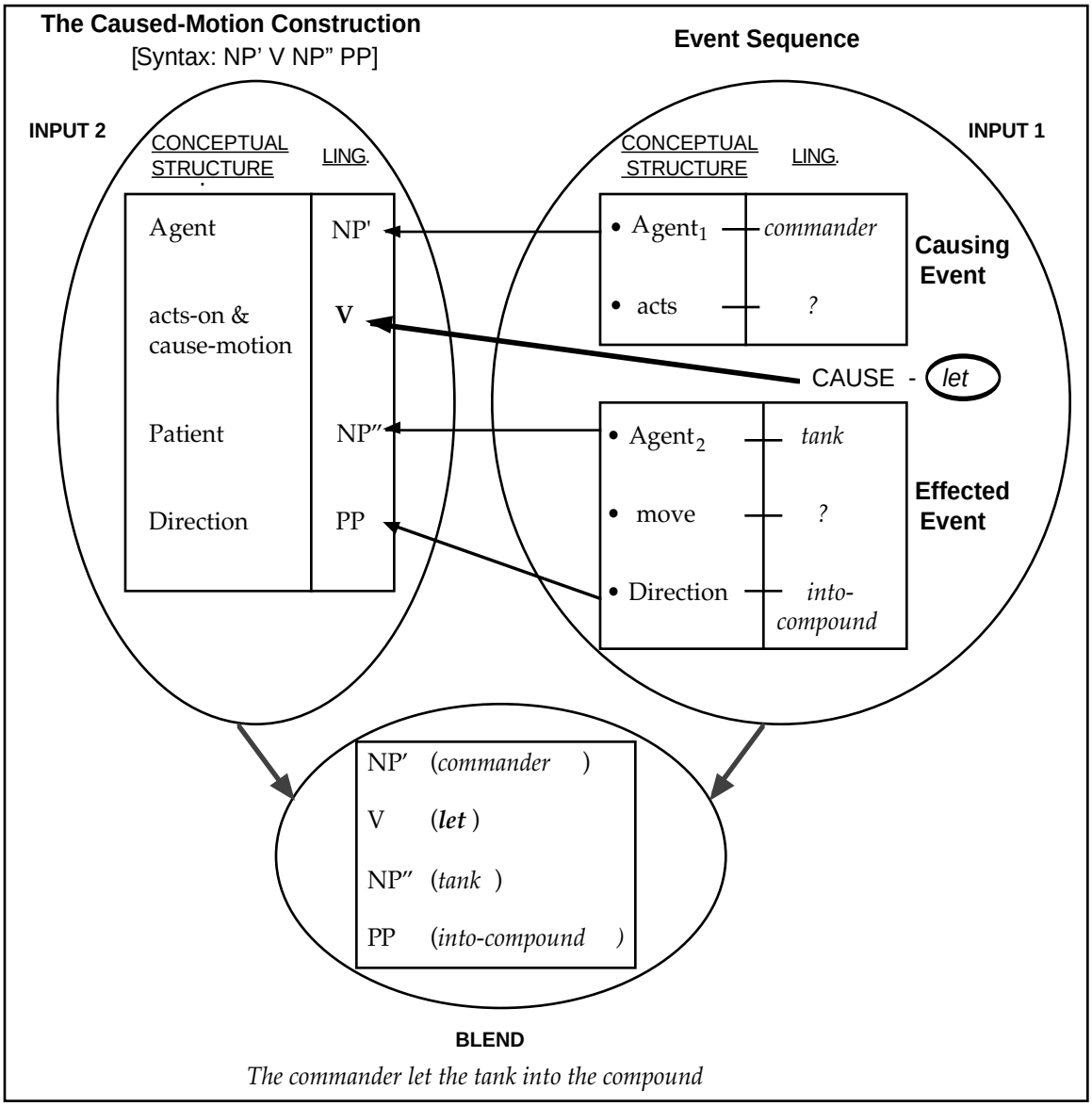

Figure 2-4: The blending operation underlying the generation of the English Caused-Motion sentence *the commander let the tank into the compound*

As a final example, consider sentence 5 discussed in section 2.1:

(5) *Rachel threw the ball into the basket.*

Sentence 5 is a prototypical instance of the caused-motion construction, where the semantics of the verb (*throw*) already integrates a whole caused-motion sequence of events. Goldberg (1995:65) defines a hierarchy of possible relations between the semantics

designated by a verb and the semantics designated by the construction it instantiates. The most prominent relation in this hierarchy is the semantics of the verb being a *subtype* of the semantics of the construction. Example 5 is an instance of the "subtype" relation defined by Goldberg. In terms of the blending analysis developed in this thesis, example 5 represents a case where *all three prominent predicates* from the conceived causal sequence of events are mapped onto the verbal slot of the integrating construction. The mapping is made possible because English possesses *one lexical item* (*throw*) which integrates all three predicates. Figure 2-5 illustrates the blending operation underlying the generation of sentence 5.

To summarize, the description of blending operations in sections 2.2-2.3 focused on the process of *sentence generation*. In very schematic terms, the process is described as follows: the speaker conceives some event in the world (or maybe an internal mental event) which she wants to communicate to the hearer. The conceived event has some organizational structure (note that the structure of the mental event representation is not necessarily the objective one in the world, but rather the speaker's subjective conception of the event). The speaker possesses, in addition, independent knowledge of grammatical constructions - in particular, she has knowledge of the inventory of *syntactic constructions* available in the language. Each syntactic construction represents a basic sentence type (the "kernel sentences" of Chomsky 1957, or the "basic clauses" of Lakoff 1987) and is associated with a semantic schema representing a generic event (Goldberg, 1995). The speaker chooses a syntactic pattern (basic clause structure) whose associated semantic schema best correlates with the generic structure of the conceived event. When correlation is found, the speaker blends the two conceptual structures (and their associated linguistic structures) to generate the actual sentence to be communicated (i.e., the blend), as described in Figures 2-1 to 2-5.

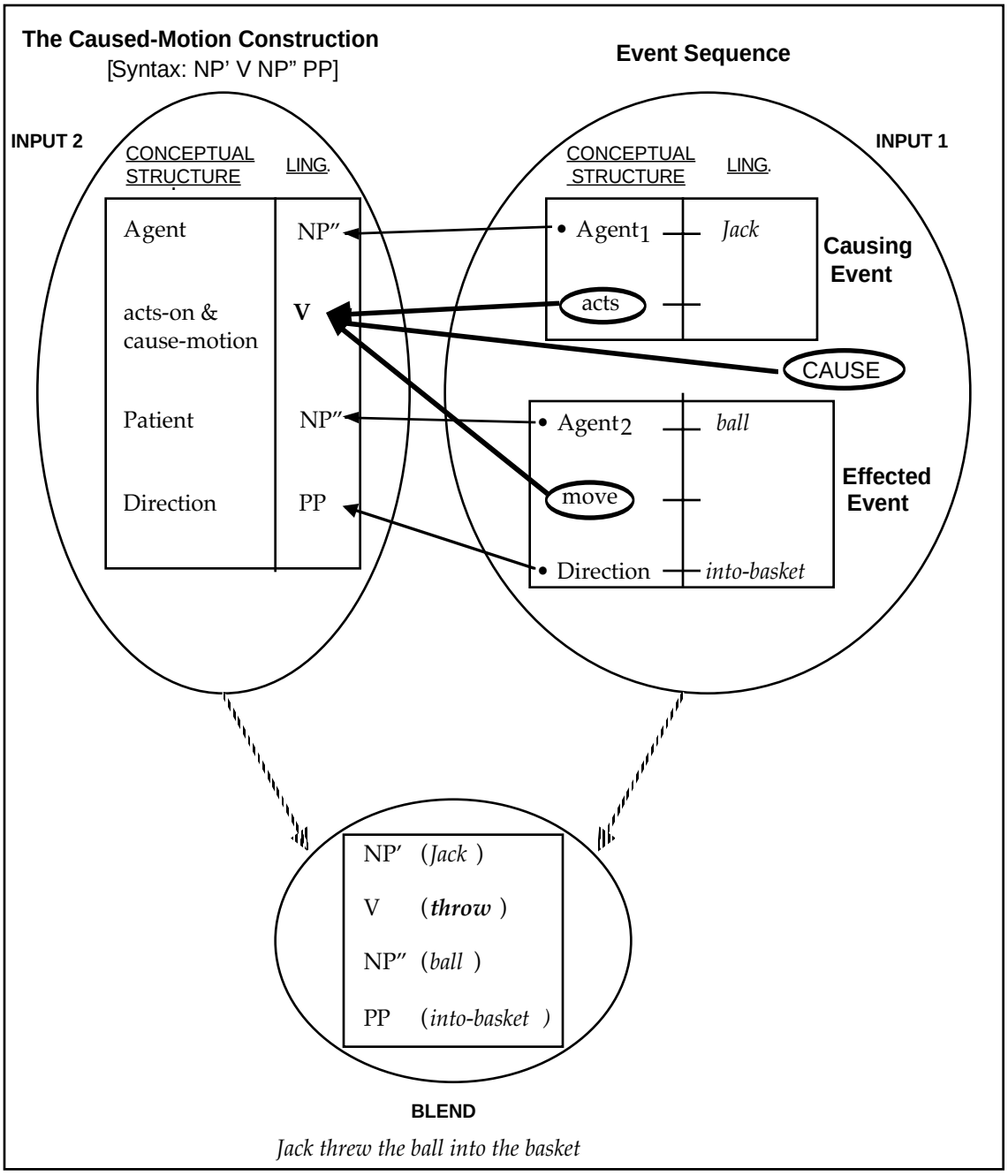

Figure 2-5: The blending operation underlying the generation of the English Caused-Motion sentence *Jack threw the ball into the basket*

2.4 "De-integration" operations in language *interpretation*

The discussion so far in this chapter analyzed the blending (integration) operations involved in *language generation*: i.e., in the generation of a sentence from an underlying conceptual structure. The process of *interpretation*, I suggest, involves the *reverse blending* operation, which I will refer to as a "de-integration" operation. What the hearer or reader receives as an input is the sentence generated by the speaker, i.e. the *blend* (the bottom circle in Figures 2-1 to 2-5). The syntactic form of the input sentence triggers the semantic schema conventionally associated with the syntactic pattern (i.e., input 2 in Figures 2-1 to 2-5; This is the Construction Grammar assumption), and a generic semantic role is linked to each lexical item (e.g., agent, patient, etc.). The hearer's task then is to reconstruct the conceived event in the world that the speaker intended to communicate - a probable sequence of events (Input 1) which could give rise to the integration observed in the blend. In other words, the hearer's task is to find a probable sequence of events and a probable grammatical mapping which would result in the sentence generated by the speaker. Figure 2-6 depicts the "de-integration" process involved in the *interpretation* of the sentence 2:

(2) *she sneezed the napkin off the table.*

Compare Figure 2-6 to Figure 2-2: Figure 2-6 is the same as Figure 2-2 (illustrating the generation of sentence 2), except that the arrows mark the *reverse* cognitive steps[11].

[11] The terms "integration" and "de-integration" refer only to the direction of the blending process. In both types of blending operations, we suggest that the language user mentally keeps the *whole network of spaces* (the "many-space model", Fauconnier & Turner, in press) partially activated. The whole network of spaces (and not only the resulting blend) is accessible for conscious manipulation for purposes of reasoning or conceptual and linguistic elaboration (see, for example, the discussion on elaboration of counterfactual blends in Fauconnier, 1997; Turner & Fauconnier, in press; and Coulson, 1996).

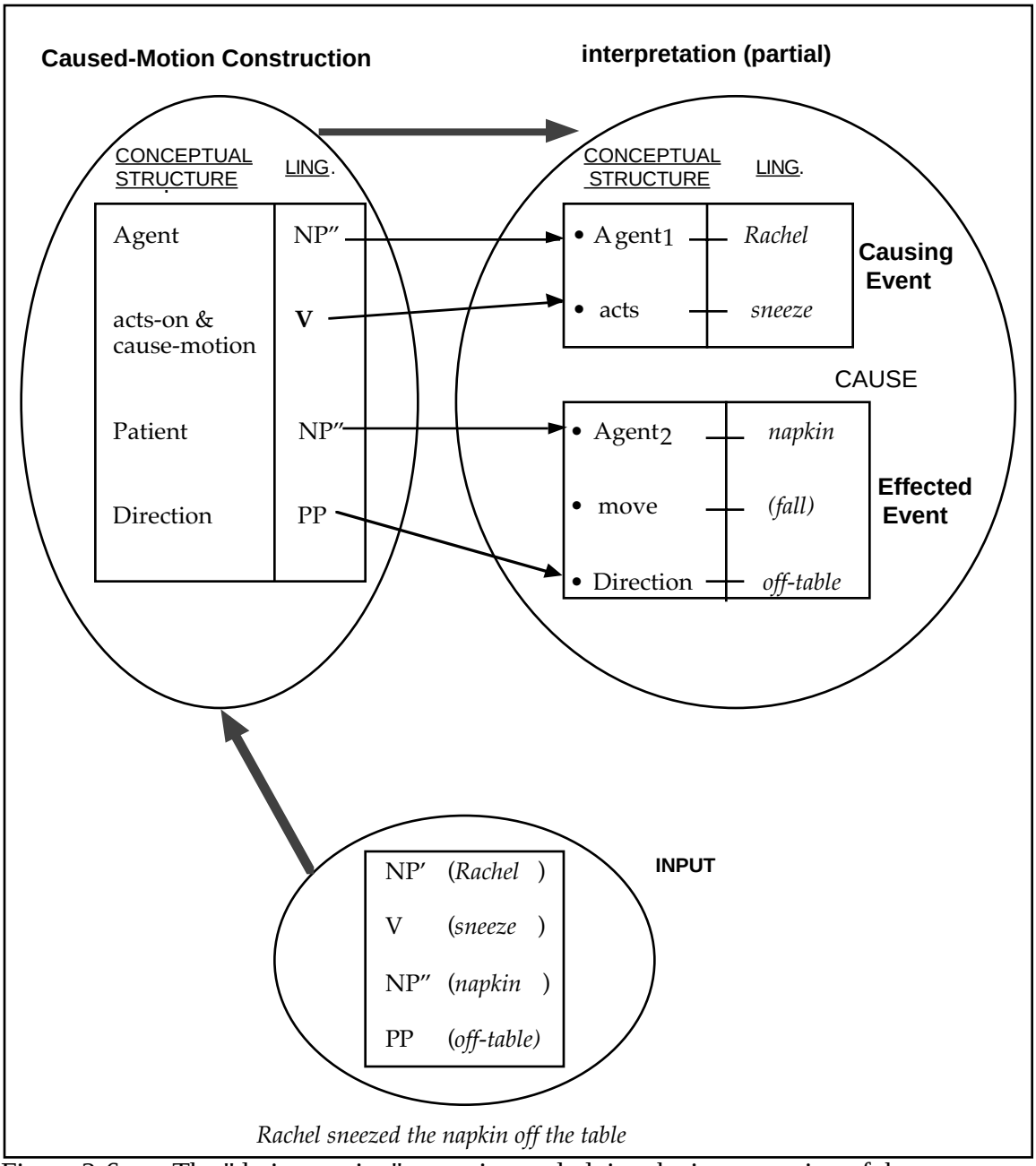

Figure 2-6: The "de-integration" operation underlying the interpretation of the sentence *Rachel sneezed the napkin off the table.*

The actual conceptual structure generated by the hearer for a particular sentence (i.e., the sequence of events emerging from the linguistic blend, or the "interpretation") is again clearly not limited to the aspects of the event depicted in Figure 2-6. The partial interpretation in Figure 2-6 depicts only the information explicitly provided in the linguistic

blend (the sentence). Speakers automatically complete the sequence of events with additional information from background knowledge of mental models and past conceived scenarios stored in memory (see a general discussion of *pattern completion* in blending in Fauconnier, 1997; and Fauconnier & Turner, to appear). For example, a specific manner of motion is almost automatically inferred in each of the Caused-Motion examples (1-4) though nothing in the linguistic expression (neither the lexical items, nor the argument structure) explicitly provides this information. Consider the Caused-Motion sentences 6-8:

(6) She sneezed the napkin off the table.

(7) The audience laughed the actor off stage.

(8) The wind blew the ship off course.

The main verb in each of the examples 6-8 provides information about the *causing* event in the conceived causal sequence. But the hearer automatically infers a particular type (or manner) of motion for each example: in the case of sneezing the napkin off the table (example 6), the hearer prototypically pictures the napkin *falling down* from the table; in (7), the hearer prototypically pictures the actor *running away* from the stage; and in (8), the hearer prototypically pictures the ship *shifting away* from its original course.

Moreover, a particular *causal relation* is imposed on the interpretation of each example. As Fauconnier and Turner (1994) point out when discussing examples such as 6, not any causal force will do in reconstructing the causal sequence of events: a prototype is imposed in example 6 that it is the air displaced by the sneezing that moves the napkin. Similarly, in example 8, a prototype is imposed that it is the air displaced by the wind that moved the ship off course (rather than, for example, the captain of the ship deciding to move the ship because of the wind). In example 7, however, it is not the air displaced by the laughter that moves the actor. Rather, a complicated causal link of social and emotional forces is assumed.

The discussion above suggests that the interpretation of blends prototypically results in an *emergent semantics*, beyond the semantics explicitly provided by the linguistic

utterance[12]. The emergent semantics will be illustrated even more sharply in discussing the translation of English caused-motion sentences into Hebrew in chapter 8**:** the grammatical constructions of Hebrew frequently force the explicit (linguistic) expression (or integration) of those aspects of the causal sequence that are left implicit (unintegrated) in the source English form. The additional semantic structure automatically imposed on the blend in the source sentence is linguistically expressed in the translation.

The proposal in this chapter follows Goldberg's (1995) general idea that constructions and lexical items combine together through a *fusion* process. In Goldberg's analysis, however, the fusion is between a verb with argument structure and a syntactic construction. In the blending analysis, the fusion is between a whole conceived event in the world and an integrating syntactic construction. Lexical items represent different aspects of the conceived event, but do yet constitute a finite linguistic form. It is only through the blending operation that the linguistic utterance is generated. This distinction becomes more relevant when analyzing verbal forms in Hebrew (chapters 4-7). I will suggest that the blending (or 'fusion 'process) takes place between *consonantal roots* in Hebrew (which only define a general semantic field, but do not yet constitute an actual linguistic form) and an integrating syntactic construction. The consonantal roots are assigned a particular morphological form (*binyan*), and "acquire" an argument structure, *only through the blending operation*: the *binyan* is assigned to the main verb in the blend based on the mapping configuration, and the "argument structure" is inherited from the syntactic construc

[12] The emergent semantics in the linguistic blends may be best equated with emergent structure in *gestalt* psychology. Gestalt psychologists emphasized that both thinking and seeing depend on the construction of internal representations in which elements were *integrated* within an overarching relational structure. What we see is more than a set of isolated visual features, and what we think is more than a set of ideas; in both domains the person imposes an organization so that "the whole is different from the sum of its parts".