THE SYNTAX OF NON-VERBAL CAUSATION:
THE CAUSATIVE *APO*MORPHY OF 'FROM' IN GREEK AND GERMANIC LANGUAGES

by

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Abstract

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Adviser: Professor Marcel den Dikken

This is a study of the meaning and syntax of non-(lexical)verbal causation. Macroscopically, it examines the preposition 'from' as attested in contexts like "X is/comes from Y". Syntactic diagnostics are applied to formally distinguish the causative from the spatial interpretations of 'from'-PPs in Greek, English, Dutch, and German. The syntactic landscape of causative 'from' will turn out to be very minimal with 'from' directly selecting the Cause-DP, in contradistinction to its spatial counterpart, where 'from' always selects for another PP layer. More microscopically then I focus on the causative interpretations only, which are particularly revealing because (i) they give an in-depth view of CAUSE, stripped of all verbal layers—traditionally considered the locus of CAUSE—suggesting that the source of causation in non-(lexical)verbal environments has to be the preposition *per se* and (ii) they single-handedly provide a rudimentary structure for causation, where 'from' introduces the *Cause* in its complement and is predicated of the *Causee*. Finally, with a basic predicational structure in place, I offer a detailed cross-linguistic account for the syntactic mechanism that forces the use of particle verbs in causative 'from'-less environments.

ACKNOWLEDGMENTS

The birthplace of this work is footnote 40 in Koontz-Garboden (2009). It would not have matured to a dissertation, however, had it not been for the *ἀγχίμαχο* και *φράδμων* Marcel den Dikken. I am exceedingly thankful for his patient guidance and his invaluable teachings—the most prominent of all being his razor-blade comments on all my drafts. His unique skill to find rhyme and reason in chaos has always been a source of inspiration.

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So let me start by wholeheartedly thanking my 'long-distance' family for the truly selfless support and constant encouragement all these years. They believe in me more than I believe in myself! And a warm thank you to my 'short-distance' family, Tina and Lakis, for making all this real.

I am equally thankful to my 'partner in crime', David, for without him I would have given up long ago on New York and on Greek food. And to my 'partner in adventure', Lucia, who can single-handedly turn any trip—be it to the Caribbean or to the corner deli—into a life experience and publishable material.

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CHAPTER 1 AITIOLOGY

Although the grammar of causation has received considerable attention in the past decades, it still invites re-analyses and ramifications in order to account for empirical data cross-linguistically as well as language specifically. Causative constructions are present in all human languages (Shibatani 2001), a fact that both reinforces the importance of this cognitive category and provides a platform for a potentially universal theory of its grammar.

Within the realm of causative structures, several *typological* (Comrie 1981; Song 1996; Haspelmath 1987; Shibatani 2001; a.o.), *lexical* (Simpson 1983; Levin and Rappaport 1998, a.o.), *semantic* (Dowty 1979; Bittner 1999; Levin and Rappaport 1995; Moreno 1993 a.o.), and *syntactic* works (McCawley 1971; Kratzer 1994, 1996, 2003; Pylkkänen 1999, 2002; Alexiadou *et al.* 2006, 2010, a.o.) are available. Refined subcategorizations and numerous semantic dissections of causative verbs have provided descriptive definitions of causativity and numerous different definitions.

A point of convergence for all causation analyses, however, is that any given causative construction necessarily involves at least two parties: a *Cause* (*αἴτιον* aition) that brings about an event or a change of state and a *Causee* (*αἰτιατόν* aitiaton) that undergoes this event or change as in *John boiled the eggs*, in contradistinction to events that do not entail any change of state, as in *John thanked the boy*, which are consequently considered non-causative.

Note that it is not the case that in every sentence with two participants they will necessarily be a *Cause* and a *Causee*. Nor is it the case that every transitive verb will necessarily be causative, although, on the other hand, many intransitive verbs are able to convey a causative meaning in the sense of change of state like *die*.

1.1 *P* AS IN *P*ANACEA

In this thesis I will focus one a type of causative constructions where the caused event precedes its inflicting cause, which is, in turn, introduced by the preposition 'from' as in:

(1) My headache was *from* the wine.

(2) The fire was *from* negligence.

Although the base ingredients of such causative utterances are ubiquitous in natural language, namely 'is' and 'from', they were never center-stage in the study of causation (to my knowledge). With the copula being a predicational pivot, my interest is naturally focused on the treatment of the preposition 'from', which is one of the most frequently used preposition but also words in general[1]. With a ranking as high as 10 in the list of most frequently used words (in Greek, for example[2]), one can imagine the multitude of 'from' 's semantic dimensions, provided that its grammatical identity is the same. This thesis, however, will focus on one interpretation of 'from', namely the causative.

The correlation of causation with directionality morphemes is a pre-explored idea with cross-linguistic representative examples. Universally there are many instances of grammaticalization

[1] The following table summarizes the rankings of 'from' in the four languages under consideration in terms of: (a) its frequency in the entire word corpus and (b) its frequency among the set of prepositions in each language.

The statistics reported come from: Saint-Dizier (2006) for English, Randall&Tschirner (2006) for German, Keuleers *et al.* (2010) for Dutch, and the Hellenic National Corpus for Greek.

Frequency rank:	**in the entire corpus**	**among prepositions**
English: *from*	29	9
German: *von*	11	3
Dutch: *van*	11	1
Greek: *από*	10	2

Table 1.1: Frequency of use of 'from' in English, German, Dutch, and Greek.

[2] Note that this statement is true only for the prepositional uses of 'from', not as a particle, for instance, where it can adjoin to verbs giving out particle-verbs.

of prepositions that initially expressed *spatial* and *temporal* concepts to extend their use to causal relations. One of the earliest studies on the relationship between causative affixes and directive or benefactive morphemes in Tibeto-Burman languages is offered by Wolfenden (1929). Wolfenden argues that the Tibetan causative affix *s-* is derived from a directive element which is also present in other complex verbal forms (*s-pro-ba* 'to make go out', *s-neg-pa* 'to run to') denoting either direction into a state/condition or an action towards/for an entity. Some additional data is recorded from two other languages: (i) Burmese, where the directive element and causativized verbs are phonologically marked with aspiration of the initial consonant. And (ii) Ao (a language in the Tibeto-Burman family), where the causative affix *dâk-tsa-* is analyzed as a combination of cause and direction. More specifically the morpheme *dâk-* is an affix etymologically related to the Tibetan verb *ajug-pa* 'to cause', while *-tsa-* is the dative directive affix denoting transition of a causal action from the actor to a benefactor. These observations lead Wolfenden to draw a parallelism between directive elements and the notion of causation.

Similar parallelisms are very often encountered in the Indo-European languages. Smith (1992) distinguishes accusative-marked from dative-marked arguments in German based on the images they invoke with regard to a source-path-goal schema [O→O]. The claim is that while accusative is generally used in prepositional phrases that describe a path-goal schema [__→O], dative is preferred in source-path configurations [O→__]. Support is drawn from the use of dative to connect two entities in a causal relation (as well as in physical source-denoting interpretations) in German sentences like:

(3) Ich bin müde von **der Arbeit**$_{\text{DAT}}$ GERMAN
'I am tired from working.'

(4) Die Verbrennung ist von **der Sonne**$_{\text{DAT}}$
'The burn is from the sun.'

Analogous observations can be made for Ancient Greek, where we find the *Dative of Cause* or *Purpose*, which was used to directly mark[3] the final or ultimate cause-DP (ΚΕΓ 2006):

(5) μὴ θαυμάζετε ὅτι χαλεπῶς φέρω **τοῖς** παροῦσι **πράγμασιν**$_{\text{DAT}}$ A. GREEK[4]
'do not wonder why it is I am sad from the current situation' [Xen. 1.3.3]

(6) ἀλλ' **αἰσχροκερδίᾳ**$_{\text{DAT}}$ καὶ **πλεονεξίᾳ**$_{\text{DAT}}$ καὶ **ὕβρει**$_{\text{DAT}}$ […] ταῦτα φανήσονται πράττοντες
'it will be proven that their actions are due to profiteering, greed, and arrogance' [Dem. 54.67]

Luraghi (2006) argues that the archetypal meaning of prepositions is *location* and *space* and via a process of 'semantic bleaching' we derive meanings within more abstract domains, like *time* or *cause*. According to Meillet (1921), the reason behind this 'bleach' is the frequent use of prepositions, which erodes their lexical meaning. The first meaning that prepositions extend to, according to Luraghi (2003, 2006) is the temporal. She considers this semantic evolution to be ubiquitous in natural languages and links it to the tendency humans exhibit to map the plane of time onto the plane of space.

As a further evolution, Luraghi suggests that *space* prepositions can extend their meaning to even more abstract domains like *causation*. Interestingly, she pinpoints the onset of this semantic extension in Homer and attributes it to the semantic flavor of the complement of the P[5]. More

[3] Probably directly by the verb which pre-empts the need for prepositional structure. This dative of the cause, however—as well as other uses of dative, e.g., in double object constructions—can alternate with their respective, in terms of their interpretation (source *vs*. goal/recipient), prepositional phrase. For the causative cases, the respective P is *apo* 'from', which denotes *source/cause* but which is always construed with *genitive* (unlike the German equivalent *von*, which preserves the dative case on the cause):

(i) αὔχημα μὲν γὰρ καὶ **ἀπὸ ἀμαθείας**$_{\text{GEN}}$ εὐτυχοῦς καὶ δειλῷ τινὶ ἐγγίγνεται [Thu. 2.62.4]
'even a coward can boast due to his ignorance, which is supported by luck'.

[4] Transliterations for the Ancient Greek examples will not be provided.

[5] Luraghi (2006) refers to the complement of the P as the *Landmark*, which I will not use here in order to avoid confusion in later discussion of Talmy's (2000) *Ground* argument. The two are

specifically, the abstract nature of the noun in (7) forces the causative interpretation of an otherwise spatial preposition *εκ* 'from, of', thus bridging the plane of space with the plane of causation:

(7) **ἐξ** ἀρέων μητρὸς κεχολωμένος A. GREEK
out of $\text{curses}_{\text{GEN}}$ $\text{mother}_{\text{GEN}}$ bittered
'bittered from his mother's curses' (Iliad 9.566)[6]

Although I believe that the direction of the investigation in Luraghi (2006) is correctly geared towards the complement of the preposition expressing the cause, I will rather focus on the internal structure of the causatively interpreted 'from', in contradistinction to other possible interpretations. This idiosyncratic characteristic of 'from' to convey *cause* constitutes its **apomorphy** within the more general and encompassing meaning of *Source*—which would be the *clade* in evolutionary biology terms.

In Luraghi (2003) we find an explicit link between *Source* and *Cause*. Exploring how causation is encoded in spatial-motion configurations, she describes this link as the *Origin/Source metaphor*, where events or state of affairs are perceived as moving entities. The *Source* or point of origin of motion is, in fact, the *Agent* or *Cause*. At this conceptual level it is not important to make a detailed distinction between the two. This of course does not mean that there is not any. In fact, Luraghi explicitly emphasizes the need to keep the causal roles: *Agent*, *Cause*, and *Instrument* separate in any language-specific description throughout her work. The take-home idea is that both Agents and Causes are responsible for the state of affairs of the Caused event and they are strongly associated with spatial dimensions, in particular, *Source* expressed by

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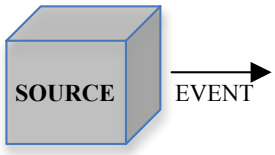
ultimately the same. I also want to avoid confusion with Kracht's (2002) *Landmark*, which is only a case of homonymy.

[6] I have provided the translation in English based on Polilas (1923), which renders the causative meaning more transparently.

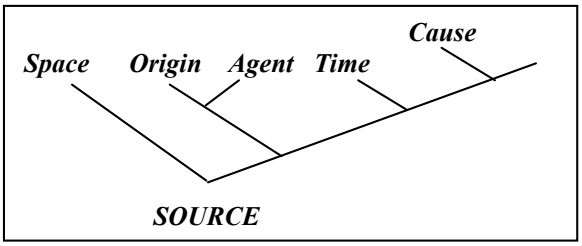
means of locative prepositions. Whether Agents or Causes end up readily combining only with some prepositions in certain configurations today (i.e., 'from' favors Causes over Agents, as it will be further discussed in section 3.1.2) is a matter of semantic selection and historical change, as suggested in Luraghi (2003) who gives examples of both Agents and Causes interchangeably being the arguments of 'from' in causatives.

The mental representation and map of *apo* 'from' in Ancient Greek below is provided as a cross-linguistic platform for the *Source metaphor*, where *apo* encodes a *point* or *region* from which a *vector* (or trajector) moves away (8a):

(8) a. *apo:*



b.



Luraghi emphasizes the locational/spatial nature of *Source* and 'branches out' at least three major meanings: *Time*, *Origin*, and *Cause*. The adjusted cladogram of *Source* in (8b), which is based on Luraghi (2003:130), shows the main semantic branches (the *apomorphies*) of *Source* according to the meanings offered up to now.

DeLancey (1982) investigates a similar semantic connection between causation and spatial source instantiated by the ablative *from*. He claims that *from* has prevailed over the use of *of* because of its identical marking for spatial *source* (and by extension, *cause*), thus *of* is limited to a very small subset of causal uses compared to *from*.[7] He also points out that independently of

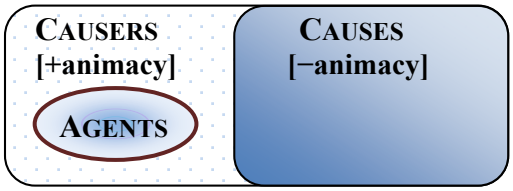
[7] The relation between *of* and *from* seems to be very similar to that of *ek* and *apo*, all conveying the general meaning of 'from'. Their main difference is related to case marking (overtly instantiated in Greek) and specificity according to Luraghi (2003). As far as case is concerned,

the predicate, both prepositions introduce "inactive causes", a term referring to *non-agentive causes:* [−volition/−control/−animacy].

This featural composition of an "inactive cause" describes the properties of the complement of a causative 'from', which I will refer to as ***Cause***. Note, however, that in the literature, *Causes* are interchangeably referred to as *Causers*. The main distinction of ***Causes*** and ***Causers*** here will be their animacy feature. Also a *Causer* could be an ***Agent*** (which is now a subcategory of Causers) depending on the rest of the features [control, volition].

The subcategorization presented in (9) below will be useful to distinguish between these arguments in this thesis. The assignment of animacy features, however, should not be taken axiomatically (exceptions will be presented later on):

(9)



The following central assumptions have been distilled up to now, which I will formally discuss in detail in this thesis: (i) *Causation* is both spatially and dynamically conceptualized, while it is grammaticalized via prepositional elements like 'from' (ii) 'from' is semantically associated with different notions like *cause*, *space* and *time* and (iii) 'from' resists *Agent*s (cross-linguistically) but welcomes *Causes*.

(causative) *ek* has an elative value and is always construed with genitive, while (causative) *apo* has an ablative value and is usually construed with accusative. Additionally, *ek* denotes a specific point within the point/landmark of origin, in fact the ultimate one. On the other hand *apo* is less specific as to the exact point of initiation of the event. Luraghi claims that "this lesser specificity makes it a particularly versatile preposition, which can also substitute for the more specific ones", in this case *ek* or, by analogy, *of*.

An important note here is that although 'from' may be associated with different meanings, I do not assume that there are different lexical entries for each intereptation. So any reference to a *causative, spatial* or *temporal* 'from' does not imply that we are dealing with two or more different instances of 'from'. There is only one 'from' and it means *Source*. All other interpetations are derived from differences either in the internal structure or in its functional domain.

1.2 A GROSS ANATOMY

Given the broadness of the range of topics that pertain to causation (e.g., expressions of causation across languages: morphological and lexical; verbal *vs*. non-verbal causation; anticausative alternations; direct *vs*. indirect causation; change of state verbs; etc.), it is possible to only consider one piece of the puzzle at a time so the scope of this thesis will extend only to the study of Cause expressed only in non-lexical verbal environments and its difference with other possible interpretations. Before presenting an analysis on any kind of causative construction, it is essential to first attempt to describe causation in a formal way. Only then will we be able to discuss different predictions and analyses in a clear and formalized way. The desideratum here is for any formalization of causative structure to abide by uncontroversial tenets of the generative grammar literature. This work will focus on the syntax of causative constructions with a 'from'-PP within the minimalist framework.

The exploration of Cause will start out in **Chapter 1** by undertaking a close look at the preposition 'from' itself, its etymology, semantics, and uses. As a first step it will be important to link 'from' with Cause by showing that natural language uses directionality morphemes or cases to grammaticalize causation cross-linguistically. What will be interesting is that 'from' is not only linked to Cause but other notions like Space. So these observations will set the agenda for

the remaining chapters: What the syntax of causative 'from' is and how it is different from spatial 'from'.

Chapter 2 starts out by examining one of the current syntactic accounts for lexical-verbal causation. Based on the assumptions made there, I will evaluate how causative 'from'-PPs fit into this schema and what kind of problems we may run into. Unlike the verbo-centric approach where the Source of Cause is attributed to the functional projections of the verb (or the verbal root), in a prepositional approach, the Source of Cause is the P itself. Two major concerns will be: when and how is the argument of 'from' understood as the Cause and what is the structural position of these 'from'-PPs in the lexical causative schema. The first concern will lead to a preliminary description of different interpretations of 'from', ascertaining whether they can be somehow distinguished and categorized. This exercise will offer insights that will serve the second concern and will eventually lead me to the main proposal of this thesis, namely that causative 'from'-PPs are predicative introducing the Cause, with the Causee as the subject.

The next step in **Chapter 3** will investigate in depth the idiosyncrasies of causative 'from'. I will try to establish a more dependable diagnostic that will set it apart from other possible interpretations, discuss the kind of arguments it is compatible with, distinguish it from 'with' which is sometimes also interpreted as causative, and finally theoretically examine the validity of the proposal put forward.

Assigning a specific structure or describing the idiosyncrasies of causative 'from'-PPs is not sufficient to pinpoint the distinction responsible for the different interpretations of two (in many respects) similar sentences:

(10) *The headache is from the cheap wine.* vs. *The cheap wine is from Chile.*

So **Chapter 4** will compare one-to-one two main interpretations of 'from', the causative and the spatial one trying to fathom out the reason we understand these two sentences differently. For this I will focus on a microscopic investigation of the PP structure. Some useful tools will be *wh*-extraction and *th*-word compatibility. From the study of these diagnostics an cross-linguistically constant pattern will emerge; that Space is always associated with a PP elements, while Cause with a nominal elements.

Chapter 5 will then establish that this association is not accidental, but it crucially reflects the underlying structure and consequently the different interpretations of the examples in (10) as repreoduced below:

(11) [$_{PP}$ '**from'$_{CAUS}$** [$_{DP}$ Cause]] *vs.* [$_{PP}$ '**from'$_{SPATIAL}$** [$_{PP}$ Ø [DP]]]

These PP structures suggest that a causative 'from'-PP always selects a DP argument, while a spatial 'from'-PP selects for another PP which can be unpronounced (in (10) for example). This hypothesis will be tested in terms of distribution, the semantics of the complement DP, and the availability of empty heads.

With a clear description of which are causative 'from'-PPs and what their internal structure is, in **Chapter 6**, I will attempt to extend this account to explain an interesting cross-linguistic phenomenon: overt causative 'from' alternates with a null P in the presence of particle verbs (this covers lexical-verbal cases as well as the aspectual 'come'), followed by a case change on the DP-Cause (at least for M.Greek).

CHAPTER 2 DIAGNOSIS AND THERAPY OF CAUSATION

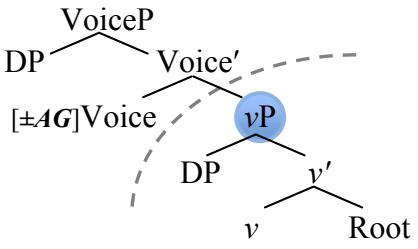
This section will attempt to draw some general guidelines regarding what causation and causative constructions that feature the preposition 'from' are and how we can discern them from non-causatives. For ascertaining the causative nature of a construction some diagnostics have been offered in the past (Bittner 1999; Shibatani 2001; Dowty 1979). Most of them are of a descriptive and semantic nature, while the syntactic ones are fewer. Some older diagnostics and definitions will be discussed with an eye to distill some valid syntactic tests for causativity.

2.1 A LEXICAL TREATMENT

The aim of this section is to provide a very brief description of more "main-stream" approaches to lexical causation and address some issue that arise with regard to the treatment of 'from'-PPs. Although lexical causatives are not the principal interest of this thesis, they are, however, the meat of almost every work on causation. The intent of this section is to bring up an incompatibility with regard to the Source of Cause (verbal vs. prepositional), and its theoretical and structural consequences.

One of the latest versions of an overarching syntactic representation proposed for causatives, passives and anticausatives (or change-of-state verbs) can be found in Alexiadou (2010). The model has two main ingredients, a functional Voice head and an eventive *v* (previously referred to as *v*CAUS):

(1)



The structure in (1) is used for all change of state verbs. Since most examples used up to now involve anticausatives, I will focus mostly on this category for now.

So based on this configuration, anticausatives are realized either in the lower part only or project a Voice head with a [±AG] agent feature, depending on whether they are morphologically marked or not across languages. The functional Voice head projected above *v*P has basically two functions: (a) it introduces an external argument (Agent/Cause) in its Spec position (following Kratzer 1996), and (b) it specifies the type of the construction as causative, anticausative, or passive, based on its presence and on the value of its [AG] feature.

So how does causation come about in (1)? In previous analyses (Alexiadou *et al*. 2006, 2007, 2009) the *v* was represented as *v*CAUS/CAUS and it was used to introduce a causal relation between a causing event and a resultant state denoted by what is marked as [Root] in (1). The CAUS head was present in both causatives and anticausatives (just like the *v* is also present in both) with the only difference being in the availability and features of the Voice head. The semantics of that *v*CAUS are not encoded in *v*[8], in other words, causation is not in the head.[9] This *v* is an eventive head which introduces an event and selects a stative root. The abolishment of the *v*CAUS head, used for explicit demarcation of causatives *vs*. non-causatives, relegates the burden of conveying a causative interpretation to the entirety of the syntactic configuration in (1). Although the mechanisms of such a schema are not described in much detail, the main syllogism is that if (1) realizes the structure of all change-of-state verbs, and if Cause is essentially defined as bringing about a change-of-state, it is then deduced that (1) is also the structure of Causation.

[8] Note here the difference with Marantz (1997) and Pylkännen (1999) who attribute causation to *v* itself.

[9] Unlike in works where causation heads its own projection CauseP, taking the caused event as its complement: [$_{\text{CAUSP}}$ CAUS [$_{\text{VP}}$ V [$_{\text{DP}}$]]] (see for example Miyagawa 1998; Harley 1995 a.o.). In such a configuration, Cause relates the caused event (a non-causative predicate VP) with a causing event.

But let us concentrate now on how this model accommodates a Causative 'from'-PP. As per the licensing of causative *from*-PPs, the argumentation line in Alexiadou (2010) is that since they are present in anticausative configurations (*the door opened from the wind*) and since all anticausatives have a *v* head (in contradistinction to a Voice head, which is not always available as indicated in (1)), 'from'-PPs have to be licensed by the functional *v*, which is also responsible for *the door*. So questions that immediately arises is how is the 'from'-PPs licensed and why is it causative? Although verbal causation is not within the scope of this thesis, some concerns regarding the licensing of causative 'from'-PPs certainly fall within its range.

The main problem with the *v* scenario licensing a cause-PP is that in the radical absence of any verbal structure we can still find causative PPs. For example, causative 'from'-PPs can be found in nominal (*the headaches from the wine*) and non-lexical verbal environments (*the headache is from the wine*).

Alexiadou *et al.* (2009) do entertain the possibility of having cause-PPs in the absence of functional structure (that is *v*), but only for cases of derived nominals (not simple nouns), where an *n* head takes a VP complement: "in the absence of such functional structure [*v*P], PPs can be licensed via an interplay of the encyclopaedic meaning of the root involved and the properties of the preposition itself". These are cases like *the destruction of the coral reef by the tsunami*, where a verbal root is present (i.e. *destroy*) and actively participates in the licensing and interpretation of that cause-PP (i.e., *by*-PP). As per the role of the "properties of the preposition", this refers to the semantic properties that dictate the interpretation of the complement rather than its licensing (i.e. *by* introduces an Actor/Agent). This will be an important concern as prepositions can introduce all sorts of different arguments. In this case *by* is not only related to Agentivity but may also describe location (*by the river*).

Den Dikken (2007) notices that if the encyclopedic meaning were sufficient for the licensing of a cause-PP, this would render the need for functional heads superfluous. To take this a step further, the necessity of having either some functional structure (VoiceP or *v*P) or a verbal root for the licensing of a cause-PP is seriously undermined by the fact that causative *from*-PPs are found in structures that are radically void of either.

Firtly, if we took the interpretation of a 'from'-PP as causative to solely depend on its licenser *vCAUS*/*v*, then we would expect Alexiadou *et al*.'s (2009) prediction regarding the unavailability of a causative reading in purely nominal environments to be borne out. This means that when a 'from'-PP appears with a simple noun (meaning that it is not a derived one by a verbal root), it cannot take up a causative interpretation. This is not borne out as 'the malaria' in (2) is the cause:

(2) [[$_{NP}$ o piretos *apo* tin elonosia] ton exasthenise].
'The fever *from* malaria weakened him.'
[http://www.sentragoal.com.cy/article.asp?catid=19017&subid=2&pubid=82900675]

The example provided in Alexiadou *et al.* (2009) in support of the unavailability of a causative reading of 'from'-PPs in nominal cases is: *a book from Chomsky*. The preferable reading of this example is indeed a *non-causative* one, but notice that in this case agentivity comes into play as well as pragmatic considerations[10]. I will return to these examples in section 3.1.1. Additionally, compare *a book from Chomsky* to *Mailer's book from Nixon*. Although the first phrase is not causative, it has been argued that the second is, in the sense that 'Nixon's actions gave Mailer material for a book'. The bottom line is that lack of verbal or aspectual heads does *not* guarantee

[10] It must be noted that many native speakers have reported that a *causative* reading is not entirely unacceptable, although the unambiguous way to express that *Chomsky* actually *wrote* the book would be to use the preposition *by*. To eliminate pragmatic biases on these judgments (given Chomsky's prolificness), one would have to test *a book from Bill*, which starkly deteriorates the acceptability of a causative reading.

a non-causative reading for a 'from'-PP, especially when an agentivity/causativity variable is added in the equation.

Secondly, if the complement of a 'from'-PP is interpreted as a Cause when the PP is in the structural environment of the functional head *v* or as Alexiadou (2010) suggests, the causative interpretation is conveyed by the "properties and realization of the pieces of structure (1) that are the building blocks of anti-causatives", then what is responsible for setting causative from spatial PPs apart? In other words, what can be held responsible for the different interpretation of (3) and (4) if they are structurally identical:

(3) It broke *from* the weight of the leaves […] [Causative]
[http://www.englandrevisited.net/points/72]

(4) It broke *from* the top […] [Non-causative]
[http://www.youtube.com/watch?v=xZv8dz3s0-Y]

Since both these sentences express a change of state (*break*), their underlying representation should look like (1). Nonetheless, it is only in (3) that the argument of 'from' argument is interpreted as the Cause. In (4) no Voice head is projected, since English anticausatives are morphologically unmarked, thus the 'from'-PP has to be licensed somewhere in the *v* domain—just like in (3). But there is simply nothing that specifies the exact position of the *from*-PP or how it ends up introducing a Cause. What is important here is that if we accept the structure in (1) to underlie (3–4), we will not be able to pinpoint how the two 'from'-PPs are different or how tey end up being licensed even in the absence of *v*.

Discussing one approach to the syntax of verbal causatives we have seen that a 'from'-PP is not the complement of its licenser head *v* because the licenser already has an argument, that is, the Root. Logically there is one available position left as things stand in (1) for a 'from'-PP, namely that of an adjunct. This does not resonate well with the non-verbal examples, however, since a

'from'-PP cannot be an adjunct. In fact the non-verbal cases crash immediately in the absence of the 'from'-PP: **the headache is*. Such considerations lead us to assume that at least in this environment, the 'from'-PP has to be the predicate. This will be studied and argued for throughout the thesis.

Clearly in the literature on the syntax of verbal causation there is not one standard practice, but different approaches trying to account for language-specific phenomena. That said, this chapter's purpose was to pinpoint some major issues that immediately arise when considering the syntax of verbal *vs*. non-verbal causation. Some main problems discussed were: (i) the Source of Causation—if there is a unique one—and (ii) the licensing of causative 'from'-PPs in causative verbal environments.

2.2 DIFFERENTIAL DIAGNOSIS

A 'from'-PP may participate (either optionally or in some cases obligatorily) in causative and non-causative constructions and, importantly, it may introduce causal as well as other kinds of complements. These permutations seem to complicate the landscape of 'from'-PPs, so this section will put various 'from'-PPs in a line-up in order to identify which are causative and which are not (*diagnosis*), discuss some possible problems and methods to differentiate these categories, and finally propose a possible structural approach (*therapy*).

In (5) below there are some representative cases of causative 'from'-PPs mined from different internet sources[11]. (5a&b) involve a non-verbal configuration and a stative predicate. Importantly

[11] Throughout this work I have used Google extensively for mining different examples, a practice that has become quite popular in the field of linguistics, especially when trying to find expressions that are not frequently used or easily elicited in everyday language. Admittedly, some linguists have raised their concern regarding the use of search engines as dependable sources. I have, however, found the use of Google searches inevitable, particularly for Greek, for

in both cases the argument of 'from' is understood as the Cause. Notice also that in (5a) the 'from'-PP does not introduce an optional cause. This will be vital in ascertaining the nature of the PPs. Also most lexical verbal examples involve anticausatives[12] like *melt* and *crack* in (5c):

(5) ***CAUSATIVE:***

a. Her fever is *from the flu shot*.
[http://pediatrics.about.com/od/weeklyquestion/a/05_flu_shot_rxn.htm]

b. She is tired *from* the day's activities.
[http://stoyasfamily.blogspot.com/]

c. The plastic lights and gauges melted and the […] windows cracked *from the heat*.
[http://www.fs.fed.us/eng/pubs/pdfpubs/pdf97512817/pdf97512817pt01.pdf]

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the following reasons: Firstly, alternative sources—one of the very few ones is the *Hellenic National Corpus* (*HNC/ΕΘΕΙ*)—are simply not comprehensive enough yet. Secondly, Greek presents a salient challenge due to its grammatical, morphological and orthographical complexity, which makes any search exponentially more difficult. Thirdly, most search engines nowadays have access to a wide variety of periodical publications and book contents, consequently search results cover a wider range than most official corpora available. Therefore, I decided to report selected examples from Google searches mined during the period 2010–2012.

For all and every example that does not have a source cited, I have obtained a native speaker's judgments and for this I am most indebted to: Marcel den Dikken, Tom Leu, Tanja Nagler, Nath Buschen, Uli Futchik, Thomas Sølling, David Haase, Rachel Varra, Elizabeth Praat, Syelle Graves, Giulia Bencini, Elisabeth Johnston, Veronica Qureshi, Ayana Smythe, Michelle Johnson, Anastasia Giannakidou, Arhonto Terzi, Katerina Chatzopoulou, Elissavet Mouhayari.

[12] Anticausatives (the term is often used interchangeably in the literature with *inchoatives* or *inchoative-causals*) are intransitive verbs that describe a change of state denoting "the result situation of the causal verb" (Haspelmath 2008). In most cases they have a transitive causative alternant (there are some cases, like *blossom*, that have no morphologically related causative alternant although they do give periphrastic causatives *make something blossom*) whose internal argument is identical to their external one:

(i) John broke the vase. [causative]
(ii) The vase broke. [anticausative]

Importantly, although they can convey causation in the sense that they describe some change of state of the patient, unlike transitive causatives, the cause is not always overtly expressed. As per their analysis with regard to their structure, whether they are derivationally related or what the directionality of this derivation is, there are different accounts available. Grimshaw (1982), for example, derives anticausatives via a process of inchoativization, a specified derivational direction which deletes the CAUSE operator and cause argument of a causative change of state lexeme. To the diametrically opposite side, we find Rákosi (2010) who argues that anticausatives have no causative syntax or semantics to start with.

Not all instances of 'from', however, have a causative interpretation. Although the range of interpretations is very wide, it will suffice, for the purpose of contrast, to show some major categories of interpretation, which are common in English—as well as in Greek, German, and Dutch, languages that will be most pertinent to the analysis of the 'from'-PPs under consideration here. Three major interpretations are easily distinguishable*: Causative*, *Spatial*, *Temporal*. The examples below cover the latter two:

(6) ***SPATIAL***:

a. If the income is *from* Arizona, […] [*Origin/place*]
[http://www.city-data.com/forum/washington/745601-1099-income-wa.html]

c. I can't find flights *from* New York to Thessaloniki. [*Location/place*]

(7) ***TEMPORAL***:

a. *From* Monday to Friday [*Starting point*]

b. I will start *from* tomorrow onwards.
[http://abchomeopathy.com/forum2.php/222177/]

Although some of these examples are readily categorized, for some others it is harder to discern a clear interpretation. Compare for instance the causative in (5a) and the locative (or more generally spatial) with an origin interpretation in (6a). What is in fact different between these two and how do we describe this difference? The answer to this question will be discussed in detailed in chapters 4 and 5 of this dissertation.

Even if we could always categorize each 'from'-PP and no tests were needed for ascertaining their nature, we would still run into another problem, namely ambiguity. Alexiadou *et al*. (2009) consider the co-occurrence of a verb with a P (specifically 'from') with a causative interpretation as evidence for that verb's causative nature. Two immediate problems arise: (a) a 'from'-PP can be ambiguous between a locative and a causative interpretation and (b) causatively interpreted PP do not always combine with causative verbs. Consider the following se of examples:

(8) Reports suggest that the vulnerability comes *from the internet* […] [*Causative*]
[http://news.oneindia.in/2009/07/07/microsoft-security-warning-pc-ie-excel-powerpoint.html]

(9) All my news comes *from the internet*. [*Locative*]
[http://www.crunchgear.com/2009/12/17/are-us-unmanned-drones-really-being-spied-on-with-a-satellite-internet-downloader/]

The interpretation of the prepositional phrase *from the internet* is not necessarily alike in each example. In (8), the internet is the cause responsible for the vulnerability. In (9), on the other hand, a locative meaning is ascribed to the from-PP referring to the internet as the virtual space of the news and not as the cause of the news. Also although the PP in (8) is causatively interpreted, *come* never delivers a causative meaning, which shows why co-existence with a 'from'-PP is not sufficient to diagnose causativity in any verb.

The different interpretations of what seems to be one and the same 'from'-PP indicate that we need to look more closely into the PP in order to gauge its causal nature. According to typological studies, 'from'-PPs have been shown to convey an array of interpretations—directional, temporal, causative, partitive, comparative—which are independent of the verbs they are a complement of.

Having shown that the presence 'from'-PP is not a sufficient indication on its own for causativity, as shown in (8), our attention is then logically oriented towards the verb in order to ascertain the causative nature of the sentence. This avenue, however, will not always lead to definite answers either, since it is entirely possible for a verb to participate in both interpretations (i.e., the verb *come* in these examples, which is not even considered a causative verb) and bring about ambiguous interpretations:

(10) A lot of business *comes from the internet.* [*Causative*/*Locative*]
[http://www.shopatlola.com/news/a-lot-of-business-comes-from-the-internet/]

Example (10) could be ambiguous between a directional reading akin to (9)—where *a lot of business* is received and conducted via *the internet* and not over the phone or in person for

instance—and a causative interpretation similar to (8)—where *a lot of business* is the outcome or the effect *the internet* may have as a medium of communication and dissemination of information and services which consequently generates business. Since there is not always a clear separation between causatives and non-causatives, some criteria will have to be established in the following sections, in order to ascertain the causative nature of a sentence and importantly to identify the "Source of causation", which will a central theme in this dissertation.

2.3 THE COORDINATION TEST

In search of a method to ascertain whether two 'from'-PPs are equivalent or not with respect to their interpretation, I will take advantage of the Law of Coordination of Likes (LCL) (Williams 1978).

The general interpretation of LCL assumes that in natural language, the coordinated conjuncts should in some sense be 'like' constituents. This equality can be manifested in different levels: syntactic, semantic, pragmatic, prosodic. Here I will follow a general semantically-flavored interpretation of the LCL based on Munn (1993), who proposes that the conjuncts in any coordination construction should belong to the same set of categories.

The set of categories Munn (1993:168) tentatively proposes include: *Manner, Time, Place, Event, Question, Proposition,* and *Predicate*. These categories and the semantic types of conjuncts predict the well-formedness of the coordination. So the conjuncts in: *John walked* [*slowly*] *and* [*with great care*], although they belong to different syntactic categories are able to be coordinated based on their semantic compatibility because they both belong to the *Manner* category and are of type $\langle\langle e,t\rangle,\langle e,t\rangle\rangle$. If the LCL allows only similarly interpreted constituents to be coordinated, it should then be expected that coordination of 'from'-PPs with different

meanings (and by extension belonging to different semantic categories) should yield unacceptable or infelicitous sentences. This will serve as a first test for identifying similarly interpreted 'from'-PPs.

In (11) below I have tried to coordinate different types of PPs to test whether they are compatible. The judgments prove that semantic compatibility is indeed a correct test:

(11) a. ??Mary left *from the garden* **&** *from the cold* [Place&*Cause*]
b. ??Mary left *from the garden* **&** *the cold* [Place&*Cause*]
c. ??Mary left *from early March* **&** *from the cold* [Time&*Cause*]
d. ✓ Mary left *from the garden from the cold* [No coordination]
e. ✓ Mary left (both) *from her jealousy* **&** *from the cold weather*[13] [*Cause*]

The judgments for (11a–c) show that Cause is not compatible with Spatial or Temporal 'from'-PPs and, as predicted, their coordination fails. Although (11a) and (11c) only suggest that the semantic difference is between the two coordinated PPs, it is noteworthy that (11b) is equally degraded. This is important because it points to a completely different research avenue, namely that there has to be some sort of incompatibility between the arguments of 'from' themselves and not just the whole 'from'-PP. Pursuing a semantic account alone for the incompatibility of *the garden* and *the cold* would soon raise problems. Recall here the discussion in the previous section about ambiguous PPs. If the interpretation of an NP were entirely independent of its selecting P, then we would be forced to assume that each NP carries inherent lexical properties responsible for its selection and interpretation. Practically we would not be able to derive the ambiguities seen in the previous chapter, nor would we be able to use those NPs in any thematic position other than the one designated for the particular interpretation. This is particularly

[13] Note that *the cold weather* cannot be ambiguous any more between a causative interpretation and a locative one as the N here cannot denote a location.

problematic in these examples because *cold* is not always interpreted as a cause, i.e., *the man that came from the cold* is not causative. And ideally we would rather have a uniform account for the judgments in (11a–c) instead of individual assumptions about each instance of each NP.

The only readily acceptable examples are (11d&e). Crucially, (11d) is no longer an instance of coordination. Although these *from*-phrases occur concomitantly, they are not conjuncts of some coordination construction with a null-head, since the spell-out of that alleged head would always yield an unfavorable judgment, as afore-shown in (11a). Instead in (11d), the first *from*-PP is predicated of "she" and the second *from*-PP, which is interpreted as the Cause, is predicated of "leave". So it is impossible to coordinate these two *from*-PPs:

(11d′) $[_{PredP1}\ [_{VP}$ leave $[_{PredP2}$ she $[_{Pred2'}\ [_{Pred2}\ ]\ [_{PP}$ from the garden $]]]]\ [_{Pred1'}\ [_{Pred1}\ ]\ [_{PP}$ from the cold$]]]$

The nature of the relation between the Cause-PP and the Causee was suggested in 2.1 to be predicational. I have adopted this relation for (11d′) as well. This will be further supported in the following sections, but for now what is significant is that PP_1 and PP_2 cannot be coordinates. The immediate consequence of this is that they do not fall under the LCL restrictions, hence the two differently interpreted PPs can coexist.

Finally, (11e) shows that coordinating semantically similar 'from'-PPs, in this case causative, yields an acceptable outcome, as predicted by the LCL.

Throughout examples (11) *Place* and *Time* are used according to Munn's categories. Cause (noted in italics in (11e)), however, does not constitute a separate category, although Munn leaves the possibility of there existing more categories open. One of the criteria used to identify

these categories is the existence of respective (*wh/th*) pro-forms: *there* indicates *Place*[14], while *then* or *when* indicate *Time*. This means that they should be able to replace the arguments of the second conjunct in coordination constructions as in:

(12) John turned *from this corner* and Bill turned *from there* too. [Place]

(13) A lot of good music came *from the 90s* but a lot of bad music came *from then* too. [Time]

Munn does not offer a pro-form designated for questioning Causes and concomitantly also does not suggest a Cause category. Cause, however, does have a pro-form in nonlexical verbal environments (see (14a)) which are also compatible with *so* (see (14b)):

(14) a. The fever is *from the cold* and the chills are *from that* too.

b. The fever is *from the flu shot* and ***so*** is the headache.

The fact that (14a) uses *that* in contrast to (12&13) will be of great value as it will be telling of the syntactic identity of the PP's argument. This will be studied in detail thoughout chapter 4.

The reason *so* is also significant is because according to Munn, *so* is the relevant pro-form for *Predicates* based on the example: *John is intelligent and **so** is Bill*. If this is correct, then in (14b) *so* is replacing a PP predicate[15].

[14] With the exception of the 'non-locative' *there* pointed out to me by Tom Leu and discussed in Kayne (2005b) as in *He spoke thereof*. Note, however, that even though it does not denote place, it is still licensed by a P_{LOC} as also argued for the locative *there*. Ultimately both types of *there* have the same licensing requirement and are topped off by a locative P. The relation with PP structure and Place interpretation will become more relevant in chapters 4 and 5.

[15] *So* does not substitute only predicates, but as we will see in 3.2.5, the whole PredP. In examples *like Mary puked from the wine and so did Bill*, *so* will have to target the whole PredP, not just the predicate.

This supports a predicational analysis for causative 'from'-phrases (unlike their Place and Time counterparts), but let us consider whether there is syntactic evidence for a predicational analysis in the literature.

2.4 THE PROPOSED TREATMENT

It is an interesting fact that a 'from'-PP may convey cause as easily in (anti)causative configurations as in non(anti)causative or even nonverbal constructions. So in the sentences below (which are both unambiguous), there is nothing that clearly or necessarily conveys causativity, nevertheless, the argument of each *from*-PP is straightforwardly interpreted as the main cause of the preceding situation, namely *her fever* or of the fact that *she is tired*.

(14) a. Her fever is from the flu shot.
b. She is tired from the day's activities.

The fact that 'from'-PPs can convey causativity independently of the structure they appear in, more specifically beyond (anti)causative structures, strongly suggests that they are able to establish a causal relation on their own between the 'from'-argument and the preceding caused event/state.

Solstad (2007) reaches the same conclusion based on his study of the German *durch* ('by, through'). He observes that "*durch* has a similar effect in combination with both stative and inchoative[16] predicates and that *durch* can be made responsible for the interpretation of a causal relation" (p.486). Solstad's treatment endows the semantics of *durch* with a CAUSE predicate. If the semantic analyses mentioned in the previous section are on the right track regarding the eventive status of causative 'from'-PPs, then this should be expected to carry over to Solstad's

[16] The term "inchoative" is used interchangeably with "anticausative".

durch-phrases. In the example below, he presents a causative *durch*-phrase which is assumed to introduce CAUSE on its own since there is no other source of causation. Given that causative PPs should be eventive, the *durch*-argument in this case will have to be reinterpreted as eventive:

(15) Das Spracherkennungssystem wird *durch* eine Taste aktiviert. GERMAN
The speech-recognition-system is through a key activated
'The speech recognition system is activated by pushing a key.'

This is indeed the case: Although the *durch*-phrase expresses an *entity* ("a key"), the interpretation of *durch eine Taste* is eventive. This is more explicitly shown in the English prose translation "by pushing a key". Solstad derives the eventive reinterpretation via a semantic "sortal shift" and considers it as evidence for the presence of a CAUSE predicate since causative predicates require eventive causes and not entities. Solstad's analysis is important because: (a) it reinforces the fact that causes are eventive, as predicted in the previous section and (b) it suggests that causative *durch*-phrases (similar to 'from'-phrases) are predicative and able to introduce a CAUSE element independently of the structure they participate in.

Along the same line, Rákosi (2010) studies anticausative constructions that license three types of "non-canonical" (partly in the sense that they are non-agentive) types of causers (what I refer to as Cause here): those found in 'from'-PPs, those licensed by *by*-itself phrases, and finally unintentional dative causers. The reason these causers are considered "non-canonical" is because they manage to get licensed by anticausatives, which lack an external argument. The plot becomes more interesting when he challenges the extant theories regarding the underlying structure of anticausatives, which all merge in one assumption, namely that anticausatives syntactically involve some causative structure (e.g., a CAUS head or CAUS features) responsible for conveying the change-of-state interpretation.

Based on the distribution and properties of ablative causers in Hungarian—treated on a par with causers introduced in English by *from*, in Greek by *apo*, and in German by *durch*—Rákosi provides evidence that anticausatives do not have an underlying causative syntax or semantics (for details of his analysis see Rákosi (2010)). If anticausatives are not syntactically causatives, then these non-canonical causers cannot inherit their causative interpretation from the structure they adjoin to and, thus, causation must have some other source (at least in these cases). This is reinforced by the fact that non-canonical causes are attributed a causative interpretation even beyond the realm of (anti)causative structures—ablative causers are licensed in anticausatives as well as in transitives, and stative predicates). Rákosi arguess for a predicational nature of these ablative arguments (causes), hence considering non-canonical causes (with the 'from' cases being most pertinent in this work) as predicates of the caused events. This property of introducing a causal relation by themselves is then inferred at a post-syntactic interface. A desirable consequence of assuming that causation is inferred through a predicational configuration is that we do not need an explicit underlying causal syntax any more. Ultimately, this accounts for the interpretation of 'from'-PPs (among other non-canonical causes) as Cause in stative contexts like.

Finally, Roy&Svenonius (2009) offer an analysis of complex causal prepositions which will be responsible for introducing Cause in much the same way other Ps introduce Space. Roy&Svenonius map the decomposition of complex causal Ps (i.e. *à cause de* 'because of', *afin de* 'in order to', and *de façon à* 'in order to') onto the well know analysis of complex spatial Ps (i.e., *in front of*) from Svenonius (2006, 2008), which is comprised of three major parts:

(15) FIGURE [$_{Place}$ *in* [$_{AxPart}$ *front* [$_{K}$ *of* [$_{DP}$ GROUND]]]] [Spatial]

(16) RESULT [$_{Place}$ *à* [$_{AxPart}$ *cause* [$_{K}$ *de* [$_{DP}$ CAUSE]]]][17] [Causative]

a. [Paul a annulé son voyage]$_{Figure}$ *à cause de* [Marie]$_{Ground}$
'Paul cancelled his trip because of Mary.'

b. Les sans-papiers doivent s'unir] $_{Figure}$ *afin de* [défender leurs droits]$_{Ground}$
'Illegal workers must unite in order to defend their rights.'

The suggested mappings are based on a re-interpretation of each head for the complex Ps that denote cause in (16a,b). In the re-analysis in (16) the GROUND represents the CAUSE (based on Talmy (2000)). In the same way the FIGURE is 'translated' as the Effect of that CAUSE. Importantly, the causal relation in (16) is expressed by the prepositional linking of GROUND (CAUSE) and FIGURE (EFFECT, CONSEQUENCE) as abstracted in (16) and illustrated in examples (16a&b): In (16a) the Place *à* expresses a relation between the CAUSE 'Marie', which is identified by the AxPart as a "consequence" type of relation lexicalized as *cause*, and the resulting event 'Paul cancelled his trip'.

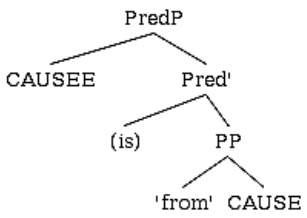
Two points should be highlighted in the Roy&Svenonius account with regard to the proposed treatment of Cause in this thesis. Firstly, causative interpretations can be rendered by a P alone (a complex preposition in this case), which is close to my suggestion for 'from'. I do not, however, consider the lexical properties of 'from' responsible for interpeting its complement as Cause. In other words, there is no "causal P" (unlike S&R 2009), but the causal meaning is distilled from the syntactic environment 'from' participates in. Secondly, the causal link between CAUSE and RESULT is based on the truth conditions of the whole structure. For example in (16), the truth conditions dictate that the RESULT argument has to be "among the 'consequence' subset

[17] The notations in (16) are my interpretation of the Roy&Svononius (2009) analysis.

[denoted by the AxPart] of the set of all events which are causally downstream" of the CAUSE (R&S 2009:8). In other words, (16) describes a causative relation (i) because there is a semantic subset relation between Figure and Ground arguments and (ii) due to the lexical properties of P. For the non-lexical verbal configurations, however, I suggest that their causative interpretation is the outcome of the internal structure of the 'from'-PP (which is nonetheless underspecified, unlike *à cause de* which is suggested to mark its complement as Cause), and the syntactic environment this PP is found in.

Based on these observations and arguments, I will pursue a closer investigation of the structure, derivations, and distribution of causative 'from'-phrases to argue for their predicative nature. The main inspiration for arguing for their predicational nature, as abstractly depicted in (17), is attributed to Marcel den Dikken and his seminal work on predication. I will be referring back to (17) in the rest of the thesis as the "proposed underlying structure of causative 'from'-PPs":

(17)



CHAPTER 3 IDIOSYNCRASIES OF 'FROM' IN CAUSATION

In this chapter I will review why *make/cause* are interwoven with the notion with *causation*, investigating their uses across languages. Then I will show how only causatively interpreted 'from'-PPs manage to alternate with *make/cause* and argue for the syntactic nature of these alternations. This will be important because it will establish a link between *causation* and the particular set of 'from'-PPs. Additionally, these sybtactic alternations will help shed some light on the distinction between Agents and Causes.

3.1 THE COMPOSITION OF *MAKE*

The fact that many different languages convey causation by using the verb that corresponds to the translation of the English *make* suggests that the semantics of causation in language is encapsulated in the meaning of the verb *make*. This will be useful if we manage to 'transfer' the semantic properties of 'make' to those of 'from'-PP. Moreno (1993) observes the verb *make* has three main uses: (i) *Lexical*; where it participates in transitive constructions that denote the creation of a new entity/object (implying a *causative meaning*), also referred to as the "effected object", i.e. *he made a cake*; (ii) *Phrasal*; where *make* combines with a verb (transitive or intransitive), noun or adjective to form a complex phrase that describes an activity or a process without necessarily producing a new entity/change. Compare for example: *darvaazsaa band karnaa* [door closed make] 'close the door' in Hindi with *lo egin n-u-en* [sleep make 1SG-have-PAST] 'I slept' in Basque. In the former there is a change of state expressed by the combination of "close-make" but in the latter there is no effect produced, hence such an example is straightforwardly not causative. (iii) *Syntactic*, where *make* has no lexical content but rather functional, acting as a causative marker (i.e. *he made Mary talk*). It is this third use of the verb

make that will be center stage in this thesis, since it is this sort of examples that not only convey a causative meaning (akin to the lexical use of *make* as a creation verb) but also participate in "causative constructions". Notice that these three uses are derived from a "progressive abstractive generalization" starting from the creation of physical objects (*a cake*) to more abstract entities (*an agreement*) and finally extending to events (*Mary talk*), with the last being considered a "causative use" or a typical "causative construction".

The fact that the verb *make* can participate in causative constructions (with its syntactic use) across a wide array of languages, implies that its semantic composition is in crucial respects identical to the properties and features of causation *per se*. These features have been discussed and revisited frequently in the literature (see also DeLancey 1984; Talmy 1985; Song 1990; Jackendoff 1990; a.o.). Below is a selective and brief description of these features.

The first feature is *Force* (Talmy 1985): it refers to the energy exerted by the cause in order to bring about an event or a change in the state of the affected object. The second feature is *Purpose* (Song 1990): it describes the intention or volition of the causer. Since there are cases where the caused event takes place inadvertently by an *unintentional causer* as in *John accidentally broke the vase (by tripping over the table)* (Schäfer 2007), *Purpose* is not a *sine qua non* condition for causation but only participates optionally. The third feature is *Transition* (Moreno 1993): It is the actual change of state of the causee, the shift from the original form or state or property to an acquired one once the cause is present. The causative constructions that will be analyzed here involve a cause as a starting point of a process (the main *source*) responsible for bringing about a change of state or event with regard to the causee. In sum, causation is the exertion of *force* (F) that brings about a *transition* (T). Notice that purpose (P) is not an essential ingredient.

The fact that only 'make' verbs are found across most languages of the world, they convey a causative meaning in all their uses (lexical, phrasal, syntactic) and denote *transition* and *force* is suggestive of their close relation to causation. For languages in which 'make' lacks *F* (i.e. Basque, Japanese), special causative affixes are used to compensate for the absence of that feature or else the construction cannot be rendered causative. For instance, in the Basque example presented earlier (*lo egin n-u-en* [sleep make 1SG-have-PAST] 'I slept'), the phrasal use of *egin* 'make' in the sentence 'I slept' did not convey any causative meaning because *egin* has *P* and *TR*, but crucially lacks *F*. Lack of *F* preempts it from participating in causative constructions. To remedy that, Basque uses the causative infix *-ra-* which carries *F*. Thus, although *egin* cannot participate in a causative construction (*lo egin* 'sleep'), *eragin* can (*lo eragin* 'make sleep').

The fact that all equivalent translations of 'make' in so many different languages denote "a purposive transitional process brought about by force"—which is the semantic composition of causation *per se*—is responsible for its closely woven relation with causation. On a more practical level, this analysis can offer theoretical and empirical support to a *make*-or-break test of 'from'-PPs with regard to their causative interpretation in different constructions, for as long, of course, as 'make' and 'from'-PPs are proven to be interrelated.

3.2 Idiosyncrasies Of 'From' In And Out Of Causation

3.2.1 Alternations: A Gold Standard Test?

Levin (2007) offers an interesting diagnostic for testing the causative nature of 'from'-PPs linked them directly to 'make'. She shifts the attention away from the preposition itself (in contradistinction to the approach of Alexiadou 2009 *et al.*) and focuses on the idiosyncratic properties of the argument DPs of these 'from'-PPs. It is these DPs that will eventually be

responsible for interpreting the whole PP as causative. The diagnostic is based on the observation that it is only the DP arguments of causative *from*-PPs that can become the subjects of a periphrastic causative with the verbs *make*/*cause*[18].

Having presented a short account on the causative nature of *make*, let us investigate the merits of a *make/be from* alternation scenario. In order to make sure that such alternations can be a 'gold standard test' for causative 'from'-PPs, it will not be enough to show that 'from'-PPs with a causative interpretation alternate with a periphrastic *make/cause*, but, as den Dikken points out, it must also and unexceptionally be the case that such alternations systematically fail when the 'from'-PP has any other interpretation (i.e., *spatial*, *temporal*). Verbal and non-verbal alterations in (1–3) are equally acceptable, with the *b*-counterparts conveying the same meaning as their *a*-counterparts. The alternations of intransitive verbs (primarily unaccusatives, rather than unergatives) that take either locative or temporal *from*-PPs in (4–6) are not acceptable paraphrases of their *a*-counterparts:

CAUSATIVES:

(1) a. The unemployment is **from** the crisis.
b. The crisis **caused** the unemployment.

(2) a. The pollution of the gulf comes **from** the oil spill[19].
b. The oil spill **caused** the pollution of the gulf.

(3) a. The door opened **from** the wind.
b. The wind **made** the door to open.

[18] Alternations of *make* and *(cause) to be* are described in Heine&Kuteva (2002) as part of a more general evolution of the verb *make*, which participates in the process: "MAKE X > (cause) to be X", observed in denominal verbs in Tamil (among other languages). In the examples they submit, *make X* is semantically equivalent to *cause to be X*. Given that *from* conveys cause, these *make/be from* alternations are also expected to be equivalent from a typological point of view as well.

[19] *The oil spill* is the only possibly ambiguous DP in examples (1–3) in a scenario where the oil (which is understood as pollution) has been transferred from location A (out of the gulf) to location B (the gulf).

NON-CAUSATIVES:

(4) a. John telephoned **from** a distance. [Locative]
b. *A distance **made** John telephone.

(5) a. John arrived **from** Rome. [Directional]
b. *Rome **made** John arrive.

(6) a. Babies smile **from** an early age. [Temporal]
b. *An early age **makes** babies smile.

The examples in (1–3) show that all cases of causatively interpreted *from*-PPs, alternate with a *make*/*cause* construction unlike the non-causative one in (4–6). However, it is necessary to test whether this alternation works in both directions, that is, whether every and only *make*/*cause*-causatives can also alternate with a 'from'-PP.

In (7–11) below, it is the case that all *make*/*cause* constructions can alternate with a 'from'-PP. Here it is also useful to consider verbs other than *make*/*cause* that convey causativity, like *bring* or *give* in examples (10&11), which pattern like *make*/*cause*, providing additional support to the V_{CAUS}-to-*from* alternation direction (and by extension possibly grounds to consider a scenario in which verbal causation is underlyingly prepositional):

(7) The cold **made** John leave early.
John left early **from** the cold[20].

(8) Strain **made** the pipes break.
The pipes broke **from** strain.

(9) The recent earthquakes **caused** a great damage.
A great damage **came from** the recent earthquakes.

(10) A last minute inspiration **brought** the idea.
The idea **was from** a last minute inspiration.

(11) Genetic transfusion **gives** new breeds.
New breeds **come from** genetic transfusion.

[20] In (7–11) only *the cold* could be interpreted spatially as discussed in ch.2.

The fact that only causative-PPs allow their argument DPs to undergo this alternation suggests that: (i) the *make*/*be from* alternation is possible *only* for causative constructions and (ii) it is a sound diagnostic for distinguishing causative 'from'-PPs from other types of 'from'-PPs.

While a causative construction always supports a *make*/*be from* alternation, lexical uses of *make*—in the sense of *creation*—do not support alternations. This is an additional argument for the validity of the V_{CAUS}-to-*from* diagnostic. The examples in (12a,b) show that a lexical use of *make* can only support *from*-alternations when the P-argument denotes *origin*, but not *cause*. So the only available reading for *the cake is from Bill* is the non-Agentive one, which is not semantically equivalent to *Bill made the cake*.

(12) a. Bill **made** the cake. [*Bill made the cake*]
The cake **is from** Bill. [*Bill brought the cake*]
The cake **is from** Bill [*Bill baked the cake*]

b. Bill **made** this painting. [*Bill made the painting*]
This painting **is from** Bill. [*Bill gave/brought the painting*]
This painting **is from** Bill. [*Bill painted it*][21]

Interestingly, when the theme of lexical *make* is a non-agentive entity as in (13), the ambiguity observed in the *from*-alternant example disappears and the two alternants are semantically equivalent:

[21] Native speakers of English intuitively interpret examples like (12) as *source*, where Bill has brought the cake or the painting but not made either of them. Interpreting Bill as the baker or the painter, however, is not entirely impossible. In fact, there are a few examples available online:

(i) The first painting is from Pat Marvenko Smith and was done in 1992.
[http://www.sermonsfromseattle.com/books_of_the_bible_the_lamb.htm]

What is interesting though, is that the frequency of such examples is significantly smaller in comparison to all other interpretations (spatial, temporal, source). Example (i) was the first relevant interpretation of the *from*-argument after 110 Google returns (roughly speaking, 1% of all the Google returns for "the painting is from__"). But more importantly, native speakers of English report that such *from*-PP interpretations sound non-native and are actually dispreferred when we want to convey the meaning of Bill being the baker or the painter.

(13) My own head **made** the argument.
The argument **is from** my own head. [only causative reading available]
[http://lyfaber.blogspot.com/2010/02/scotistic-argument.html]

Alexiadou *et al.* (2007, 2009) bring up another class of verbs that resists causative alternations, namely *unergatives*. The claim that unergative verbs resist Causes is based on the fact that unergative verbs already have a subject (*agent*) which, in turn, has control over the event. Therefore, the addition of an external *cause* is impossible since it would compete for the same position. In addition they argue that unergatives do not have a causative analysis (which seems to be true) thus they should not be able to combine with cause-PPs. Remember here that they also argue that co-occurrence with a Cause-PP can be used as a causativity diagnostic,[22] which then cyclically proves again that unergatives are not causative. However, there are some important empirically challenges. In the rest of this section I will discuss how unergatives invite cause-PPs and why this is not problematic.

Alexiadou *et al.* (2009) discuss some cases of unergatives that seem to exceptionally accept causative 'from'-PPs (which are also unambiguous) like:

(14) She jumped from happiness.

Their conclusion nevertheless is that unergatives do not have a causative interpretation and that examples like (14) do not constitute counterevidence because:

(A) They resist alternations as in:

(14′) ??Happiness *made* her jump.

[22] As discussed in 2.1, I will not consider this as a valid diagnostic, since mere co-occurrence with a causatively interpreted PP does not necessarily deem a sentence or a verb causative.

In other words, they cannot become subjects in periphrastic causatives. The examples provided below, on the other hand, constitute direct counter-evidence to this argument and more specifically for that *from*-PP:

(15) A sudden loud explosion *made her jump* back in surprise.
[http://www3.interscience.wiley.com/cgi-bin/fulltext/119151526/PDFSTART]

(16) The touch on her shoulder *made her jump* and brought her back to reality.
[http://www.fanfiction.net/s/2883112/1/Dark_Flight_Down]

(B) They do not convey Cause but Source.

Arguing that *happiness* in (14) is not the *Cause*, but has instead some *Source* is semantically tautologous since I have extensively argued that *Cause* is a kind of *Source*. In absence of a formal distinction between the categories *Source* and *Cause*, it is not possible to argue for their different interpretations. Additionally, it does not shed any light on why or whether these unergatives resist alternations.

To extend the discussion beyond (14), I provide below additional examples from both English and Greek with unergative verbs taking 'from'-PPs with a causative interpretation. In (17), the cause-NP can become the subject of a periphrastic causative sentence headed by *make* rendering an equally causative meaning as the prepositional counterpart:

(17) ***UNERGATIVE ALTERNATIONS:***

a. i gineka *fliarouse* astamatita **apo** amixania GREEK
D woman babbling$_{PAST}$ endlessly from awkwardness
I amixania **ekane** ti gineka na *fliari* astamatita.
D awkwardness made D woman to babble endlessly
'The woman was babbling endlessly from awkwardness →
Awkwardness made the woman babble endlessly.'

b[23]. *Etrexe* stin Athina **apo** fovo min ton prolavi kanenas alos.
running to-the Athens from fear not CL catch up no one else
O fovos na min ton prolavi kanenas alos ton **ekane** na trexi stin Athina.
D fear to not CL catch up noone else CL made to run to-the Athens
'He was running to Athens out of fear that someone would catch him →
The fear that someone would catch him made him run to Athens.'
[http://www.koureio.net/]

We have been *running* **from** fear since 9/11.
Since 9/11 fear has **made** us run.
[http://spiritualpopcorn.blogspot.com/2005_07_01_archive.html]

c. O aetos *petaxe* psila **apo** ton dinato aera.
D kite flew high from D strong air
O dinatos aeras **ekane** ton aeto na petaksi psila.
D strong air made D kite to fly high
'The kite flew high from the strong wind →
The strong wind made the kite fly high.'

Your spirit *flies* high **from** the joy of doing what you did.
The joy of doing what you did **makes** your spirit fly high.
[http://www.datehookup.com/Thread-258833.htm]

d. The warmth **made** her yawn.
She yawned **from** the warmth.
[http://www.mycandylove.com/forum/t9406,3-immortal-academy.htm]

e. Carbonation **made** him burp.
He **burped** from the carbonation.
[*This Vacant Paradise* by Victoria Patterson, p.221]

If the periphrastic causative criterion is valid across-the-board, then these 'from'-PPs are causative in nature and contrary to Alexiadou's *et al.* suggestion they *do* combine with

[23] Let me point out that (17b) constitutes direct counter-evidence to Alexiadou's *et al.* (2009:10, example (35)) repeated below as (17b′):

(17b′) *[/#]i stratiotes perpatisan *apo* fovo. ***vs***. (17b) etrexe [..] *apo* fovo.
'The soldiers walked/marched *from* fear.' 'he was running *from* fear.'

Although (17b′) is not as readily acceptable (no combinations of "walk from" could be mined online either) as (17b), it is not the case that it is ungrammatical (hence the two judgments in (17b′)). After all, the fact that (17b′) is somehow degraded does not necessarily mean that this is due to the 'from'-PP that cannot combine with unergatives and certainly not that this PP cannot convey causation—which is straightforwardly the case in (17b).

The reasons responsible for the unfavorable judgment of (17b′) are most probably pragmatic, rather than grammatical. It is usually the case for "fear" to trigger more intense or extreme reactions, such as "running", rather than simply "walking" or "marching". Consequently (17b′) is not ungrammatical (especially in the light of equivalent constructions like (17b)), but simply infelicitous due to pragmatic considerations.

unergative verbs. Additionally, it is also claimed that unergative verbs cannot take natural force causing event NPs, however, (17c) features "strong wind" as a cause *is* acceptable.

What the examples in (17) show overall is that: (a) causative 'from'-PPs are not banned from unergative constructions.

This section has investigated and confirmed the validity of *make/be from* alternations as a diagnostic for causativity by testing different possible alternations taking into consideration some exceptions and restrictions. In sum, these alternations apply bidirectionally and across-the-board. In other words, only causative *make* examples alternate with 'from'-PPs, while at the same time, only causative 'from'-PPs alternate with *make*, unlike other interpretations of 'from' like locative, directional or temporal. Notably, these alternations apply equally to non-verbal as well as verbal environments, while in the latter, they extend both to transitive and intransitive cases. Finally some unergative examples were discussed due to their non-causative nature and it was empirically shown that they are not allergic to causative 'from'-PPs and that they support periphrastic alternations, modulo pragmatic considerations.

Overall, two are the most important conclusions up to now: (i) the *make/be from* alternation is a valid causative diagnostic and (ii) causation is conveyed by the preposition *per se* because we have seen at least two environments—non-verbal configurations and unergatives—which by common concensus, lack a causative analysis (independently of what that analysis might be), but nevertheless successfully combine with causatively interpreted 'from'-PPs. In the following section, I will submit some additional observations regarding the availability of Agents or Causers, along with some discussion on their interference with the nature of the verb they appear with.

3.2.2 AGENT/CAUSER INHIBITIONS

It was shown that V_{CAUS}-to-*from* in (1–3) work well across all examples, but 'the fly in the ointment' is that the nature of the cause can interfere with the availability of such causative alternations. More specifically, the generalization is that V_{CAUS}-to-*from* alternations seem to work well for as long as P's complement is not animate, and consequently 'from' is always associated with *Cause*, but not with *Agent/Causer*. We can see this in the alternations in (18b&19b) which do not yield the same judgments as their inanimate counterparts (18′&19′):

(18) a. *Mary* **made** John leave early.
b. *John left early **from** *Mary*.

(19) a. *Jack* **made** him sneeze.
b. *He sneezed **from** *Jack*.

(18′) John left early **from** *Mary's nagging.*

(19′) He sneezed **from** *Jack's pepper tricks*.

The difference in acceptability becomes immediately apparent if we replace the animate 'from'-argument with an inanimate nominal phrase, a Cause as in *Mary's nagging* or *Jack's pepper tricks*[24]. Although the generalization that the complement of 'from' must be inanimate seems to be unexceptionally true, I will have to reserve a more in-depth analysis for future work. In what follows, I will lay out certain considerations in accounting for the ban of animates in the complement of 'from' with regrd to the current literature.

[24] Although animates are banned in the complement of *from*, it was pointed out by some native speakers that within an appropriate scenario, an Agent *could* be licensed in this position:

(i) Mary left *from John.*

The intended reading for (i) is a *causative* one where *John* is the *cause* of *Mary's departure*. However, *John* is always understood as a phrase with some null constituents rather than a single proper noun, along the lines of: "John's behavior" or "John's remarks", with the silent parts (*behavior, remarks*) being retrievable from the context. Ultimately, (i) can be considered acceptable for as long as the P-complement is understood as a causing event very much in the same spirit as (18′&19′).

Restrictions on animacy of an argument have been related to the semantics of the verbs they combine with. The literature is mostly concerned about internal (*wilt, blossom, decay*) and external change of state (COS) verbs (*destroy, kill, write*) and the kind of subjects they combine with[25]. It seems that the subjects of internally COS verbs are rarely agentive and, by extension, animate (Wright 2001). Exceptions, however, have been noted by McKoon&McFarland (2000) where animate Causers or Agents *do* combine with internally COS verbs as in:

(20) The gardener **allowed/?caused** the prize rose to wither/wilt.

(21) The boy left his bicycle out in the rain and **let/?made** it rust.

Notice that periphrastic causative constructions with animate causers are more easily deemed acceptable when they employ verbs like *allow* or *let* rather than *make* or *cause*. Levin (2009) argues that one of the reasons for this lies in the nature of processes that internally COS verbs describe. Since such verbs describe inherent biological processes, they "will happen inexorably in the natural order of things", thus any direct (agentive) causation is preempted and only indirect

[25] The notion of "change of state" encapsulates a sense of causation since these verbs "describe changes in the physical shape or appearance of an entity" (Levin and Rappaport 1995). A COS predicate denotes some transition from one state to another, also attested in Dowty's BECOME operator which conveys the notion of change. Interestingly, COS verbs participate in causative alternations: *John opened the window/the window opened*.

A closer look, however, immediately reveals many exceptions in terms of the transitive/intransitive and causative/non-causative uses of these verbs that need to be accounted for. Levin and Rappaport (1995:89) introduce the distinction between *internally* and *externally* COS verbs to predict whether a COS verb would participate in a causative alternation and, by extension, have a causative underlying structure or not. Their suggestion was that intransitive verbs with transitive causative alternants (*the vase broke/he broke the vase*) are *externally* COS verbs. On the other hand intransitives without causative alternants are *internally* caused (*he laughed*). This distinction then roughly corresponds to the unaccusative/unergative distinction and is also proposed as an unaccusativity diagnostic by L&R (1995).

The distinction should not be treated axiomatically though since there are some exceptions cross-linguistically. Alexiadou (2010) correctly points out, based on a cross-linguistic study, that "the distinction might be the correct generalization concerning the morphological pattern of anticausative formation in certain languages (unmarked *vs*. marked), but not concerning the cross-linguistic distribution of the alternation."

causation can be deemed possible, which is preferably expressed by natural environmental forces, circumstances or attributes (non-agentive, in general).

The inherent properties of internally COS verbs, however, do not necessarily presuppose that a third party *cannot* interfere. If the caused event is contingent on the active participation of an external causer/agent, while at the same time, its absence prevents the initiation and progression of the event, then we can safely assume that we are dealing with a causative relation between external direct causer/agent and causee. For instance, although one may suggest that roses will eventually bloom due to their inherent property to blossom, it is also the case that they might not unless someone interferes. Consider the example *David can bloom roses in the middle of winter* (also repeated as (22j) below), where had it not been for *David*, the roses would not have naturally *bloomed* in the middle of winter. Notice that in such examples the choice of *let/allow* over *make* is critical since it can give out different readings: *let/allow* presupposes that *David* did not interfere (i.e., by killing or pulling up the flowers), but on the contrary it was the absence of his interference as an agent that helped the roses bloom. *Make* on the other hand, strongly suggests a direct and volitional interference (i.e., David gave the roses some synthetic plant steroid) that brought about the blooming, contrary to the roses' inherent property of blooming in the summer and not in the middle of winter[26].

[26] Although (22j) is a verbatim example from a conversation, one may also find similar sentences abiding by the same provision of interference:

(i) The Palestinians made the desert *bloom*
[http://lawrenceofcyberia.blogs.com/news/2010/03/palestinians-made-the-desert-bloom.html]

This example clearly presupposes the interference of Palestinians as the causers of the desert's blooming, which, importantly, would not have done so otherwise.

Another reason for internal COS verbs being recalcitrant to external causes, according to Levin (2009:22), is the following: "As many of these changes are viewed as undesirable (e.g., *rotting, wilting*, etc.), it is unlikely that they will be indirectly caused by a third party; hence, the paucity of *make* and *cause* examples." In other words, our knowledge of the world builds the assumption that agents would not act to bring about "undesirable" effects. This, of course, is easily disproven given the right circumstances. After all, the "undesirability" of internal changes, such as *rotting*, *wilting* or *decaying*, is only based on the mistaken assumption that they are always bad or undesirable[27]. Although examples that feature animate causers/agents of internally COS verbs are indeed rare, they are certainly not absent. Most of the following mined examples cover a wide range of causative versions of internally COS verbs as well as their periphrastic counterparts with *make*:

***GREEK**:*

(22) a. ihe perasi "aeriko" apo pano tou ke ton *emarane*.
had passed pixie from above him and CL wilted
'a pixie had passed over him and *wilted him*.'
[http://www.sarantakos.com/kibwtos/mazi/ppd_aeriko.html]

b. epitides to *skourjase* olokliro.
purposely CL rusted all
'he *rusted it* [the car] on purpose'
[http://www.alfisti.gr/forum/archive/index.php/t-11296.html]

c. tha valo to kranos mou, tha paro to glob kai tha se *sapiso*.
FUT put D helmet my FUT take D bat and FUT CL rot
'I will put my helmet on, I will take my bat and *I will rot you*.'
[http://ziou-kitsou.blogspot.com/]

d. i thea tis anixis ekane ta louloudia na *anthizoun*
D goddess D spring made D flowers to bloom

[27] Here are some examples of *desirable* uses of such verbs:

(i) Instantly, you cannot create alcohol. It has *to rot, rot, rot*, and the more it rots, the more good it is, they say. [http://kalkichrist.wordpress.com/2010/01/01/it-is-wise-to-avoid-insulting-christ-shri-kalki/]

(ii) *Duracoat* does plenty good for firearms. You have to *rust* your surface first. Then it bonds to the rust and becomes part of the metal.
[http://www.marlinowners.com/forums/index.php?action=printpage;topic=53088.0]

(iii) To make spinach salad really great, you have to *wilt* it in the dressing just a little so that the flavors meld together. [http://southerngracegourmet.com/warm-spinach-salad/]

kai tous agrous na *karpoforoun*.
kai D fields to bear fruits
'the godess of spring *made the flowers bloom and the fields bear fruits*.'
[http://resistance-hellas.blogspot.com/2010/05/blog-post_6776.html]

ENGLISH:

e. There is a woman who played that banjo so badly and sang so poorly that I think *she made the flowers wilt*.
[http://wyaryan.blogspot.com/2007/10/accentuating-negative.html]

f. *They made him rot* so he would be eaten more quickly in the river.
[http://psychicteamwork.com/MISSING/publicr/adjidesircase648page2.htm]

g. *He made the millet and barley rot* in the fields.
["Nart Sagas from the Caucasus"]

h. *He caused the towns to decay*
[http://www.informaworld.com/smpp/content~content=a727190284&db=all]

i. Wherever she found a bloodied scuff, *she rusted the vehicle's bodywork*.
[http://www.guardian.co.uk/books/2008/sep/27/jeanettewinterson.alismith]

j. *David can bloom roses* in the middle of winter.

The examples in (22) not only show that external causers may, in some cases, be agentive, but they also challenge L&R's (1995) conclusion that internally caused COS verbs do not have causative transitive uses[28]. Although such examples may not be widely used, their presence is nevertheless unequivocal. Levin (2009) refers to these cases as "occasional causative transitive uses" of some unergative verbs and argues against a causative analysis for their underlying structure. In other words, although all examples in (22) have a causative interpretation, they should not be assigned a causative underlying structure.

3.2.3 CORRELATION NOT CAUSATION

Alexiadou *et al.* (2009) claim that internally caused verbs *do* have a causative structure involving a *v*CAUS head responsible for the licensing of the cause-PP and they note another distinction: with verbs of internal COS, *apo* 'from' is dispreferred, while *me* 'with' is more preferable. This

[28] In fact, Levin&Rappaport *do* admit that although internally caused change of state verbs due to their inherent properties do not need an external cause, nevertheless they may occasionally have one "and in such instances causative uses of these verbs are found" (L&R 1995:97).

distributional pattern is attributed to the fact that internal COS verbs do not have external *direct* causes but can only license indirect causes[29]. In other words, *blossom* should be able to combine with a cause but only if it is *indirect* and consequently introduced in a *with*-PP. The relevant

[29] Alexiadou *et al.* (2009 and earlier) attribute the distinction between *apo* 'from' and *me* 'with' on the nature of the causal relation, namely *direct* or *indirect* following Bittner (1999) who introduces the notion of *direct* causation. Given that causation is a configuration of events *e* and *e'*, where one chronologically precedes the other, then *e* an *e'* are in a *direct* causal relation iff there is no other *intermediate cause* in the pragmatically determined causal order. The notions of *direct/indirect* causation are reinterpreted by Levin&Rappaport (1999) with event related terminology: *direct* causation constitutes one event with two co-identified subevents, while *indirect* causation involves two (or more) temporarily distinct events.

Although *me* 'with' does seem to describe two independent events, the suggestion that *apo* 'from' is reserved for *direct* causation, however, is not borne out empirically. I submit here two unambiguous examples of *indirect* causation (where intermediate causes occur between cause and causee) that are perfectly compatible with an *apo*-PP denoting an external and independent cause:

(i) i perikopi tha erthi *apo* tin allagi stis siskevasies ton farmakon. GREEK
D cuts FUT come from D change to-the packaging D drugs
'The budget cuts will be due to a change in the drugs's packaging'
[http://www.iatronet.gr/endoscope.asp]

(ii) 2,5 ekat. Euro imerisios «xani» i Θessaloniki *apo* tis kathisterisis
2.5 mil. Euro daily loses D Thessaloniki from D delays
sto ergo tou metro.
to-the construction D metro
'Thessaloniki "loses" 2.5mil. euros daily from the delays in the metro construction.'
[http://portal.tee.gr/portal/pls/portal/PORTAL.wwsbr_imt_services.GenericView?p_docname=14705526.DOC&p_type=DOC&p_viewservice=VAHWSTH&p_searchstring=%28%24%7B%E2%E1%F3%E9%EA%DE%F2%7D%20and%20%24%7B%E3%F1%E1%EC%EC%DE%F2%7D%20and%20%24%7B%F4%EF%F5%7D%20and%20%24%7B%EC%E5%F4%F1%FC%7D%29]

Example (i) describes a cause-and-effect situation where the cause does not itself (directly) bring about the caused event, but there are at least 3 distinct intervening events/stages: It is suggested that a change in the packaging (cause) will affect the amount of the dosage per package, which will eliminate surpluses of dosages, which will, in turn, lower the cost incurred by these prescriptions, which will eventually lead to major budget cuts for the state insurance. In example (ii), the intermediate stages between cause-and-effect are even more obscure. As the Technical Chamber of Greece suggests in its report, the delays with the construction of the subway system cause the citizens to use private vehicles for their commutes. The use of cars, in turn, incurs costs of transportation, maintenance, etc., which ultimately accounts for the cost of 2.5mil. euros/day. Both (i&ii) describe cause-and-effect cases where the *cause/source* has a secondary or tertiary effect, which is introduced as the theme in each example. These examples indicate that *apo* 'from' is *not* restricted to cases of *direct* causation (on the Bittner interpretation) alone.

example that confirms this hypothesis is the judgment given by Alexiadou *et al.* (2009: (30)), and repeated below:

(23) To fito anthise ??*apo*/*me* ti zesti[30]. GREEK
'The plant blossomed *from/with* the heat.'

If (23) is the "strongest argument that in Greek in contexts where the relation between the cause and the change of state is semantically indirect *me* is favored and *apo* is dis-preferred" (p.12), then such an interpretation of the data must be revisited in the light of two major considerations: (a) the notions of *direct* and *indirect* causation, as well as their boundaries, are not clearly defined in syntactic terms in order to give grammaticality judgments. Thus, such distinctions of causation cannot be held responsible for sanctioning 'with'-PPs and banning 'from'-PPs. And (b) there are contrary judgments deeming causative 'from'-PPs with verbs of internal COS acceptable, but most pertinently for (23). According to several native speakers (23) is matter-of-factly more preferable with *apo* 'from' rather than with *me* 'with' when conveying cause.[31] So not only can *apo*-PPs combine with verbs of internal COS, but they can also successfully introduce an external cause—although not an agent.

[30] Note that the 'with' version is ambiguous between a causative and a temporal interpretation (in the sense that 'the heat' is interpreted as 'the warmer weather'). This conforms well with the suggestion that 'with' primarily conveys simultaneity rather than causation. On the other hand, this ambiguity is not available for the 'from' version, which is unambiguously causative.

[31] Additional examples in support of the ability of causative *from*-PPs to combine with internal COS verbs comes from the following examples:

(i) ...ta anakatevoume me koυtali jia na *marathoun* ***apo*** *ti domata.* GREEK
'we stir them with a spoon so as to *wilt* ***from*** *the tomato.*'
[http://katiascouzina.blogspot.com/2009_09_01_archive.html]

(ii) *Skourjase* ***apo*** *ton aera* ke tin amo.
'*it rusted* ***from*** *the air* and the sand.'
[http://andigone.pblogs.gr/2009/11/to-kleidi.html]

The discussion over *apo* vs. *me* is peripheral to the topic of this thesis, but given the salient divergence between judgments for (23), as well as the controversy it has stirred, I will discuss the main reasons why *me* 'with' should *not* be analyzed on a par with *apo* 'from', although on the surface it appears that they can both participate in causative constructions introducing the cause.

Firstly, *me* 'with' cannot convey causation on its own in the absence of other causative elements in a sentence. Thus, (24a) is straightforwardly ungrammatical while (24b) is always acceptable, as expected given the preceding discussion:

(24) a. * i gripi einai *me* ton kainourjio io. GREEK
D flu is with D new virus
'The fever is *with* the new virus.'

b. i gripi einai *apo* ton kainourjio io.
D flu is from D new virus
'the fever is *from* the new virus.'
[http://www.sigmalive.com/simerini/news/local/232185]

Secondly, *me*-PPs do not systematically undergo causative alternations like *apo*-PPs do, a diagnostic used in section 3.1.1:

c. to afheniko prokalei ponokefalous. GREEK
'The cervical syndrome causes headaches.'
i ponokefali einai ✓*apo*/**me* to afheniko.
'the headaches are *from*/*with* the cervical syndrome.'

Thirdly, in contrastive examples, even those speakers that find the *apo* counterpart of (20) awkward, they judged (24d) as considerably better:

d. To fito anthise ✓*apo* ti zesti … oxi to kalo kladema.
'The plant blossomed *from* the heat … not the good pruning.'

e. To fito anthise ✓*me* ti zesti …oxi to kalo kladema.
'The plant blossomed *with* the heat … not the good pruning.'

The contrastive structure is used to juxtapose the two PPs, syntactically and semantically. The contrastive phrase contains such a DP which pragmatically forces a causative meaning. This eventually coerces the right reading on both *me* and *apo*-PPs. Note, however, that if *apo*-PPs

were indeed as questionable as indicated in (24), the contrast in (24d) would not have managed to invoke this judgment.

Another interesting observation is that while *apo* can be replaced by or understood as *ex aitias* or *logo* 'because of, due to', *me* is only replaced by *parallila, mazi,* or *eno* 'alongside, together, while'. This intuitively makes *apo* a more 'fit' candidate for purely causative readings. On the other hand, *me*-PPs motivate a temporal interpretation conveying simultaneity. So although in (24e) one could argue that the *heat* is either a simultaneously occurring event (in this case it could allude to the season) or a *cause*, the same is never true for (24d), where the heat is necessarily interpreted as the *cause*.

Finally, when *me* and *apo*-PPs appear together in a causatively interpreted sentence (given that both PPs are equally pragmatically possible to be interpreted as causes), it is the *apo*-PP that is always understood as the "main cause", while the *me*-PP is understood as the temporal frame of the causative relation. This effect is true independently of the ordering of the PPs:

(25) a To fito marathike *apo* tis vroxes *me* to krio GREEK
'the plant wilted *from* the rains *with* the cold.'

b. To fito marathike *me* to krio *apo* tis vroxes
'the plant wilted *with* the cold *from* the rains.'

Linear order is not really important, as was also revealed by the judgments[32]. In both cases, it is the argument of 'from' that is always understood as the main cause of the 'wilting', while the 'with' argument is interpreted as the temporal framework of the cause. If the proposal in (2.17) that the causative interpretation of a 'from'-PP is contingent on the predicational relation of that PP and the theme argument, then we can assume that the 'with'-PP is not a small clause

[32] Native speakers' judgments did not make a distinction between (25a&b), but there was a preference for 'with'-PPs to appear before the 'from'-PPs.

predicate, but an adjunct. This is supported by (24a), where 'with'-PPs are never compatible with the copula, unlike (24b). If this is correct, then the ordering effects are indeed not important in (25) as adjuncts can attach either to the PredP or the *v*P. In the former case (25a), the 'with'-PP provides a temporal frame for the entire structure 'the plant wilted from the rain'. In the latter case (25b), the 'with' PP refers only to the temporal frame of the 'wilting'.

The four facts briefly presented above were: (i) *me*-PPs cannot convey causation in copular examples, (ii) *me*-PPs do not systematically participate in causative alternations, (iii) *apo*-PPs become readily available in contrastive environments, surprisingly even for those that find them awkward in non-contrastive constructions and (iv) *apo*-PPs are always understood as the main cause when co-occurring with *me*-PPs. These points suggest that *me*-PPs might be causatively interpreted only in the absence of *apo*-PPs. This causative interpretation, however, is attributed to the effect of temporal *correlation* (the simultaneity) of the two arguments i.e., the 'cold' and the 'wilting of the flowers'. In reality, the two might not be causatively related at all, after all there are flowers that blossom only in the winter; in this case the 'cold' is not the Cause but the temporal frame of the 'wilting'. Crucially, this is never the case with the argument of *apo*, which is always interpreted as the Cause in such examples.

In this subsection different kinds of inhibitions were visited: firstly with regard to Agents, which resist being introduced in a 'from'-PP, and secondly with regard to Causes, which contrary to considerations in the literature, *do* manage to appear with internal change of state verbs. Importantly, all these "exceptional" examples undergo causative alternations, a fact that indicates that their underlying structures should ideally be similar to other causative ones. Since this thesis will not go into a detailed analysis of internally COS verbs and their causative transitive uses, it will suffice to say that for as long as they pattern similarly with other causative verbs cross-

linguistically and respond well to the causative alternation diagnostic, it would be desirable to extend any causation theory to these examples as well.

There are still two important issues, however, to be addressed: (i) the nature of the alternations between *make/cause* and causative 'from'-PPs, which I will turn to in the next section, and (ii) the distinction between Agents and Causes, which I will discuss further in 3.3.

3.2.4 CONNECTIVITY *SIDE*EFFECTS

Since a strong semantic relationship has been established from the examples above between alternations of causatives *from*-PP with *make*/*cause* sentences, Tortora observes that it is important to also ascertain whether or not these alternations are in fact syntactically derived. In other words, we need to test whether these alternations underlyingly share the same structure and whether there is syntactic evidence for that. One syntactic tool we can use is to look into possible *connectivity effects* and *binding principles*.

Connectivity effects arise when an argument is pronounced in a position different than the position it is actually interpreted, the 'displaced' position, according to Chomsky (1995). Displacement suggests that some kind of movement has taken place, therefore, we consider connectivity effects to be the result of movement. Such connectivity effects lead to interesting predictions and give insights regarding the moved constituents and their original position in a sentence when they participate in binding relations with each other. In this section, I will show how connectivity effects between an anaphor and its antecedent can prove vital in pointing to the origin of an argument, and more importantly for this work, the position of the Cause argument.

It has been shown in Burzio (1986), Belletti&Rizzi (1988), Pesetsky (1995), and Fujita (1996), a.o. that A-moved expressions display connectivity effects in different environments.

Belletti&Rizzi (1988) first observed that Experiencer psych verbs display *backward binding* as in (26) where *each other's* is bound by *Bill and Mary*. Similar effects were noted for dative constructions in (27) (but not for their double object counterparts as observed by Zubizarreta (1992) and Pesetsky (1995)) where the second object binds an anaphor contained in the first object. (28) is also interesting as it shows that such backward binding phenomena are preserved even when (27) is passivized. And finally, in (29), the reciprocal in the subject position is bound by an antecedent inside the raising verb's argument. What is most germane to this thesis, however, is that connectivity effects also extend to causative predicates (see (30–31)) as observed by Pesetsky (1995):

(26) [Each other's]$_i$ pictures annoy Bill and Mary$_i$. [*Experiencer predicate*]
(27) John showed [each other's]$_i$ friends to Bill and Mary$_i$. [*Dative construction*]
(28) [Each other's]$_i$ friends were shown to Bill and Mary$_i$. [*Passivized*]
(29) Friends of [each other]$_i$ seem to Bill and Mary$_i$ to be very nice. [*Raising V*]
(30) [Each other's]$_i$ remarks make Bill and Mary$_i$ laugh. [*Causative predicate*]
(31) [Each other's]$_i$ remarks gave Bill and Mary$_i$ a book. [*Causative use of give*]

In each of the examples above, the anaphor *each other* is successfully bound by its antecedent that is crucially found further down the sentence. According to principle A of the Binding theory, reflexives and reciprocals must be generated within their antecedent's governing category in order to be properly bound by the antecedent.[33] This then predicts that the base structure of (30)

[33] As pointed out by den Dikken, there are some cases of successful binding which crucially do not and/or cannot abide by the c-command requirement of the Binding theory, and importantly for some of these cases, there is no available reconstruction site for the bindee. The most well-known case is the *specificational copular connectivity* effects, discussed in Higgins (1973), Jacobson (1994), and Sharvit (1999), a.o.:

(i) The person John$_i$ likes most __ is himself$_i$.
(ii) The woman who every Englishman$_i$ admires __ is his$_i$ mother.
(iii) What no student$_i$ enjoys __ is his$_i$ finals.
(iv) Her Christmas present was a kangaroo.

should look like (32), where movement of the anaphor creates two copies,[34] one in the base position and one in the top-most position of the movement chain:

(32) <*each other's remarks*$_i$> make *Bill and Mary*$_i$ laugh <*each other's remarks*$_i$>.

Although it is quite apparent that only the top-most copy is phonetically realized, it is not as straightforward that this is also the one involved in interpretation. In fact, for the interpretation of this sentence we rely on the lower copy, which is properly bound by its antecedent *Bill and Mary*. Thus, we assume that (30) and its likes are derived from (32), otherwise the reciprocal

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(v) His$_i$ car is every man$_i$'s joy and pride.

In (i–iii) the post-copular constituent behaves as if it were in the gap in the pre-copular constituent. Examples (iv&v), however, have no gap in the pre-copular constituent. So even if we contemplated some backward reconstruction scenario or silent copies on either sides of the copula to account for the connectivity effects in (i–iii), we would still fail to account for (iv) and (v). This radical absence of possible reconstruction sites ensues that binding relationships are not always and necessarily established via structural c-command (or even some scope-cum-linear-order constraints, as suggested by Jäger 2005 or Shan and Barker 2006). The facts in (i–v) indicate that some specificational copular sentences may allow binding without c-command—both Jacobson 1994 and Sharvit 1999 offer a formal semantic account that explains their successful binding as a result of the equal denotation by both constituents of the copular sentence.

Barker (2008) offers an interesting series of examples, displaying similar to specificational copular effects, where quantificational expressions bind pronouns from non c-commanding positions. But is the abandonment of c-command possible? It seems that the repercussions of such a radical move would outnumber its gains—the most important being of course the fact that it feeds the Binding Principles, which, in turn, account for a wide range of correct grammatical predictions. So let us examine the exceptional cases for which c-command appears to be superfluous. Barker's data cover *only* quantificational binding (*each*, *every*, *no*) but no other type of anaphora. None of the cases provided as counterevidence to the necessity of c-command in binding relations involves reciprocals, unlike examples (21–26). Also the semantics of specificational copular sentences seem to exhibit idiosyncratic properties unlike all other examples that feature binding relations.

[34] This prediction is in accordance with the *copy theory*. Other accounts are also available, for instance the *reconstruction account* where the anaphor moves downward into its original position, which is now occupied by a trace. In that case, the evaluation of the anaphor takes place at its trace, which is lower than its binder. The bottom-line is that for as long as the evaluation of the binder precedes that of the anaphor-trace, binding is unproblematic.

would fail to be licensed in its surface position and the sentence would have to be deemed ungrammatical as a direct consequence of Principle A. If we take (30) to be derived via movement, it would ultimately mean that (30) and (32) share the same underlying structure. But before we extend this claim to all causative predicates, let us test whether this is equally true for causative constructions (i.e., copular and verbal) with the same or different reciprocals (i.e., *each other* and *one another*), and importantly whether they all support 'from'-alternations.

The following sentences involve both verbal and copular (unambiguous) causatives, while they do support both reciprocals. Importantly, they all alternate with a *make/cause* sentence[35]:

(33) a. Bill and Mary's$_i$ divorce **was *from*** each other's$_i$ jealousy. [*copular*]
b. Each other's$_i$ jealousy **caused** Bill and Mary's$_i$ divorce.

(34) a. The team's members$_i$ **won** the game ***from*** each others$_i$' moral support. [*TRAN*]
b. Each other's$_i$ moral support **made** the team's members$_i$ **win** the game.

(35) a. Bill and Mary$_i$ will only **heal *from*** one another's$_i$ love. [*INTR-anticaus*]
b. Only one another's$_i$ love will {**heal** Bill&Mary$_i$/**make** Bill&Mary$_i$ **heal**}.

As per the copular example, it is always the case that they alternate with *cause*. It should also be noted with regard to (34) that causative constructions are different from other transitives, which do not support similar configurations or *from*-alternations, thus (34′) is not acceptable.

(34′) a. * Each other's$_i$ friends **thanked** John and Mary$_i$

We have seen that examples (33–35) offer support for the assumption drawn earlier from (30&31), namely that they are derivationally related. Employing different reciprocals (*each other* & *one another*), (33–35) manage to give out acceptable V_{CAUS}-to-*be from* alternations across-the-board, while, such alternations were blocked with non-causative verbs (see (34′)). Given the discussion and observations in this section, I will tentatively conclude that V_{CAUS}-to-*from*

[35] Although these examples have not been mined from online sources, they have all been judged as acceptable when presented to several native speakers.

alternations are of syntactic nature. This is important because it links causative 'from' with 'cause/make' strengthening the alternations diagnostic and opening up the door to future research of the possibility of deriving V_{CAUS} from causative 'from'-PPs.

3.2.5 EVALUATION OF EARLIER TREATMENTS

In what follows I will summarize Pesetsky's approach, which is congruent in some respects with the proposed predicative analysis in this work ((17) in section 2). Although there are some configurational differences, both accounts operate on two pivotal hypotheses: (i) the Cause is generated in a low position in the underlying structure (also shown in 3.2.3) and (ii) the Source of Cause can also be prepositional in nature instantiated either by a *CAUS* head or a P. The bone of contention, however, will be the structural nature of this prepositional phrase introducing causation; to wit, an adjunct *vs*. a predicate.

In his (1995) work, Pesetsky presents an interesting account of the underlying configuration of causatives, where *CAUS* is realized as a "clause-internal preposition" that can be lexicalized by prepositions like *out of*, *of*, or *for*[36] and which takes as its argument the Cause:

(36) Sue yelled (*out of* frustration).
(37) John died (*of* consumption).
(38) Mary jumped (*for* joy).

This P head that realizes *CAUS*, and which then internally selects a Cause-DP, is not selected by the verb's theta grid and consequently lies lower than the rest of the selected arguments (i.e., Goal, Theme). Due to the fact that the *CAUS*-phrase in these examples is optional, Pesetsky

[36] The proposal for a prepositional affix with causative interpretation originally stems from Walinska de Hackbeil (1986) who developed such an analysis for the causative *en-* (i.e., *en*large) in English.

assigns it "the status of *because* or the *wh*-phrase *why*" and treats *CAUS* in an "adjunct-preposition" (1995:196ff.). In his proposed structure in (34) he uses the term "Causer":

(39) $[_{VP}\ [_{V'}\ \mathbf{V}\ [_{PP1}$ Goal/Exper $[_{P'}\ P_1$[+Affix] $[_{PP2}$ Theme/Target $[_{P'}\ [_{P2}\ \boldsymbol{CAUS}\ ]$ **Causer**]]]]]]

Structurally, the Cause is not part of the main predicate, but an "adjunct-P" contingent on the arguments of the verb, Theme/Target and Goal/Experiencer. One of the crucial points of this proposal is that *CAUS* is generated in a low position, meaning lower than the Theme. The main support for this position comes from the binding effects presented in the previous section. The structure in (34) jibes well with the proposed structure in (2.17) where the Cause is also generated low, as repeated below from chapter 2:

(2.17) [CAUSEE $[_{PredP}$ [PP **'from' CAUSE**]]]

Notice that both (39) and (2.17) generate the cause in a position inside the predicate as an argument of the *CAUS*/P head, lower than the Causee, unlike other causative accounts in the literature (Fujita 1996; Pylkkänen 2000; Alexiadou 2006), where the Cause is associated with some subject left peripheral position. This saves us from having to wiggle a causative-PP in an adjoined position to some projection of the verb—or some other functional head. Notice also that the *CAUS* head in (39) and the P head in (2.17) are incarnated by a preposition introducing the Cause (and causation *per se* for the non-verbal cases) and is not some independent functional *CAUS*-head (or *CAUS*-feature), unlike the *CAUS* head proposed in the literature (a.o. Dowty 1979; Pylkkänen 2002; Alexiadou 2006).

Things get complicated when we take a closer look at the exact position of the PP in (39) and (2.17). In the former it is considered an adjunct, while in the latter a predicate. The arguments offered by Pesetsky for an adjunct analysis of the cause-PP come with some theoretical

considerations[37] and important repercussions, which I will briefly discuss and evaluate against (2.17).

Some crucial observations to be made with regard to (39) and the status of this P head that introduces the Causer stem from the following empirical evidence: (**A**) The status of *because*, which Pesetsky assigns to the P that brings *CAUS* into the configuration, is not always that of an "adjunct" and in fact it is not always optional either and (**B**) optionality is not always indicative of adjuncthood. Consider the following examples:

(40) The reason ice floats is *(***_because of_** hydrogen bonding).
[http://www.visionlearning.com/library/module_viewer.php?mid=57]

(41) The second largest source of the Planet's heating is *(***_from_** the greenhouse gases).
[http://www.america2inc.com/electric_cars.htm]

[37] One point to keep in mind is that a low generation site of the Causer, when introduced by a causative PP, could lead to a double-entry problem in verbal causation. In other words, if causation stems from the Causer-PP, then what about the causation conveyed by the lexical verb itself in that sentence? This is also discussed as the *Variant Problem* by Solstad (2007), who offers a semantically flavored account. Pesetsky on the other hand provides a syntactic maneuver as a remedy. He assumes that each instance of *CAUS* (one generated with the verbal root and one in lower position harbored by the P head) θ-selects a Causer. This configuration licenses two θ-selected Causer positions, one in SpecVP and one in the argument of $CAUS_P$. Notice that this latter θ-selection is not part of the main predicate, but is a consequence of the verb's CAUS affix, thus the cause-PP remains an optional adjunct and not a main argument of the sentence.

(i) $[_{VP}$ **Causer** $[_{V'}$ √V+$CAUS_{aff}$ $[_{PP}$ Causee $[_{P'}$ $[_{P}$ $CAUS_P$ $[_{DP}$ **Causer**]]]]]]

Once these positions are in place, the Causer-DP has to move from the lower to the higher position. Pesetsky claims that this movement is not illicit because these positions practically incarnate the same θ-role and, as such, movement from one to the other is not banned. Assigning the same thematic roles to two different configurational positions and landing into θ-positions clearly pose serious theoretical problems, namely a violation, for instance, of the Main Thematic Condition or the θ-Criterion. But even if we were to accept Pesetsky's maneuvres, we would still need to account for the movement of the Causer from a low generation site to a higher one. Bear in mind that the low position according to Pesetsky is considered an adjunct position, hence this movement would not only be movement of an argument out of an adjunct, but also movement into a θ-selected position in the main clause—not exactly plain sailing.

With regard to observation (A), in (40–41) the part in the parentheses is unquestionably obligatory. Unlike examples (36–38), which Pesetsky uses in order to account for the classification "*adjunct*-P", in (40–41) the prepositional phrase that introduces the Cause in the configuration *cannot* be omitted, and this is always the case for copular causative examples as noted already in chapter 2. The ungrammaticality incurred by the omittance of the 'from'-PP in the copular example in (41), straightforwardly indicates the predicative nature of that causative *from*-phrase (and its *because of* kin) in (40). Notably, this is not simply an idiosyncrasy of 'from', but of other prepositions conveying causation as well. Consider the following examples based on (36–37)[38]:

(36′) The minute's silence is *(*out of* fear).
[http://en.wikipedia.org/wiki/Moment_of_silence]

(37′) The only danger is *(*of* dehydration).
[http://www.medicalmasterclass.com/PL_Gastro.htm]

The causative prepositional phrases in (40–41&36′–37′) are clearly neither optional nor adjuncts, as Pesetsky suggests for causative Ps. Consequently, it would be desirable to establish an analysis that could account both for the obligatoriness of the Cause-introducing PPs in these examples and for their apparent optionality in (36–37). With this in mind, let us re-examine the arguments for adjuncthood and how that was established in the first place and then offer an alternative solution that covers both conditions.

Pesetsky's main argument for the adjuncthood of these causative PPs was that *CAUS* is not thematically selected by the main predicate, hence its optionality. Additionally, these PPs answer

[38] I have not included a counter-example to (38) *jumped for joy*, since there is no causative meaning for *for*. Example (38) is an idiomatic use of this preposition in the specific phrase, unable to be used productively.

to *why*, which is traditionally considered an adjunct pro-form. These two arguments used as evidence are not infallible tests for adjuncthood.

As per the first point, that adjuncthood is attributed to non theta-selection, there are some adjuncts that are not optional, just like there are arguments that are not obligatory. Lexically selected adjuncts, as pointed out to me by den Dikken, are not optional: *he worded the letter *(carefully)*, *the job paid us *(handsomely)*. These manner adverbs are being lexically encoded in the respective verb that selects them. Cruse (1986) further confirms that some adverbs are *lexically* selected by showing that the acceptability of the sentence is affected if we replace that adverb with its antonym:

(42) ?Arthur was shouting *softly*.

He claims that the adverbs in these cases further specify/intensify the *manner* which is lexically entailed by the verb in the first place and draws a parallel both with: (a) Resultative phrases, where the AP specifies in a similar manner the result state described by the verb i.e., *The lake froze (solid)* and (b) Path-PPs, which delineate the inherent to the verb path, i.e., *He entered the room (through the door)*. In all these examples adjuncts are used to specify a lexically encoded meaning and are selected by the verb.

At the same time, there are arguments that are optional without being considered adjuncts as in (43) below:

(43) a. I drink (my coffee).
b. He helped (us).

In none of the cases in (43) is the material in the parentheses considered an adjunct, even though its absence does not yield ungrammaticality, similarly to (36–38). Instead they are found in the complement position of the verb ([$_{VP}$ V [DP]]). This shows that there *are* arguments that are

optional, nonetheless, they are not adjuncts. So optionality alone is not a diagnostic for adjuncthood, thus it does not make optional causative 'from'-PPs adjuncts.

Let us turn now to the second argument for adjuncthood of the cause-PPs in (36–38), namely the fact that they answer to *why*. Considering this argument, I will have to borrow another similarly typical adjunct pro-form, namely *how*. Its use is similarly not restricted to adjuncts alone, but primary predicates as well like:

(44) a. How is the new car?
b. The new car is bigger and black.

This line of thinking intents to show that a *wh*-word cannot always predict the kind of constituent it is linked to as argument or adjunct. If *how* is on a par with *why*[39], the immediate expectation would be for *why*-questions to be equally able to question predicates as well, a fact that would ultimately undermine Pesetsky's assumption about the adjuncthood of cause-PPs.

Admittedly, both for and against adjuncthood arguments regarding *why* are neither empirically nor theoretically deeply rooted. The former relies on inductive reasoning, where adjuncthood is postulated due to absence of contrary evidence. As for the latter, it seems to rely on a more deductive reasoning which puts *why* and *how* in the same category, thus extending the evidence we have for *how* to *why*[40]. Since no resolution can be reached at this point, I will tentatively take

[39] Of course treating *why* and *how* equally without any proper discussion is, at best, an educated guess.

[40] An argument that could possibly tip the scale targets directly the initial assumption that *why* questions adjuncts. So if a causative *from*-PP does not successfully answer *why*, then that could constitute grounds for questioning its adjuncthood. This path, however, does not seem to take us far since there is no consensus among native speakers, with most considering the following pair acceptable and some awkward:

A: Why do you have a headache?
B: From bumping my head.

sides with the latter reasoning acknowledging, however, that there is more discussion to be had here if we were to use this point as a strong argument.

To synopsize, empirical evidence suggest that: (i) optionality does not entail adjuncthood, and (ii) *wh*-pro-forms cannot always be used as a configurational prognostic. These facts resonate well with the predicative approach for causative 'from'-PPs proposed in (2.17), unlike Pesetsky's adjunct *CAUS* PPs. The copular examples in (40–41&36′–37′), being primary predicates, obligatorily take a cause-PP, a fact that could not have been accounted for had we adopted the adjunct proposal.

Following Christina Tortora's suggestion, I extended the same analysis for the optional cause-PP cases in (36–38) that can have a predicative structure, just like the cases in (43). In (45) the causatively *from*-PP is predicated of the whole VP *she puking* as per den Dikken's suggestion:

(45) $[_{\text{SpecTP}}\ \textit{She}_j\ [_{\text{T}}\ \textit{was}\ [_{\text{PredP}}\ [_{\text{vP}}\ t_j\ [_{\text{VP}}\ \textit{puking}]]\ [_{\text{Pred}'}\ \emptyset\ [_{\text{PP}}\ \textit{from}\ [_{\text{DP}}\ \textit{the wine}\ ]]]]]]$

More specifically, the verb and the PP enter into the configuration together as a constituent with the *v*P being the subject of a PredP small clause headed by "from". The derivation proceeds with merging the TP to the PredP, followed by subsequent movement of the subject "she" which raises to SpecTP to satisfy T's EPP property. The predicational relation *v*P and PP under PredP, and their semantic interpretation as Causee and the Cause, is the outcome of them forming a constituent. But the PredP should syntactically act as a constituent as well. This is indeed true since this predicate can be topicalized as in *puking from the wine, she was*.

According to (45), what is topicalized in *puking from the wine, she was* is the PredP small clause rather than just the VP. This means that the fronted predicate includes the trace of the subject that has raised out of it. Den Dikken pointed out to me the discussion in Huang (1993), where it is

argued that such cases can be found in English and are responsible for the unambiguous anaphor binding by the trace of the subject in its base position. That the anaphor in the fronted predicate in (46) is bound only by the trace of *Bill* and not by the matrix subject is a consequence of Principle A. Parallel effects are observed for pronouns, which are attributed to Principle B. In (47a) the pronoun *her* cannot be bound by the local antecedent, whereas in (47b) the pronoun is successfully bound by the matrix subject yielding the sentence grammatical:

(46) [t_j criticize himself$_{*i/j}$]$_p$, John$_i$ thought Bill$_j$ would not t_p. [Principle A]

(47) a. * [t_i criticize her$_i$]$_p$, John$_j$ thought Mary$_i$ would not t_p. [Principle B]

b. [t_j criticize her$_i$]$_p$, Mary$_i$ thought John$_j$ would not t_p.

With these examples, Huang shows how predicate topicalization is possible in English and yields binding relations insided the fronted predicate, between the trace of the subject and the anaphor or the pronoun as predicted by Principles A and B respectively. So a predication fronting analysis for *puking from the wine, she was* finds theoretical support.

Although examples (46&47) offer support to predicate topicalization, example (48a) shows that (45) can undergo VP-ellipsis, which is problematic as it targets only VP constituents and not the whole predication (see fn.15 in ch.2). A general predicate ellipsis process cannot be allowed in English as it would have to extend to other predicates, for example AP predicates which, however, resist ellipsis, see (48b,c):

(48) a. John puked from the wine, and Mary *did* too.

b. *John considers Mary smart and Bill considers Jane too.

c. *Mary looks cheerful and Jane sounds. (Rothstein 2001:5.2.3)

d. *John was singing from the wine, and Mary was dancing too.

As a sidenote, I would like to bring up a possible remedy discussed in Rothstein (2001), which accounts for (48b,c) without necessarily banning a general predication ellipsis process in English. She claims that it "embedded absorbed predicates" (as in (48b,c)) cannot be elided since, according to Stowell (1991), the predicate of a complement small clause is reanalyzed by raising up to its selecting verb, a process he refers to as "small clause restructuring". In other words, the ungrammaticality of (48b,c) is not due to a general ban on predicate ellipsis, but because the specific predicates are not available for ellipsis since they need to incorporate with their selecting verb. But here also lies the weakness of this proposal. If it is indeed the absorption of the embedded predicate that is responsible for the ungrammaticality of (48d), this would take place at LF as "small clause restructuring" is an LF process, as den Dikken points out. Ellipsis, on the other hand, is a PF process, so it unclear how it could be affected by predicate absorption.

In conclusion, what we have seen in this section was that adjuncthood cannot be claimed merely on optionality grounds, so an analysis of 'from'-PPs as adjuncts is not well-founded. On the other hand a predicative analysis can derive the thematic link between a causatively interpreted PP and its subject understood as the *Causee*. Although the focus of the thesis is on non-verbal configurations, it was important at this point to show that the proposed structure in (2.17) can extend to (at least) lexical intransitive verbs, discussing a possible underlying structure and considerations that arise from cases like *she is puking from the wine*.

3.2.5.1 AGENTIVITY REVISITED

Pesetsky will also attempt to provide an account for an older question left unanswered in the Agent Inhibition section 3.2.2, namely the difference between Causes and Agents. In short, the main claim is that Agents cannot be generated inside the VP, unlike Causes. Extending

Belletti&Rizzi's (1988) observation about backward binding to causative predicates, Pesetsky notices that the subject-Cause can only have a non-volitional Causer and not a volitional Agent. This is attested in the examples below which are acceptable only with a non-agentive reading:

(49) Each other's friends (*intentionally) *make* Bill and Mary laugh. [non-agentive]
(50) Each other's friends (*successfully) *caused* John and Mary's divorce. [non-agentive]

Low generation analyses of the Cause argument comes with an additional perk, namely they indicate a cleavage between Causes and Agents with regard to their distribution. If Agents are always generated in a position external to the verb (usually in Spec*v*P) then this could explain the unacceptability of structures like (18b): **John left early from Mary*, since it would be a feat for the Agent to move to the complement position of *from*. So separating Causes from Agents in terms of their birthplace in a structure immediately accounts for certain ungrammaticalities.

Of course, one could also claim here that there is nothing to preclude the possibility of the Agent having been introduced in the underlying structure as the complement of the cause-PP, just like a Cause. After all, there are sentences that *do* allow their Agents be introduced by a P. The structures that introduce Agents (volitional and animate) in PPs are no other than passives. This then raises the logical question: Since there is a possibility of introducing Agents in a PP, why does it not freely apply to causative constructions such as (18b) as well, but instead they only accept Causes (non-volitional or non-animate[41])? At this point we need to carefully consider the

[41] In chapter 1, I distinguished Agents from Causes with regard to their animacy feature. This distinction, however, is rather coarse and remains a much debated theme. For example, Agents are traditionally attributed the main characteristics of animacy and volition. However, it is not always the case that Agents display both these features. Surprisingly, sometimes they may even lack both. Some counterexamples are provided by Tom Roeper (in Bhatt&Pancheva 2006, see (i)), who proposes that agency does not always preclude animacy (along the lines of Nishimura (1993) who also argues for inanimate agents), and Maria Polinsky (p.c.), who points out a lack of volition in many animate agents (see (ii)):

details that differentiate causatives—or, in fact, intransitives in this case—and passives, a topic that has occupied many authors before. I will only sketch the differences with wide strokes, focusing mostly on what is important for the current discussion, namely why Agents cannot be introduced in the underlying structure as arguments of a 'from'-phrase, unlike Causes.

According to Embick (2004), unaccusatives and passives share an intransitive structure and they lack an external argument—among other similarities, like morphological syncretism in many languages. It is only passives, however, that can have an agentive PP. The key difference according to Embick lies in the featural composition of *v* and *encyclopedic* meaning of V, rather than the structural configuration itself, which is represented for both as: [$_{v\text{P}}$ *v* [$_{\text{VP}}$ V… DP]]]. Building on this structure, Harves (2002) proposes that an agentive *by*-phrase would merge as an adjunct to the *v*P, licensed by a defective (in the sense of being incapable of merging with an external argument) *v* head—whether and how *v* licenses the *by*-phrase is beyond the scope of this thesis. If we accept that *by*-phrases are structurally adjuncts, then this could explain part of the asymmetry between Agents and Causes, since in the previous discussion, the status of a 'from'-phrase was claimed to be predicative rather than an adjunct phrase.

Importantly, passives have traditionally been argued to involve (semantically and possibly syntactically as well) an *implicit agent*, in contrast to unaccusatives. Implicit agruments are non-overt or conceptual material which are, nevertheless, syntactically active. The well-known example of the 'sunk boat' below (see Roeper 1987; Manzini 1983) suggests that unaccusatives lack an implicit argument, in contradistinction to passives. With regard to the latter, Bhatt&Pancheva (2006) argue that the implicit argument is responsible for: (a) the licensing of

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(i) The part was automatically rotated to insert four screws. [–*animacy*]
(ii) The baby pulled my hair. [–*volition*]

the *by*-phrase, (b) the ability to control the PRO subject in the rational clause and (c) the compatibility with agent-oriented adverbs:

(51) a. The boat *was sunk* {by the company/PRO to collect the insurance/deliberately}.
b. The boat *sank* {#by the company/#PRO to collect the insurance/#deliberately}.

The acceptability of all possibilities in (51a) *vs*. (51b) suggests that there is an implicit argument in passives unlike in unaccusatives which is syntactically and semantically active. Given the length and importance of the above subsections, it would be useful before weighing anchors to further analysis to compile a list of the key points discussed up to now.

3.3 INTERIM SYNOPSIS

1. In section 3.1, a variety of empirical evidence was presented suggesting that alternations of "X *comes/is* 'from' Y" with "Y *makes/causes* X" are underlyingly related.
2. Importantly the Source of Causation was suggested to be the P itself based on the fact that in the absence of all other possible sources of causation (e.g., lexical verbs, functional heads), a 'from'-PP still manages to give out a causative reading. And to seal the deal, in the absence of these 'from'-PPs, no causative meaning is obtained.
3. In order to argue for a derivational relation of causative alternations, syntactic arguments had to be found. A syntactic indication was drawn from Connectivity Effects. More specifically reciprocals yield connectivity effects when they occur structurally higher than their proper antecedents in causative constructions. Since these anaphors are successfully bound—and they must be in order to be licensed in the first place—by something lying lower, this suggests that they probably started life lower themselves and are subsequently raised to their surface position.

4. On a separate observation, Causes were argued to be distinct entities from Agents. The inability of Agents to appear in causative 'from'-PPs indicates that they do not follow the same derivational path as Causes and, as a result, they are not generated in the same position. This conclusion is buttressed by Agents' and Causes' distribution and licensing conditions.
5. While Causes were argued to be base generated lower than the theme-Causee, Agents are generated in an external subject position higher than the theme-causee. Agents may optionally show up in a passive configuration, which is syntactically derived from an active one. Crucially, the P-head of these adjunct *by*-phrases does not assign a thematic role to the Agent-complement. On the other hand, the causative 'from' was held responsible for introducing causation by itself and is thus responsible for the interpretation of its complement-DP as the Cause when found in the configurations discussed.
6. The licensing and interpretation of an Agent in a *by*-phrase is contingent on some implicit argument (it is not important here whether it is syntactically projected or not). In unaccusative configurations, however, there are no implicit arguments, hence no such linking obtains for Causes:

(52) a. (AGENT) [$_v$ … [*by* [AGENT]]]]

b. ∅ [$_v$ … [CAUSEE [$_{Pred}$ 'from' [CAUSE]]]]

The fact that unaccusatives lack implicit arguments suggests that *by*-phrases in passives and cause-PPs are probably syntactically (and conceptually) different. If this is true, then the question is how do cause-PPs get licensed? In other words, how do they enter the configuration both conceptually and syntactically. The proposed answer in this work is that causes enter the configuration as predicates, predicated of the caused event. The syntactic configuration and

semantic contribution of the preposition 'from' is responsible for the causative reading. Note that this is in full accord with a low generation account for causes.

These facts are important because they provide empirical and theoretical indications regarding the Source of Cause. To close the circle of diagnostics and observations, I will submit one last theoretical consideration in support of the low generation analysis for Causes, in contradistinction to Agents, before moving on to a more micro-syntactically motivated discussion of the internal structure and interpretation of 'from'-PPs.

3.4 A THEORETICAL DIAGNOSIS

The causative alternations—presented in section 3.2.1—beg the question of whether and how the interchangeable positions of the arguments, namely the subject of *cause* and the complement of 'from', relate to the Linking Problem. Are there any regularities between the roles of the participants in the causative events and their surface position? This section provides a brief theoretical discussion on alternations and thematic linking (without necessarily committing to it).

An attempt to grammaticalize the configuration of different initial conceptual/grammatical representations onto syntactic configurations was proposed by Baker (1988), known as the Uniformity of Theta Assignment Hypothesis (UTAH). According to the UTAH, *identical thematic relationships between items are represented by identical structural relations between those items at the level of D-structure*. This predicts a direct mapping of thematic information onto underlying syntactic structure. For example, Agents are underlyingly subjects and Sources are found in object positions—arguments surfacing in these structural positions, however, do not always have to be marked as Agents or Sources respectively, since only subcategorization entails θ-marking, not vice-versa.

Considering the *cause/be from* alternations we face a puzzling distribution of the Cause argument that puts the UTAH to the question. Although Causes appear both high and low as in (53a&b), Agents do not, see (53c&d)).

An additional level of complexity is added to the above puzzle when we compare (53a&c): Both *a ship* and *the president* are DPs, nevertheless only the former is acceptable.

(53) a. This oil slick **is from** a ship.
[http://www.ahmedabadmirror.com/index.aspx?Page=article&sectname=News%20-%20World&sectid=5&contentid=2009060620090606034533540 62d2b4a8]

b. A ship **caused** a [huge] oil slick.
[http://www.theolivepress.es/PDF/28W.pdf]

c. * The earthquake **is from** the president.

d. The president **caused** the earthquake.
[http://thejakartaglobe.com/opinion/we-dont-cause-the-earthquakes-but-we-are-responsible-for-disasters/336363]

PATTERN
THEME>CAUSE
CAUSE>THEME
BUT
**THEME>AGENT*
AGENT>THEME

The distribution facts in (53c&d) indicate that Agents respect UTAH's predictions: they typically surface in a subject/external position. Indeed, in (53d) *vs*. (53c) the Agent has prominence (it is in a c-commanding position that is) over the Theme/Patient argument, thus yielding the order: AGENT>THEME. Although UTAH's assumptions correctly predict the acceptability of (53d) only, the same is not true for (53a,b), where one would expect for Causes to surface only in oblique positions.

But the observations in (53) also raise an important question: Why and how can Causes appear in two different positions and can this be reconciled with the UTAH? The answer will eventually depend on whether the two different structures Causes participate in are derivationally related or not, as suggested by den Dikken. I will evaluate both possibilities based on the structural X-ray of (54&55) below:

(54) Z *is from* ***Cause***

(55) ***Cause*** *causes* Z

Scenario 1: *(54) and (55) are derivationally related*. Then automatically the *Cause* that appears in each of them is one and the same thematic role. The fact that *be from*/*cause* alternations are available only for causative readings of 'from'—in comparison to non-causative ones which systematically fail—is probably a good first indicator for the presence of a close relationship.

The question then is which of the two acts as the underlying structure that gives rise to the other. The previous sections act as a rudder for steering towards (54) as the underlying configuration. The backward binding effects discussed in 3.2.4 can only be accounted for if we assume that the anaphor started in a lower position, where it was bound by its proper antecedent, and then raised to a higher position. The low generation account for Causes, that is, lower than the Theme is reflected in the configuration in (54).

Backward binding effects aside, additional support for a derivational direction from (54) to (55) comes from independent principles of argument structure. Since Fiengo (1977), the notion of proper binding is expressed as "a relation that holds between a node and its trace if the node precedes its trace". One important corollary of the Proper Binding principle is that it blocks rightward movement. In more recent literature such representational binding principles are superseded by *Economy of Derivation* (Chomsky 1991; Collins 1994) or derivational approaches to structure building. According to the latter ones "the complement of H^o is by hypothesis in a selectional relation with H^o" (Epstein *et al.* 1998:104). This means that P and Cause-DP always merge together in a mutual c-command configuration (*Derivational Sisterhood*), thus precluding movement of any other XP into the complement position of the feature checking head H^o (i.e., the P). This ensures that the preposition 'from' is in a local relation (a *mutual dependency*) with the DP-Cause and only movement out of that PP is licit. Independently of the theoretical framework, the main goal remains the same: to block rightward movement (in this case lowering

to the P's complement) by forcing every movement to target c-commanding positions. This then explicitly dictates the direction of the derivation from (54) to (55) since the Cause can only move leftwards.

An additional perk to this scenario then is that we can keep the UTAH, which can then make the right predictions for the puzzle in (53): Causes always appear low (53a), unless moved out of their initial position (53b), while Agents only appear high (53d) and cannot move low (53c) due to the ban on rightward movement.

Scenario 2: *(54) and (55) are not derivationally related.* This entails that each instance of Cause enters the configuration independently and there are no restrictions in terms of where a Cause may appear (high *vs*. low), for as long as it is properly licensed, either by the verb or the preposition. Under this assumption, we also do not have to perform gymnastics to prove a relation between *be from* and *cause* since they are treated as independent structures; the first conveying causation due to the configuration "from" is found in and the second due to the lexical properties of the verb "cause".

In this scenario, the UTAH is single-handedly annulled, ridding syntactic theory of the Linking Problem by radically severing all connections between roles of participants and their underlying structural position. This is not an inconceivable scenario, after all the UTAH is not a principle of grammar and it is based on operative constructs that are not clearly defined i.e., thematic roles.

Ultimately the UTAH alone cannot be held responsible for distribution facts although it makes some accurate descriptions cross-linguistically (for example Agents appear in the subject position). However, it is more challenging to explicitly define what thematic roles are rather than how they are represented in any syntactic schema. The fact that Causes can appear either in what

Baker (1997) calls “highest positions” (VP external) or in “lower positions” (object or some other position instantiated by an oblique NP introduced by an adposition or Case marker) is, at the end of the day, a question of whether (54&55) are derivationally related or not. The arguments offered and the discussion in the previous sections support a derivational account (that is, Scenario 1), which also happens to be in keeping with the UTAH, providing a plausible answer to the puzzle in (53).

CHAPTER 4 COMPLEMENT-TESTING 'FROM'

In this chapter I will argue that the interpretation of a 'from'-PP as causative or non-causative is dependent on the underlying syntactic configuration of its complement. In support of this proposal, I will submit relevant observations, syntactic diagnostics, distribution patterns, and morphological indications that suggest that the syntactic category of the complement of 'from' is indeed related to the interpretation this 'from' will end up having.

According to Emonds (1972), Jackendoff (1973), Wunderlich (1991), Saint-Dizier (2006), den Dikken (2010), among other, prepositions constitute a lexical category exhibiting categorial and semantic selection. Importantly, they have semantic content and type restrictions on their arguments. In a V-PP configuration, for example, the V imposes selectional restrictions on the type of its complement. In other words, the P must be compatible in terms of its type with its nominal complement. This 'agreement of types' is shown through the following example; in *run to school*, the verb *run* requires a path with an underspecified area in which it occurs. This is satisfied by *to*. But also *to* itself satisfies its own selection restrictions incarnated in the NP, which has to be a delimited, closed, and large space, like *school*. Other prepositions like *around, out, away*, are used with "empty objects" (Saint-Dizier 2006) or, as are more widely accepted, "intransitive prepositions" (Emonds 1972; Jackendoff 1973; Ramchand&Svenonius 2004; Emonds 2007), for instance *go* {*away/out/around*}. Some prepositions, like *into, before, down, around*, subcategorize for an optional complement and finally some subcategorize for no complement i.e., *beforehand*, *away* (Emonds 1972; Jackendoff 1973). When it comes to 'from', Saint-Dizier (2006) notes that prepositions like *from* (and *out*) can select either an NP or another PP. Although Saint-Dizier's analysis is mostly descriptive, delegating the more fine-grained sense of those selectional criteria, and ultimately the semantic disambiguation of each

preposition, to "non-trivial world knowledge", his suggested subcategorization frame of 'from' will open up an intriguing structural bifurcation directly responsible for delivering semantic interpretations.

A bidirectional interaction of the PP structure and its semantics has been argued for in Helmantel (2002), where she shows semantic properties are assigned to an element depending on its structural position. DPs, for example, that occupy a specifier in the functional domain of a PP acquire *1-dimensionality* characteristics and are consequently interpreted as paths. Other possible semantic restrictions are *directionality* or *restricted vector*. Tortora (2008) argues that a P's functional domain reflects the semanctic properties of that P's internal argument. The lexicalization of an aspectual projection in the functional domain of a locative P, for instance, is tied to the *boundedness* of the P's NP argument.

In the following sections, I will try to offer additional evidence pointing to the interaction of argument structure and semantic interpretation based on the internal structure of a 'from'-PP. More specifically, category selection of the complement of P goes hand in hand with the PP's interpretation, and in the case of 'from', *causal* vs. *non-causal*. I will investigate the internal structure of 'from'-PPs with an eye to finding dependable syntactic or morphological differences which will covary with each interepretation ascribed to that 'from'-PP. In doing so, I will assume that there are no individual entries for each interpretation of 'from' and that we are not dealing with either homonymy or polysemy. This would be against the grain of conceptual economy and, concomitantly, theoretically undesirable in this framework.

4.1 *WH*-EXTRACTION

The main observation regarding the complement of 'from' is related to *wh*-extraction facts. Kracht (2002:182) distinguishes the *wh*-words *where* and *what*/*which* with regard to their denotations. He claims that the former only asks for *locations*, while the latter questions a *group of sets* or *individuals*. Additionally, he states that *there* always denotes a region (something that will have to be explicitly defined in the following subsections). Based on these two observations about *where* vs. *what* and *there*, he sketches the distribution of relative clauses in German (in parallel with their English counterparts) headed by *wo* 'where' and *worin* 'wherein', relativized either of the locative *dort* 'there' or a DP. The acceptability judgements of those sentences reinforce his assumptions that *where* and *there* denote location and are thus compatible vs. *what* that denotes objects and is consequently incapable of relativizing *there*:

Dort, wo das Gras noch grün ist,… 'there, where the grass is still green,…'	✔LOCATIVE-LOCATIVE
*Dort, worin das Gras noch grün ist,… '*there, wherein grass is still green,…'	*LOCATIVE-NOMINAL
*Das Buch, wo wir gelesen haben,… '*the book, where we have read,…'	*NOMINAL-LOCATIVE
Das Buch, worin wir gelesen haben,… 'the book, wherein we have read,…'	✔NOMINAL-NOMINAL

Table 4.1: *wh*-relativizers of locatives *vs*. nominals in German.

Table 6.1 offers a good first indication of compatible and non-compatible relative clauses with elements traditionally considered locative and nominal respectively. Their compatibility with relativizers is attributed to their denotation only. It remains, however, to further discuss whether and why *there* is locative and what this means syntactically compared to a DP or its pronominal counterpart *that*. Additionally, the categorial assumptions about *there* must be extended to *where* and respectively for DPs to *worin* in order to make sure that each pair indeed belongs in the

same category, namely locative and nominal. Once the status of *where* vs. *what* has been explored, I will return to the discussion of relative clauses with a better understanding of the nature of the relativized DPs.

A parallel test which seems to have a categorical perception effect between causatively and spatially interpreted 'from'-PPs is the type of *wh*-word used for extraction, which reveals the category of the phrase extracted. In table 4.2 we notice that the complement of only causatively interpreted 'from'-PPs can be extracted by *what*. Importantly, in all spatial PPs, the *wh*-word employed is *where* (for spatial interpretations)[42]:

MEANING	'from'-PPS	*WH*-EXTRACTION
CAUSATIVE	(1a) Her headache was from the wine.	What was her headache from?
	(1b) o ponokefalos tis itan apo to krasi.	apo ti itan o ponokefalos tis?
	(1c) die Kopfschmerzen kommen von dem Wein.	Von was kamen diese Kopfschmerzen?
	(1d) de hoofdpijn kwam van de wijn.	Van wat kwam de hoofdpijn?
SPATIAL	(2a) Elisabeth is from London.	Where is Elisabeth from?
	(2b) i Elissavet einai apo to Londino.	apo pou einai i Elissavet?
	(2c) Elisabeth kommt von London.	Von wo kommt Elizabeth?
	(2d) Elisabeth komt van Londen.	Van waar komt Elisabeth?
CAUSATIVE /SPATIAL	(3a) These problems are from the internet.	What/Where are these problems from?
	(3b) auta ta provlimata einai apo to diadiktio.	apo ti/pou einai auta ta provlimata?
	(3c) diese Probleme kommen von dem Internet.	Von wo/was kommen diese Probleme?
	(3d) deze problemen kwamen van het internet.	Van wat/waar komen deze problemen?

Table 4.2: *wh*-extraction out of differently interpreted 'from'-PPs in English (a), Greek (b), German (c), and Dutch (d). Notice that only English allows P-stranding in the *wh*-extraction column. All other three languages resist P-stranding 'from', which, in turn, ends up being fronted.

[42] I will leave the temporal interpretations aside. In section 1.1, according to Luraghi (2003), it was suggested that time has an independent life from cause or space, which is also evident in the *wh*-extraction facts. Notice that temporal 'from'-PPs have a different *wh*-word assigned for them, namely *when*.

This discrepancy in *wh*-extraction can be better observed in ambiguous sentences like the last set in (3), where *the internet* can either be the *cause* of a network crash due to viruses, for instance, or the *place* whence the set of problems was copied. Provided that such ambiguities *do* arise, a secondary observation here is that the lexical properties of the P's nominal complement alone cannot always ascertain the type of interpretation that PP will have.

As a preliminary conclusion, I will submit the following generalization: The complement of spatially interpreted 'from'-PPs is always associated with the locative *where*, while the complement of causatively interpreted 'from'-PPs is systematically associated with the nominal phrase compatible only with *what*.

4.2 *TH*-WORDS

I will use the term "*th*-word" following Bernstein's (2008) suggestion that the *th*- of *there* and *that* (along with *they*, *then, the*) are in fact the same morpheme and can thus be grouped in the same natural class. *Th*-words can be used to disambiguate different 'from'-PPs in examples like (4). For *the leak is from the crack in the roof*, there are two *th*-words that can be selected by 'from', namely *that* and *there*.

Similarly to *wh*-words in Table 4.2, *th*-words also exhibit selectional effects dependent on the interpretation of each 'from'. More specifically, the *th*-word used will turn out to be a dependable categorial indicator for causative and non-causative readings. Causative 'from'-PPs always combine with the pro-form *that*, while spatial 'from'-PPs always combine with the pro-form *there*.

(4) a. The headache was from THAT/*THERE. (causative)
b. Elizabeth is from THERE/*THAT. (spatial)

c. The leak is from THAT/THERE. (causative/spatial)

If *that* and *there* are dependable cues for a causative *vs*. non-causative interpretation, and if they each project a different syntactic phrase—I will claim a DP and a PP respectively—then we can conclude that the interpretation of 'from' is contingent on the syntactic category of its complement. Of course the crux in this line of argumentation is to show that *that* and *there* indeed project two different syntactic phrases.

The pro-form preferences in (1–4) hold cross-linguistically, which is a promising start for a unified syntactic account. In order to interprete these observations, however, we must first establish the syntactic identity of those pro-forms. This then will link the PP-interpretation to the categorial selection of P itself.

4.3 *THAT* AND *THERE/WHERE*

Contra Williams (1984), who considers *there* to unarguably be an NP, it will be shown that the pronominal nature of *there/where* does not necessarily make them NPs. Postal (1966), for example, argues that personal pronouns are in fact determiners that can themselves take an NP complement. Such accounts essentially differentiate grammatical status from syntactic structure. In other words, a pronoun does not always stand for a noun nor does it always have to be represented under an NP.

4.3.1 THE VAN RIEMSDIJK METHOD

Van Riemsdijk's (1978) account places *there* and *where* in a special *r*-pronoun[43] category (along with *er* 'there', *daar* 'there', *waar* 'where', among other pronouns). These are pronominal elements that have a typical element in common, namely the phoneme /*r*/ which is responsible for their name, *r*-pronouns, but has no morphological bearings. Van Riemsdijk's analysis is

[43] The term is used interchangeably in the literature as *r*-pronouns or R-words.

mostly based on construction specific observations, on which he builds rules and filters, in order to account for the distribution and behavior of R-words.

He proposes that R-words originate as NPs on the right complement position of the P and via consecutive application of filters they raise up to an *r*-position deriving the surface order [[+R]–P] from the underlying [P–NP]. The derivation is reproduced in the following examples:

(5) [+human] *NP complements of P heads are admissible, thus (4a) is acceptable*

a. ✓Jan heeft op *Marie* gerekend. DUTCH
'John has on Mary counted.'

[–human] *pronouns, however, are not allowed in P-complement position, hence (4b) is ungrammatical according to the* *P-[–H] *filter:*

b. *Jan heeft op *het* gerekend.
'John has on it counted.'

To remedy that, an R-suppletion rule then applies which turns a [+PRO,–H] *element into a* [+R] *element. In other words,* het *becomes* er *in (5c).*

c. *Jan heeft op *er* gerekend.
'John has on there counted.'

A final rule prohibits the occurrence of R-words on the right of P (*P–[+PRO,+R]). *This forces R-word movement to the left of P, deriving (5d)* ([$_{PP}$ *er* [$_{P}$ P *t*]).

d. ✓Jan heeft *er* op gerekend.
'John has there on counted.'

Van Riemsdijk's filters and rules account for the empirical data as well as for the complementary distribution of *r*-pronouns and NPs. His filters, however, have been criticized mostly by Bennis (2005) and Helmantel (2002) as non-explanatory. Indeed there is no apparent motivation for substitution of a [−Human] pronoun (especially since it is sometimes acceptable, as we will see in the next section) or for internal movement out of the P′ domain.

So although van Riemsdijk links R-words to prepositional phrases by structurally assigning them a position on the left of the P head, we have little information about the nature of the R-words themselves other than they are substitutes of NPs—a fact that has little syntactic value and, as I show later on, is not always true either.

4.3.2 THE BENNIS METHOD

Bennis (2005) follows a line of argumentation close to van Riemsdijk's in terms of establishing a relation between *r*-pronouns and PPs, but crucially different in terms of the assumptions on the grammatical nature of the *r*-pronoun. Bennis claims that *r*-pronouns should not be considered NPs due to Case-assignment, distribution, and their internal properties. Nonetheless, they may have thematic roles assigned by a P just like NP arguments or appear in complementary distribution with full DPs.

Before I present his main arguments for an underlying PP analysis of *r*-pronouns, I will briefly summarize the arguments used against an NP analysis, which was considered to be the main assumption in van Riemsdijk's proposal as well as Williams (1984).

Against NP. Although van Riemsdijk (1978) had proposed a special treatment of *here/there* as *r*-pronouns, his analysis does not make any categorial distinction between them and NPs. Bennis is opposed to a categorial merging of NPs and *r*-pronouns pointing out the discrepancies in Van Riemsdijk's derivation process of *r*-pronouns using a set of filters that account for the distribution and behavior of *r*-pronouns. By disputing the validity of these filters, the analysis of *r*-pronouns as NPs is consequently challenged, since it will be proven that they do not behave similarly. Below I summarize some of the issues raised regarding van Riemsdijk's analysis and the categorial distinction between *r*-pronouns and NPs:

(i) The *r*-suppletion rule turns a [+PRO,–human] element in the complement of a P into a [+R] word. This filter was probably the easiest to dispute by bringing up empirical evidence. Although this filter can account for the ungrammaticality of **op dat/het/wat* 'on that/it/what', it fails to apply to other [+PRO,–human] P-arguments like 'everything' or 'nothing':

(6) a. ✓met *alles* DUTCH
with everything (acknowledged in van Riemsdijk 1978)

b. ✓Zonder *dat* kan ik niet leven. (Helmantel 2002)
without that can I not live

c. ✓Het ontbreekt mij aan *niets*.
it fails me on nothing

(ii) If [–human] NPs were never licensed in the P-complement position, then we should expect the same for *r*-pronouns if we accept that they are also NPs and [–human]. This is borne out by examples like **op daar* 'on there'. To overcome this, van Riemsdijk introduces another filter that bans the occurrence of *r*-words in the complement of P. Again this is empirically put to the question by the examples in (7) that show that *r*-pronouns can appear in such positions. Ultimately it seems that we reach contradictory observations with regard to the distribution of *r*-pronouns since they seem to resist some Ps, but they are perfectly acceptable with others, like *van* 'from', *tot* 'on', or *naar* 'to':

(7) a. ✓Deze weg loopt **van** *hier* (**naar/tot** *daar*). DUTCH
this road runs from here to there

b. ✓de bus rijdt {**tot** *daar*/**daar* **tot**}.
the bus drives {till there/ there till}

c. ✓**Tot** *waar* rijdt de bus?
till where drives the bus

d. * De bus vertrekt **van** (*n*)*ergens*.
the bus leaves from nowhere/somewhere

✓P>R-word (specific)
*R-word (specific)>P

The contradictory behavior observed in example (7), where the R-pronouns follow the P instead of preceding it (as it was the distributional norm up to now), although possible, it is not a general pattern. The cases where we find R-pronouns emerging post-prepositionally are restricted in terms of the prepositions and R-pronouns used as well as to their semantics. According to Helmantel (2002), it is only the prepositions: *van*, *tot* and *naar* that can combine with the *r*-words: *daar*, *hier*, *waar*, and *overal*, but not *er* (**naar er*) or (*n*)*ergens* (**van (n)ergens*). The exceptional ability of certain *r*-pronouns to appear post-prepositionally is ascribed to *specificity* by Helmantel, who formulates the following generalization (ibid.:150) "Specific R-words appear to the right of *van*, *tot*, *voor*, and *naar*".

The assumption is that *deixis* is one way of making an element *specific*, thus, only those R-words that are deictic are eligible for appearing to the right of the P. This is true for *hier*, *daar*, and *waar* in (7a–c) that only denote a *specific location* with regard to the speaker. On the other hand, elements that fail to denote a specific location, like *er* or (*n*)*ergens* are not able to appear on the right of the P. Helmantel argues that *er* is the weak form of *daar* in the sense that it cannot be stressed and must be linked to the discourse. These properties render it non-specific and, consequently, incapable of remaining in the complement of P (7d). Similarly, (*n*)*ergens* is equally non-specific which accounts for the unacceptability of (7d). To prove that it is indeed specificity that is responsible for this, Helmantel contrasts (7d) with the pair in (7e&f). (7e) has an attribute, assigning a more specific meaning to (*n*)*ergens*, while (7f) has focus (stress), which seems to 'override' so to speak any specificity requirement on the *r*-pronoun:

e.	✓De	bus	vertrekt	**van**	*ergens*	*(in Spanje).	DUTCH
	the	bus	leaves	from	somewhere	(in Spain)	

f. ✓Die bus moet toch **van** *ERGENS* vertrekken.
the bus must PRT from somewhere leave

In sum, *r*-pronouns can appear to the right of some prepositions under lexical (only some of the *r*-pronouns) and semantic (only specific ones) restrictions, which do not force the R-word to move above P, as is generally the case, thus yielding the P>R-word surface order.

(iii) Provided that *r*-pronouns and NPs were argued to be categorially alike and originate in the same position, it is surprising that only *r*-pronouns are able to move out of the head P domain and not NPs. So (8a) is not acceptable but (8b) is:

(8) a. *dat op DUTCH
that on

b. ✓daar op
there on

Bennis ascribes the contrast in acceptability in (8) to the Head Movement Constraint, according to which a head cannot move over a governing head position, but can only move up to the first governing head (Travis 1984). With *dat* sitting in the complement of P, it cannot move past its governor. *R*-pronouns, however, seem to follow a general prohibition in surfacing to the right of P (exceptional cases were given in (7)), while they can appear on the left. This suggests that *r*-pronouns and NPs do not share the same underlying structure and, consequently, the same constraints do not apply. Arguably, this does not necessarily imply any categorial distinction between *r*-pronouns and NPs, but does invite exploration of the structure, which I will immediately turn to in the following section.

4.3.2.1 CASE ASSIGNMENT AND Θ-ROLES

The categorial correlation of *r*-pronouns with NPs is theoretically challenged on the basis of their structural position with regard to Case-assignment and government. Given that NPs are in need of Case and a theta role by their selecting P head, then under the assumption that *r*-pronouns are also NPs/DPs, we would expect the same requirements to hold for *r*-pronouns. This, however, does not hold, consequently suggesting that *r*-pronouns are similar to NPs/DPs. I will first present some theta-role assignment considerations on *r*-pronouns and then move on to Case assignment.

Helmantel (2002) points out that the theta theory could, in fact, come in handy as it explains why *r*-pronouns and NPs are in complementary distribution. If the P head assigns one theta role, this means that it can only theta-mark one argument at a time. If both NPs and *r*-pronouns are theta-marked arguments by the same P head, then they can only appear in complementary distribution.

Bennis, on the other hand, will not find the theta theory particularly useful in structurally distinguishing NPs and *r*-pronouns due to the fact that it does not entail any requirements in terms of the nature of the phrase or its structural position. The only precondition for theta assignment is that it takes place under government. Both *r*-pronouns and NPs can receive a theta-role on either side of the governor-head as theta assignment is non-directional[44]. On the one

[44] Leu has drawn my attention to Travis' (1989) work, who argues that head-directionality along with the direction of theta-role assignment and the direction of Case assignment can determine word order. However, only one of the three parameters can be specified in a language (unless none is specified and then Head Paramenter can vary deriving the 'inconsistencies' in German for example). Ultimately, this suggests that theta-assignment can be parametrized. In response, den Dikken points out that the direction of theta-role assignment is not parametrizeable, based on the Borer-Chomsky conjecture (discussed in Baker 2008), which attributes parametric variation only to functional heads. As for the direction of Case-assignment and head-directionality, they are both unavailable in the minimalist theory since Case is checked by functional heads under Agree and government is abolished.

hand, *non-directionality* of theta-assignment cannot explain the distributional idiosyncrasies, for NPs (cf. (9a–b)). On the other hand, it can accommodate the distribution of *r*-pronouns, which may occur on either side of the P head (cf. (10a–b)).

(9)	a.	op	dat	[P–NP]	DUTCH
		on	that		
	b.	*dat	op	*[NP–P]	
		that	on		
(10)	a.	daar	op	[R–P]	
		there	on		
	b.	van	hier	[P–R]	
		from	here		

The unavailability of (9b), and by extension the whole paradigm in (9–10), is better captured by Case assignment considerations. Unlike theta-assignment, Case-assignment is *directional*, assigned by the governing head to its right. Given that *that* is an NP, it is in need of Case, but it can only get it when it is found on the right of the P head[45]. The same does not hold for (10) where the *r*-pronoun that appears on either side of the P head is not under Case constraints. This then can then account for the unavailability of (9b) compared to (10a) on the basis of Case-assignment failure[46]. If we adopted an NP analysis for *r*-pronouns, the distribution in (9–10) would be problematic. Bennis notes that *r*-pronouns inherently resist Case-marking, thus, their distribution with regard to the P head is not as restrictive as that of NPs ultimately concluding that *r*-pronouns and NPs are two distinct elements.

[45] This can be overtly observed in Greek, where *auto* 'that' inflects for all φ-features, but *eki* 'there' does not.

[46] Nevertheless, Case–assignment considerations seem to fail for *de berg op* 'the mountain onto', which is grammatical. For this example neither Case-assignments nor the Head Movement Constraint seem to be in effect although the DP is licensed above *op* without any movement constraints being violated.

As an interim summary of the above subsections, let me summarize the main points raised about the distinction of *r*-pronouns and NPs:

(i) NPs and *r*-pronouns do not have a similar *distribution* regarding a P-head or syntactic behavior in terms of their movement and extraction availability.

(ii) *Case assignment* being directional, it can only account for the distribution of NPs but not *r*-pronouns suggesting that they do need Case.

4.3.3 NULL-HEADED PPS TRIGGER AGREEMENT

In the previous section some considerations were discussed regarding the status of *r*-pronouns as substitutes of DPs and we concluded that *r*-pronouns have all the characteristics of an independent phrase. In this section I would like to present evidence that indicates that sometimes a phrasal category may appear in the position of and share a function with another category (in this case, a DP), nonetheless their categorial status is not the same. Although this does not directly provide evidence for the underlying structure of *there/here*, it does, however, show once again that distribution alone is not dependable. More importantly it shows that PPs or CPs can sometimes 'masquerade' as DPs, opening the floor for further discussion regarding the underlying category of *there/here*, which I will claim not to be a nominal one but rather a prepositional.

We know that subjects have to be nominal elements since (a) they need to check nominative case features with T, (b) they enter into an agreement relation with the verb, and (c) they must satisfy the EPP by raising to SpecTP, thus checking the strong D-feature that the functional category T

has ([uD*])[47]. Nonetheless, case-resistant phrases like PPs or CPs (Stowell 1981), which cannot agree with the verb or check EPP's [uD*] feature, can be found in subject position:

(11) [$_{CP}$ That he is a doctor] surprised everyone. (Han 2005)

(12) [$_{PP}$ Under the bed] is not a good place to save snowballs for summer. (see Stowell 1981)
[http://www.notso.com/kidhumr.htm]

So how can we reconcile the theoretical requirements on the nature of subjects, namely that they have to be nominal (*vs*. non-nominal possibilities) on the one hand, and the empirical observations like (11&12) that have PPs and CPs appearing in subject position on the other hand?

The proposed solution was an NP-over-CP analysis (see Groos and van Riemsdijk 1981). In its more recent revamp by Davies and Dubinsky (1998), these case-resistant categories are structurally represented in a DP-shell, which features a null-D head taking a non-NP phrase, which is understood as the subject of the sentence. The main advantages in this configuration is that with a DP in the subject position, EPP's [uD*] feature on T can be checked and a theta role can be assigned. But more importantly, agreement is established with the verb, a problem raised by McCloskey (1991), who observes that coordinate subject clauses trigger plural verb agreement as in:

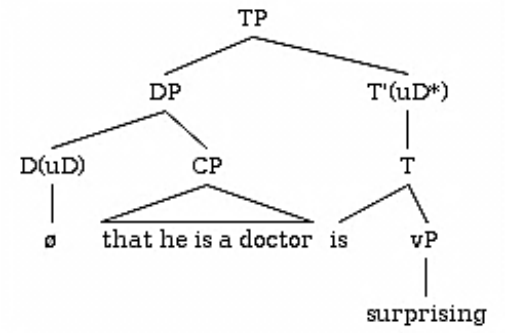
(13) [That he'll resign] and [that he'll stay in office] *seem* at this point equally possible.
McCloskey (1991: 564)

[47] It should be noted that it is not always obvious that the EPP can be checked only by nominal elements. For example Alexiadou and Anagnostopoulou (1998) argue that although every language has a strong EPP feature that needs to be checked, not every language satisfies it in the same way. So for null subject languages that allow VSO word orders and have no overt expletives, they propose that the EPP can be checked by verb movement and not by Move (of a phrase) or Merge (of an expletive).

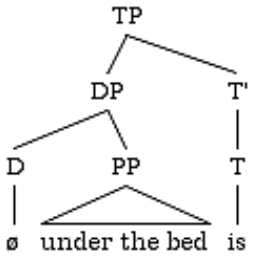
In addition to this, locative inversion has been extensively argued (see for example Hoekstra&Mulder 1990; Jang 1996; Kim 2005; den Dikken 2006) to involve movement of PP to subject position, thus satisfying the EPP.

I will follow the DP-shell structure proposed in Davies and Dubinsky (1998) for CP subjects (11′) and for examples that have PPs in subject position (12′):

(11′) *DP-shell of CP subjects*



(12′) *DP-shell of PP subjects*



A null-headed DP-shell is able not only to account for PPs appearing in subject position (12′), but also capture plural agreement when the subject has coordinated clauses, as McCloskey observed and is reproduced in (14) for PP clauses. McCloskey (1991) also notes that plural agreement is only possible when the conjoined clauses are "contradictory or incompatible", in other words, when they denote two distinct state of affairs. If the conjuncts denote one state of affairs or one place or one situation, then only singular agreement is possible.

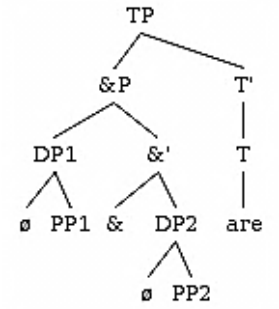
A case of singular agreement is attested in (16) where *here and there* since they jointly specify one location and not two distinct places as in (15). So unlike (14′), (16′) does not trigger plural agreement since *here* and *there* are not used deictically to specify one distinct location each.

(14) [$_{PP_1}$ Under the bed] and [$_{PP_2}$ in the wardrobe] *are* good places to hide it. [Definite location]
[http://sports.espn.go.com/espn/news/story?id=5451867]

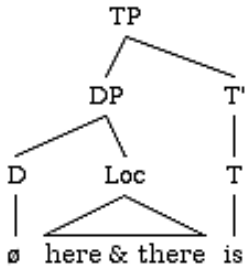
(15) [Here and here] *are* a couple of recent photos [Deictic/Definite]
[http://www.schleygrange.org/]

(16) [$_{\&P}$ Here and there] *is* where I'll be. [Indefinite location]
[http://vintagebliss.typepad.com/vintagebliss/2008/08/here-and-there.html]

(14′) *Plural subject–verb agreement*



(16′) *Singular subject–verb agreement*



In (14′), we had to postulate two null headed-DPs each one carrying a PP as the only way to account for the plural agreement, unlike (16′) that behaves more like (12′) and exhibits singular agreement.

What is most important in these structures is that they can accommodate non-typical grammatical categories in subject position. I have tentatively chosen to abstract away from specifying the category under which *here* and *there* appear, but it has become clear that the fact that they may distribute like DPs or appear in subject position does not necessarily make them DPs.

4.3.4 DISTRIBUTION

The first empirical observations point to the fact that *r*-pronouns distribute more like PPs rather than DPs or any other phrasal category. The fact that *there*[48] never distributes like a DP can be seen in the examples under (17), which clearly involve a DP. We observe that in none of them is it possible to replace the DP with *there*.

(17)	a.	They occupied	{$_{DP}$ Wall Street/*there}	}	there *does not*
	b.	He finally bought	{$_{DP}$ the place/*there}		*distribute like*
	c.	He always liked	{$_{DP}$ cakes/*there}		*a DP*

[48] And of course it is not surprising that the same paradigm holds for *here* since they are usually analyzed on a par.

Additionally, *there/here* also cannot stand for other types of phrases, like CP and APs, as (18) shows:

(18) a. She knows {that people lie/*there}. } there *resists*
b. She smells {funny/*there}. } *CPs and APs*

On the other hand, *there/here* can promptly stand for prepositional phrases or their complements. *There* can, in general, stand for many locative and directional PPs in English, see (19b–d), but not for all i.e., (19e–g). Notice also that certain restrictions apply on the semantic properties of the DP complement. So *He lives in the Bronx* is acceptable, *he lives in there* is not, although (19b) is fine. In such cases *in* can only stand for a specific location like *house, car, building*.

(19) a. John was going {**to** the party /there/*to there}
b. Many people live {**in** this house/ (in) there}
c. The cat ran {**under** the bed / (under) there}
d. The airplane flew {**above** the lake / (above) there}
e. Jane is standing {**by** the exit / *by there }
f. The car arrived {**at** the station/*at there}
g. The plane came {**from** London/*(from) there}

What is striking is that unlike all of these PP-examples, *from*-PPs are never substituted in their entirety by *there*[49]. So in (22g) *from* can never go missing[50].

[49] Other locative prepositions unavailable for *there*-replacement are *through* and *out of*. So in (i&ii) *there* cannot replace the entire spatial PP:

(i) The kids sneaked {**out of** the house / *there}
(ii) He crawled {**through** the pipe / ?there}

Notice that both these Ps can also be used causatively but they are not analyzed on a par with 'from'. For example, they cannot convey causation on their own as 'from' does in non-verbal environments, although are are fine with anticausatives.

(iii) ??The headache is out of the wine.
(iv) The pipe broke out of pressure.

[50] All judgments in (22) can be faithfully replicated for Greek.

The examples in (17–19) all point to the fact that *there* is prepositional in its syntactic category. In Dutch, however, den Dikken notices that we find examples where 'there' can stand for a DP, parallel to the English *thereof* discussed in Kayne, see fn.14:

(20) Hij keek *er* naar. DUTCH
He looked there at
'He looked at it/[??]her/them.'

We know that *er* in these cases is in the place of a DP based on distribution. The phrase 'looked at' cannot take a PP complement but must select a DP. Importantly, this DP does not have to convey space, but as we see in the prose translation, *er* can be pronominal.

Based on distribution alone, let us try to find a case similar to Dutch (23), where the phrase spelled out as *there* has to necessarily be a DP. One good candidate in English would be a sentence like (21):

(21) He slept under {the bridge / there}.

We know that *under* is a locative preposition, thus it is expected to select a DP and not yet another PP layer. Additionally, *under* is one of those prepositions that does not easily select for another overt preposition, although English is rather flexible in terms of P-stacking. Such considerations point towards the conclusion that (21) could have been equivalent to Dutch (20), showing that English *there* stands for DPs, had it not been for one important semantic distinction. Although the *there*-version of (21) can be argued to be equivalent to its overt DP-version, in (21a) this is not possible any more:

(21a) He slept under {the moon / *there / ✓it}.

(21a) is important because it highlights that semantic (and possibly syntactic) properties the DP *there* stands for can affect the grammaticality of the sentence. What can be drawn from the comparison of (21&21a) is that when a DP does not denote a specific *space* or *place*, *there* is no

longer able to stand for that DP. Instead it is only a pronominal element that is able to surface in this position, like *it*. So the licensing of *there* seems to be contingent, not only on the subcategorization frame of the selecting head (as was the case in (17&18)), but also on the internal properties of the denoted entity.

What this means syntactically is that the structure of *the bridge* in (21a) must involve some compatible elements with the structure of *there*, which at the same time are incompatible with the structure of *the moon*. Arguably the two DPs (*the bridge* and *the moon*) differ in their *place*-denoting interpretation in the specific example. So although *the bridge* marks a specific location in space, *the moon* does not because the area under it is non-specific and ultimately incompatible with the deictic *there*. I will discuss the nature of the difference in more detail in chapter 5, where I will show how and why the two DPs differ. For now it suffices to say that there is good indication that not all DPs behave the same with regard to their distribution and their compatibility with *there*.

Distributional patterns are probably the first tool used in ascertaining the grammatical category of a phrase. The distribution of the pronouns *here/there* indicates that they behave more like PPs rather than NPs, although they are caterogized as pronouns. I have shown, however, that distribution alone is not sufficient evidence for caterogial classification due to the considerations presented in this section. At the same time, it can offer useful insights regarding the underlying syntactic structure of the sentences that *here/there* participate in, based on the different readings rendered and on the types of constructions they are (in)compatible with.

4.3.5 "ARTIFICIAL" SUBSTITUTES

In studying distributional patterns we looked at examples where *there* could stand in for some other phrase, namely a PP or a DP. The substitution method can indicate the category of the substituted phrase based on the substitute, for example when a VP is substituted by *do so*, both project up to a verbal phrase. However, there are cases where the substitute is not always of the same syntactical category. Practically this means that when an *r*-pronoun performs a similar semantic function as a DP, it is not necessarily the case that the *r*-pronoun has to be a DP itself. I refer to such substitutes as "artificial substitutes" since their semantic function is the same as the substituted phrase, but their syntactic nature is not necessarily alike.

Although an *r*-pronoun appears to 'stand in for' a DP, it will be shown that its projection is not nominal but prepositional. Important considerations with regard to the: (i) category of the substituted phrase, (ii) stress, and (iii) the need for an antecedent, ultimately suggest that *r*-pronouns should be treated syntactically independently and not simply as DP equivalents.

Firstly, pronouns do not always stand for nominal phrases, so the link between pronouns (and by extension *r*-pronouns) and DPs is compromised. Sometimes we find pronouns or demonstratives that stand for entire predicates:

(22) a. Hans ist schlau, und Maria ist *(es) auch. GERMAN
John is smart and Mary is it, too

b. Hans ist dumm. Nein, das ist er nicht.
John is dumb No, that is he not
'John is dumb. No, he's not.'

c. John washed his car and Bill did it, too.

Note also Postal's (1966) proposal, where he claims that pronouns are not nouns at all, but in fact determiners which allow their nominal complements to go unpronounced. In support of this, Kayne (2005a) points out that this is the reason why clitics and articles have a shared form (i.e.,

the French *le, la, les*). Ultimately we can conclude that (*r*-)pronouns do not uniformly substitute nounal phrases. In fact, (23a) shows that *r*-pronouns can also stand for entire PPs:

(23) a. Bill was {on this table/HERE} not {behind that closet/THERE}!

b. * John washed his car and Bill did IT too

Secondly, we know that *here/there* cannot be treated on a par with DP substitutes because they can carry stress in a sentence. For example, in (23b) the stressed *it* stands for a VP and gives out an unfavorable judgment, while the stressed *here* in (23a) is perfectly acceptable.

Thirdly, substitutes have to be d-linked, thus they need to be related to an antecedent in the previous context. This is the case with pronominal elements like *it*. So in (24) the pronoun *it* is not recoverable, unless there is a preceding context to be linked to.

(24) Bill did it.

On the other hand, *here/there* can be used deictically and consequently do not always require an antecedent, as in *Come here!*

In conclusion, there are indications pointing to the fact that *r*-pronouns are "artificial" substitutes in the sense that they do not seem to always agree with the category of their substitute and should thusly be treated as independent phrases whose categorial status is to be determined based not only on distribution but further syntactic evidence.

4.3.6 P-MODIFIERS

One way of testing the presence of PP structure is to look for prepositional specifiers, that is, elements that usually appear in the projections of a P head and, therefore, presuppose the existence of PP structure (Emonds 1972). These are optional phrases and, according to van Riemsdijk (1978), they may belong to a variety of phrase types: an NP, *two miles*; an AdjP, *quite*, *really*; AdvP, *immediately*; or a PP, *up*, *down*. In this section I will focus on *right* and

straight, two modifiers that frequently combine with 'from'-PPs and test their behavior with THERE/THAT.

This section will be divided in two parts. First I will discuss the availability of specifiers P-externally, that is, above 'from'. This will provide support to the conclusion that causative 'from' lacks spatial components reflected in its functional domain. Then I will test the availability of specifiers P-internally, that is, above the complement of 'from'. The distribution facts will be accounted for by appealing to the presence of a null P head for the spatial cases versus the causative ones, indicating a structural distinction between the two interpretation of 'from.

4.3.6.1 ABOVE 'FROM'

Spatial 'from' examples freely combine with specifiers like *straight*, while the same is not always true for the causative 'from'. Compare (25a) with (25b):

(25) a. That virus was/came [*straight* [**from** [Africa]]].

b. My headache was/came [*/✓ *straight* [**from** [drinking that cheap wine]]].

The judgments for (25b) vary considerably among native speakers. So in discussing (25), I will try to offer a possible account for this variation after showing what underlies the contrast in acceptability between (25a&b).

The examples in (25) focus on the functional domain of each 'from', which can pinpoint a difference between the spatially and the causatively interpreted 'from'-PPs as suggested by Tortora. To understand why (25b) is not acceptable, let us start by examining the type of these specifiers, their position, and the kind of Ps they modify. An important ingredient of this discussion will be Jackendoff's (1983) analysis of the properties of Path Ps. The first one he introduces is *boundedness*, which is a property of Paths with relation to their place/object NP.

Boundedness assigns Ps a specific endpoint, or in the case of Sources, a specific point of origin as in *John ran from the house*.

Tortora (2008) extends the property of *boundedness* to Place PPs and examines in detail their functional layers and their interrelation with the semantic interpretation of the P. More speficically, based on evidence from Italian and Spanish, it is shown that the Aspectual phrase above a PP_{PLACE} encodes the feature [bounded] and is responsible for the interpretation of the space denoted by the PP either as *bounded/contained* or *unbounded*/*non-specific*. When the Asp head is marked as [−bounded], the *space* denoted is "wider" and is not limited or location-specific. On the other hand, a positively marked [bounded] feature yields a "punctual" or limited space[51]. With these conclusions in place, Tortora (2008) offers an analysis for the English specifiers *right/straight*. She observes, based on distribution facts, that a lexical preposition comes equipped with its own aspectual domain contingent on its lexical properties. So there are Ps that are compatible with *right* and others that are not; compare *the house is right around the corner* vs. **there were bees right around the house*. Those Ps that invite modification by *right/straight* render a specific or bounded location, unlike those that do not. The conclusion is that the aspectual projection of a P has semantic effects, in terms of *boundedness*, on the Space denoted in that PP. This will be the key to explaining the judgments in (25).

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[51] I repeat here the Italian examples reported in Tortora (2008) that illustrate how the lexicalization of the Asp head (*a* is meged in the functional domain of the lexical P *dentro*) results in marking the Space denoted by the locative PP as *bounded/punctual*:

(i)	Mettilo Put it	dentro inside	la the	scattola. box		*Bounded space*: put it in a specific spot inside the box
(ii)	Guarda Look	bene well	dentro inside	**a**lla **a**.the	scattola. box	*Unbounded space*: look everywhere in the inner area of the box

Tortora (p.c.) suggests that the semantic property of *boundedness* can be re-interpreted (from Jackendoff 1983 and Tortora 2008) to also define the "linear space" denoted by the Path *vs*. the space denoted by PlacePs, which is 2- or 3-dimensional. So Path is a kind of SPACE, although not of a Place-type. According to this line of argumentation, a *bounded Path* can be understood as a "rigid" Path that does not permit deviations from the linear trajectory. An *unbounded Path* on the other hand, is not as 'restrictive', allowing the Figure to possibly oscillate from that linear trajectory. The distinction boils down to whether there is a 'straight and inescapable route' or not between the beginning and end points of the Path. This is better illustrated below:

(26) This shop's pastries are (straight) from the bakery across the street.

Bounded Path (*straight*): the pastries are prepared in the bakery and are served in the shop exactly as they got delivered. Modification by "straight" is possible.

Unbounded Path (**straight*): the pastries are prepared at the bakery, but there could be intermediate steps before serving i.e., they are processed in the shop's kitchen where they bake them or prepare them in some way before serving. Modification by "straight" is not possible.

So the conclusion that P specifiers are licensed only when the denoted space is *bounded* can be replicated for Paths. In (26), *straight* is licensed only when the Path is *bounded* in the sense that there are no intermediate stops or deviations from the main course.

The conclusions drawn from the above observations can now give an insight into the unacceptability of (25b) *vs.* (25a): If the licensing of *straight/right* is contingent on the properties of the P head and its ability to render a bounded Path, then a causatively interpreted *from* (meaning one that selects a DP), which does not convey any kind of Space, will not be able to have aspectual projections related to boundedness. In sum, the ungrammaticality of (25b) can be attributed to lack of spatial structure, that is, an internal PP argument and concomitantly an aspectual projection to host P-specifiers.

At this point I would like to bring up the fact that there is a stark contrast in the judgments of some native speakers, who do not consider (25b) ungrammatical as a causative sentence. Below I provide additional sentences that illustrate better the use of specifiers with causatively interpreted 'from':

(27) I'm in the hospital with mild emphysema and a collapsed lung […], the emphysema *is straight from smoking* and the collapsed lung is *from me being tall and skinny*.
[http://www.totse2.com/archive/index.php?t-9904.html]

Such examples are not as easy to find as spatial ones, yet their causative interpretation is unequivocal. Logically there should be an explanation that accounts for the speaker variation on the acceptability of *straight* in causative sentences without undermining its licensing conditions based on the boundedness of the P's argument that derives the contrast in (25a) *vs*. (25b).

Consider the difference in acceptability between (27b) and (27c) as reported by speakers who find (25b) acceptable:

(27) b. The emphysema was *straight* from smoking.

c. * The emphysema was *right* from smoking.

This contrast on the one hand reinforces the analysis for incompatibility of aspectual modifiers due to lack of spatial structure ((27c) is still rejected by everyone), but on the other hand, points out that the type of specifier used can influence the acceptability of the sentence[52].

[52] Consider also the specifier "directly", which seems to be particularly compatible with a causative meanings as Causes are usually considered either *direct* or *indirect*:

(i) It's impossible to say *it comes directly from smoking*, because there are so many other elements that play into it.
[http://answers.yahoo.com/question/index?qid=20090727114629AAMWSMm]

(ii) 90 percent of lung cancer in men […] *is directly from smoking*.
[http://www.empowher.com/lung-cancer/content/how-powerful-cigarette-advertising-ask-teenager?page=0,1]

Focusing on *straight* vs. *right*, we notice that their distributional difference extends also to verbs. We can observe that while *right* is mostly restricted to Space meanings, *straight* participates in non-spatial contexts more freely. In examples like *my application was denied straight*[53], there is no space denotation, nevertheless *straight* can be licensed in light of the fact that we have a resultative structure and the event denoted by the verb is telic/bounded[54]. The same does not hold for *right*, so **my application was denied right* is out. These judgments form a symmetrical pair with those in (27b–27c), where *straight* was preferred over *right*.

Examples (25–27), taken together, show that *straight* can modify spatial as well as non-spatial entities, while *right* is mostly reserved for spatial ones. This does not necessarily infringe on the boundedness restriction, but rather points out that not all P-modifiers require a space-denoting argument. So we going back to (25), we can suggest that for those speakers that find (25b) ungrammatical, *straight* seems to strictly abide by the boundedness condition. For those speakers that find (25b) and (27a–b) acceptable, we could appeal to the fact that *straight* can be used as a modifier in non-spatial environments and by extension applied to causative uses as well. Additionally, the distribution of *right* across the board makes more categorical distinctions, which seem to depend on whether the P's argument has a spatial denotation or not. This is important as it confirms that the distinction between directional (25a) and causative (25b) can be attributed to the presence or absence of spatial structure in the complement of 'from'.

[53] An example brought up by den Dikken.

[54] It is modified for example by *in ten minutes*:

(i) My application was denied straight [in ten minutes/*for an hour].

4.3.6.2 BELOW 'FROM'

I will now shift the attention from the functional domain of 'from' to its internal structure. Unlike (25), we notice that in (28) the same modifiers are never compatible with nominals, which is responsible for the unfavorable judgments:

(28) a. *That virus was/came [**from** [*right/straight* [$_{DP}$ Africa]].
b. *My headache was/came [**from** [*right/straight* [$_{DP}$ the wine]].

The data become more interesting when we replace the complement of those 'from'-PPs with its respective *th* pro-form. The specifier test will be in accordance with the main line of argumentation in this chapter, namely that THERE is prepositional in its syntactic category versus THAT, which is always nominal. It turns out that only THERE can co-exist with *straight* and *right*, but not THAT, which is distinctively degraded as seen in (28&29b).

(29) a. ✓The noise came [**from** *right*/*straight* [$_{\mathbf{PP}}$ THERE].
b. *The fever was [**from** *right*/*straight* [$_{\mathbf{DP}}$ THAT].

If the hypothesis that THERE projects a prepositional phrase is on the right track, then the favorable judgment for (29a) is predictable. In the same way, since THAT is uncontroversially a DP, it is not surprising that it is incompatible with prepositional specifiers, giving out an unfavorable judgment for (29b). So the judgments in (29) indicate that *there* and *that* project up to a different syntactic phrase, a PP and a DP respectively.

But an additional observation should be added here. If we accept that the directional *from* is comprised of two PP layers, namely Path and Place/Location, then in (28a) there should be a null PP layer in the complement of the overt P. Theoretically, a prepositional specifier could have been hosted by the embedded P_{LOC} and not the DP projections any more. This structure would look like this:

(28) a′. *That fever came [$_{\text{PDIR}}$ from [*right/straight* [$_{\text{PLOC}}$ ∅ [$_{\text{DP}}$ Africa]].

(28a′) however is not acceptable. It would be desirable not to change the underlying structure of directional PPs. Getting rid of the Pø would seriously undermine the congruent literature on the internal structure of directional PPs. Also changing the syntactic category of THERE as a PP *vs*. THAT would go against the argumentation of this chapter and indications provided. With these considerations in mind, it is worth exploring other possible scenarios for the source of the ungrammaticality of (28a′).

One such possible scenario attributes the judgment of (28a′) to the properties of the intervening Pø. The structure in (28a′) involves modification of a null head by *right/straight*. Such modifications, however, fail in general because the null head is not rich enough in features to allow modification, a phenomenon that extends to heads of other categories.

For example, Nerbonne and Mullen (2000) discuss that English determiners can only take phonologically realized complements, other than the case of possessives, which strictly select null heads, so *your place or mine* is acceptable. Additionally, English does not allow adjectival modification of null nouns, which accounts for the unacceptability of **your place or mine beautiful*. In modification of null nouns, *one* is forced, giving out the contrast in acceptability of **the beautiful* vs. *the beautiful one.* Only some exceptional cases are noted for comparatives and superlatives as well as for positive adjectives like *favorite, first, last*, which Nerbonne and Mullen refer to as empty N-licensers (for English and German). Example (30) exhibits their effect in the acceptability of null-head modification:

(30) Paul read 20 abstracts $\left\{\begin{array}{l}\text{the best/more interesting } \varnothing \\ \text{*the good/ interesting } \varnothing\end{array}\right\}$ were on Creoles.

Such exceptional cases aside, the modification of nouns requires the presence of a phonologically overt N head. This is parallel to what had been proposed above for the inability of phonologically unrealized P in (28a′) to host specifiers, which in turn may account for the unacceptability of (28a′).

Another observation that supports the fact that the ungrammaticality of (28a′) is due to the unrealized P_{LOC}, is that as soon as we lexicalize this intermediate Pø (see (31a–c)), the outcome becomes acceptable for the directional readings only (31a,b). On the other hand, it was impossible to find any examples where any preposition could emerge between a causatively understood 'from' and its Cause-DP (31c), and of course any P-specifier is also unavailable.

(31) a. ... he could have easily taken to banking [from *straight* [**out of** [school]]]
[http://businessdayonline.com/NG/index.php/the-executive/34873-the-lecturer-bankers-first-results]

b. ..a column of light emerged [from *right* [**over** [the peak of the mountain]]]
[http://www.aurorahunter.com/peak-moment.php] (spatial)

c. The constant back pain is [from [***P** [a bad sitting posture]]]. (causative)

So the prediction that causatively interpreted 'from'-PPs take only DP complements and hence no prepositional specifiers could emerge is borne out empirically since no examples of [$from_{CAUS}$ [$_{PP}$ specifier [P [DP]]]] have be found, contrary to spatial contexts, where we do find [$from_{DIR}$ [$_{PP}$ specifier [P [DP]]]].

We conclude that the distribution of prepositional specifiers seems to be congruent with a categorial difference between THAT and THERE as a DP and PP respectively. Specifiers like *right* and *straight* are compatible only with prepositions, which has lead us to assume that THERE projects a PP, but not with the nominal THAT. Additionally, it was shown that only spatial *from* can select a specified PP layer, but not causative *from*, which supports the main argument that causative *from* is syntactically distinct from spatial *from* with regard to their

complement. An additional conclusion is that since P-modifiers require an overt P, and since specifiers are compatible with *there* in (29a), *there* should not only project to a PP but also contain a lexicalized P-head. This last conclusion deserves further analysis. So in the following section I will dissect 'there' confirming the presence of a P-head.

4.3.7 A MOLECULAR ANALYSIS OF *THERE*

Kayne (2005a) analyzes *there* and *where* as polymorphemic pronouns and identifies three distinct morphemes: *th*/*wh*, *e, and r*, which are more closely studied in the following subsections in order to offer further support for an underlyingly prepositional structure for 'there':

4.3.7.1 *TH/WH/D*

The *th/wh* is the definite and indefinite respectively part of *there* and *where* which are also found in other pronouns and *wh*-words. Kayne (2005a) links this *th* morpheme to their determiner status, which is considered a widely accepted fact in English. In his argumentation, Kayne follows Postal's (1966) proposal that pronouns are determiners that always select a nominal phrase even if that noun is deleted or unpronounced (a line of thought also defended in Jackendoff (1977), Panagiotidis (2002), a.o.). Assuming obligatory selection of an NP, Kayne (2005b) proposes that *there* always selects an unpronounced PLACE, THING, or REASON. In sum, *there* must project a DP layer since *th* sits under D.

4.3.7.2 *R*

According to Kayne (2005a), the *r* in *there* also surfaces independently. The morphemic nature of *r* is based on Noonan's (2005) observations and analysis of Dutch and German locative *r*-pronouns. I will reserve a more detailed discussion on the monomorphemic and syntactic status *r* in section 4.3.8, after I add a note about the *e*.

4.3.7.3 *E*

If *th* and *r* are individual morphemes, by deduction, the vowel *e* between them will also be one. The vowels {*o, a, e, ie*} are referred to as the *locative vowels*. Kayne (2005a) capitalizes on the English *e* in *here* observing that it is differently pronounced than the *e* in *there*/*where* and draws a parallel of the [i]–[ɛ] contrast with the person distinction in Italian and Spanish pronominal possessives. The contrast in those pronouns is between first person marked with *–i* (*mi*) and second and third persons marked with *–u* (*tu, su*).

If the *h̲ere–th̲ere* contrast is indeed parallel to that of *m̲i–t̲u̲/s̲u̲* and if it is also the case that *here* "has something in common" with *mi-*, then this could offer support to the morphemic status of *e* in *h̲ere*. Indeed Kayne (2005a) proposes that *here* and *mi* converge on an interpretive level in meaning something like "the odd man out"; in other words, they define/mark a particular space or individual in contrast to the rest. So *here* contrasts with everything over *there*, while first person contrasts with everyone else in the same context (2/3.SG).

The proposal that phonetic convergence can be claimed to mark proximity to the speaker is further supported by empirical facts relating 'here' and '1.SG.'. For example in Dutch: *h̲i̲er* and *m̲i̲j̲n, i̲k*. In German: *h̲i̲er* and *i̲ch*. And in Greek: *ɛ̲ðo* and *ɛ̲ɣo*. The case of Greek is slightly different in that the vowel is not [i] but [ɛ], nonetheless they seem to converge. In fact, the paradigm in (32) below exhibits an exceptional uniformity among the locative pronouns 'here' and 'there', and the 1.SG–2.SG personal pronouns:

(32) ɛ̲ðo 'here' ɛ̲ɣo 'I' GREEK
ɛ̲ki 'there' ɛ̲si 'you'

Similar mappings between locative and personal pronouns are not as overt in Romance languages, for example the French pair *ici–lá* 'here–there', does not exhibit any connection with *je–tu/il* '1.SG–2/3.SG'.

4.3.8 THE RECEPTOR OF *R* (RP)

Noonan (2007) provides a unifying account for the syntactic structure of *r*-pronouns 'there' and 'where' in German (*da*, *wo*) and Dutch (*daar*, *waar*), which then she also extends to English *there*[55]. She bases her analysis on the distribution of *r*- and non-*r*-pronouns with regard to DPs (+/−HUMAN) and the locative preposition, as well as on the pronunciation (or non) of the *r* at PF and the ability to be pied-piped and strand adpositions. In the following subsections, I will briefly present her analysis and show how it leads to the conclusion that 'there' is a P_{LOC}, as also also suggested in Jackendoff (1983) who categorizes *t/here* as "intransitive prepositions".

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[55] A reference to Greek cannot be made here, as Greek lacks *r*-words. I would like, however, to submit a morphological indication of the prepositional composition of 'there' from Ancient Greek (AG), where we find a transparent combination of a preposition and a locative suffix for the word 'there'. Although the case of AG does not constitute evidence for a prepositional analysis of *there* (or *er* in Dutch and *da/dort* in German), it can provide individual morphological support for the prepositional nature of the grammatical adverb 'there'.

So for 'there, thither' we find the word: *ἔνθα* (entha) (GWST, Triantafyllidi). What is interesting about this word is that it is composed of two morphemes, namely *ἔν* and *-θα***.** The first morpheme, which is most germane to our analysis here, is the preposition 'in, within' denoting a fixed position in place, time or state (GWST). The suffix *-θα*, according to Smyth (1956), belongs to the category of adverbs which were originally case forms—like prepositions—and which survive as affixes attached to a nominal stem or a case form. Smyth submits six different cases with their respective adverbial suffixes. The suffix *-θα* is associated to Locative case, and claims that when it attaches to a stem, it denotes Place/Location.

In sum, there are two important observations here: (i) *ἔνθα* 'there' is not monomorphemic, and (ii) it is comprised of an overt preposition and a locative suffix. I will reserve any etymological claims that would link the Greek *entha* to its Germanic counterparts (Ge. *da*, OHG *dar*, Du. *daar,* O.S. *thar*, Goth. *þar,* from PIE **tar-*) as this pertains to a different field altogether and focus only on the fact that AG gives overt evidence for a prepositional (de)composition of 'there', similarly to what is suggested for its Germanic counterparts.

4.3.8.1 *R*-GENERATION: HIGHER THAN DP, LOWER THAN PP_{LOC}

Although non-pronominal DPs (+HUMAN) and non-*r*-pronouns can appear in the complement of a preposition, obtaining the word order: P>DP; pronominal DPs and *r*-pronouns prefer a postposition, both in German and Dutch. So in (33a&34a) the DP appears after the P, while a postpositional distribution, as in (33b&34b), is blocked. Pronominal [−HUMAN] objects of prepositions (i.e. *r*-pronouns), however, can only appear before the preposition as can be seen in the c-counterparts of each example set:

(33) a. Sie sitzt **auf** dem Stuhl. GERMAN (Noonan 2007)
she sits on the chair

b. * Sie sitzt dem Stuhl **auf**.
she sits the chair on

c. ***auf** da/wo → c′. ✓da**r**auf/wo**r**auf
on there/where thereon/where on

(34) a. Hij ligt **op** de bank. DUTCH (den Dikken 2010)
he lies on the couch

b. * hij ligt de bank **op**.
he lies the couch on

c. ***op** er cf.(7b) → c′. ✓daa***r*** op
on there there on

(33&34) show that the distribution of *r*-pronouns differs from that of DPs with regard to the locative adposition: P>DP *vs*. *r*>P. Consequently, Noonan assumes that *r*-pronouns occupy a different structural position than DPs. More specifically, *r*-pronouns are generated higher than the locative adposition, which obtains the postpositional order, and DPs are generated lower than the adposition (inside the PP), which obtains the word order: P>DP.

Koopman (1997) reaches the same conclusion regarding the structural position of *r*-pronouns. She makes the claim that *r*-pronouns occupy some specifier position of P, which is not available

to DPs, due to their distribution and the fact that they can pied-pipe P. Let's see the empirical facts first.

One thing Koopman wants to establish first is that independently of their relative position, *r*-pronouns still end up in some left projection of that locative PP. She offers the examples below to support this structural relation by showing that the *r*-pronoun can not only appear with the PP (which does not offer any structural insights on its own), but it can also pied-pipe the PP as in (33b):

(35) a. Ik heb dat boek **daarop** gelegd. DUTCH (Koopman 1997:8)
I have that book there-op put
'I have put that book on there.'

b. de tafel, **waarop** ik het boek heb gelegd.
the table, whereon I the book have put
'the table, on which I put the book.'

The second argument she wants to make is that although *r*-pronouns are part of the locative PP, they are attracted higher than the P. For that, Koopman will use movement as a diagnostic of relative position within the PP vicinity. Examples (36a&b) below show that only *r*-pronouns can move away from the vicinity of the adposition (36b), while DPs fail to be extracted (36a):

(36) a. ***Welke tafel**$_i$ heb je dat boekje **op** t_i gelegd? DUTCH
which table have you that book on put (Koopman 1997:9)
'Which table did you put the book on?'

b. ✓**Waar**$_i$ heb jij dat boek t_i **op** gelegd?
where have you this book on put

Assuming that postpositional word order is correctly attributed to stranding (van Riemsdijk 1978), Koopman concludes that DPs fail to strand the adposition in the same way *r*-pronouns do, hence they have to start from different syntactic positions. If movement out of a phrase requires landing in the Spec of that phrase first, then it is only those elements that can reach this position before they eventually manage to raise anywhere further up. Van Riemsdijk (1978) ascribes the

ability of *r*-pronouns, in contrast to DPs, to strand the preposition to locality effects. The DP, being in the complement of P, cannot raise to SpecPP and consequently cannot escape out of the PP phrase. An *r*-pronoun, however, manages to reach that escape hatch position (Spec), according to Koopman (1997). This derives the asymmetry in (34) above advocating for the different syntactic positions of *r*-pronouns and lexical DPs with respect to the locative P.

4.3.8.2 *R* HAS ITS OWN HEAD

Taking it a step further, Noonan (2005&2007) puts forward the hypothesis that the *r* of *r*-pronouns is a separate morpheme generated under its own syntactic head, R_{PLACE}. The preliminary support to this hypothesis comes from the phonological constraints on the spell-out of *r* in German *r*-pronouns. Müller (2002) had already identified the independence of *r* and describes German *r*-words as having an adverbial base ([–WH] *da* and [+WH] *wo*) and an epenthetic *r* inserted when the following preposition is missing an onset, that is, when it starts with a vowel:

(37) *da-r-**a**n* 'there-*r*-of' *vs.* *da-*r-**m**it* 'there-**r*-with'
*da-r-**ü**ber*, 'there-*r*-under' *da-*r-**h**inter* 'there-**r*-behind'

In Dutch, a greater variety of *r*-containing words is reported which do not appear to be phonologically constrained i.e., *daar* 'there' and *waar* 'where', but also *er* 'there', *hier* 'here', *nergens* 'nowhere', etc.

By isolating the *r* under a separate head, Noonan attempts to correlate its spell-out with: (a) the presence of an overt P and (b) the phonological constraint in German that forces adpositions have an onset. In (38&39) below the *r* projects an R_{PLACE} head with two important characteristics: it is *deictic* and denotes *place*.

(38) $[_{R_{PLACE}P}$ *da/daa* $[_{R_{PLACE'}}$ ***r*** $[_{PP}$ **Ø** $[_{DP}$ e]]]]

Du ***Ge***

(39) $[_{R_{PLACE}P}$ *da/daa* $[_{R_{PLACE'}}$ ***r*** $[_{PP}$ $[-onset]$P $[_{DP}$ e]]]]

The *r* being an independent morpheme, it can morphologically attach either leftward to the locative adverbial base in Dutch *daa/waa* (solid line indicating movement) or rightward to the locative P for German. So the spell out of the *r* head in German is contingent on what follows it. If the following P is overt and vowel initial, then the *r* is pronounced (39). In the absence of an overt locative P, R_{PLACE} remains silent (dashed line). In Dutch, the spell out of that R_{PLACE} head is contingent on the pronunciation of its specifier (solid line), which is occupied by *daa/waa*.

Consequently, we always get *r*-pronouns with the *r* pronounced in Dutch: *daa**r*** or *waa**r***. On the other hand, in German, their counterparts have a silent *r*: *da* and *wo*, unless there is a P following and it is vowel initial. In this case we get: *da**r**auf* and *wo**r**auf* with the *r* spelled out.

A more syntactically flavored evidence for the morphemic independence of *r* comes from another interesting asymmetry between German and Dutch. Although in Dutch the *r* can be pied-piped along with *waa* (40b), in the German counterpart this is not possible (40a), suggesting that *r* has its own separate projection, thus it is morphemically independent (Pantcheva 2008).

(40) a. Wo(****r***) ist er ***r*****über** gesprungen? GERMAN (Noonan 2007)
which is he *r*-over jumped

b. Waa***r*** heb je dat boekje **op** gelegd? DUTCH
where have you this book on put

4.3.8.3 THE MOLECULAR STRUCTURE OF RP

Taking into consideration the conclusions drawn from the above observations regarding the atomic nature of *r* in *r*-pronouns, and in the spirit of Katz&Postal (1964) and Kayne (2005a,

2006), Noonan decomposes *r*-pronouns into the following parts: PlaceP, $R_{PLACE}P$, , $D_{PLACE}P$, and $P_{LOC.}$ Let us see what the assumptions about and function of each one of these are:

The *r* heads its own projection (as has been argued for in the previous section) which Noonan calls **$R_{PLACE}P$**. The fact that the head has a PLACE flavor is attributed to its inherent deictic function (also argued for in Kayne 2005b). As a spatial deictic head, it has to select something that denotes Location, which accounts for its **PlaceP** complement.

PlaceP is a categorial incarnation of Kayne's (2005b) unpronounced PLACE in the complement of *there*, *where*, and *here*. It will be discussed in more detail in chapter 5, how space-denoting arguments have to be selected by a Prepositional or Locative head due to the fact that an NP alone fails to denote location. The PlaceP, in turn, takes a *pro* as a complement, which represents the referent of that *r*-pronoun: [$_{RPLACEP}$ *r* [$_{PlaceP}$ PLACE [$_{NP}$ *pro*]]].

Up to now we have seen the internal structure of the $R_{PLACE}P$. There are, however, some functional projections as well which are most crucial for the distribution and meaning of *r*-words. The first projection is used for the definite part of *r*-pronouns: $D_{PLACE}P$. Notice that the PLACE index of that D is not an indicator of a Locative DP, but it is used as a co-indexation notation. The $D_{PLACE}P$ is realized as *d* for *da* and *w* for *wo* in German or *w* for *waar* in Dutch. It is precisely at this point that Kayne's (2005a) linking of the English *th* with the German *d*, and Dutch *w* becomes most relevant. Noonan's analysis will step on this link and extend her analysis on the German and Dutch *r*-pronouns to the English *th*-words, thus, neatly putting them under the same umbrella. Finally, the function of D_{PLACE} is to license the *pro* complement of the silent PLACE, which Noonan represents by co-indexation.

The *r*-pronoun is not complete though until we include the locative vowel {*a, o, e*}. With Kayne (2005a) having already argued for the morphemic individuality of this vowel, Noonan assignes it in a separate head, lexicalizing a Locative Prepositional head (P_{LOC}) and ultimately the R_{PLACE} head as well, depending on language-specific restrictions as described in (38&39).

The fact that *where* and *when* ultimately project up to a PP is not a new proposal. We also find it in Bresnan&Grimshaw (1978: 347), who consider *where* and *when* to start out as locative NP-complements of a $P_{[Loc]/[Temp]}$, both carrying the same categorial features, either [Loc] or [Temp]:

(41) a. $[_{PP[Loc/Temp]}\ [_{P[Loc/Temp]}\ \varphi\ ]\ [_{NP[Loc/Temp]}$ *where/when*]] =>

b. $[_{PP[Loc/Temp]}\ [_{NP}$ [*where(ever)/where(ever)*]]]

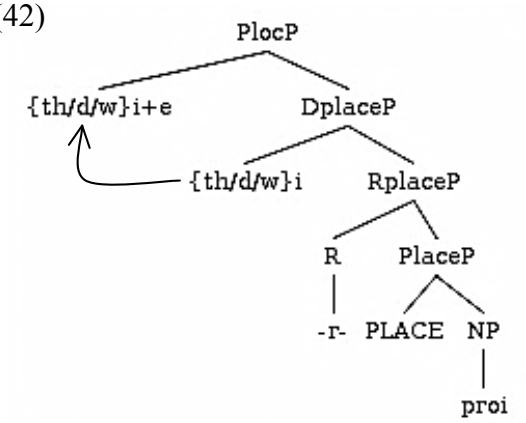
The derived structure in (41b) is the outcome of a P-deletion rule, following Emonds (1976), which deletes locative and temporal Ps when they are followed by a locative or temporal NP:

c. $P_{[F]} \rightarrow \varphi\ /\ \_\_\_\ NP_{[F]}$ (F = [Loc/Temp])

Although this analysis is not followed here, it is important to notice that *where*, which is considered 'inherently locational', is structurally represented in a locative prepositional structure, which accounts for the distribution and behavior of *where* and *when*.

The tree in (42) is the structural decomposition of Dutch *daar, waar, hier*; and German *da, wo, hier*, but I have omitted the whole gamut of possible locative vowels in the three languages:

(42)



Noonan extends this structure to English *there* and *here*—based mostly on Kayne's analysis (2005a, 2006)—as well as to *thereon* and *therein*, but I have also left that part of structure out as it is not directly relevant to the purposes of this analysis.

There are, however, three important points I would like to emphasize regarding this structure: (i) the internal morphological complexity of *r*-pronouns, suggested partially in Katz&Postal (1964) and Kayne (2005a), must be syntactically represented; (ii) the *r*-pronoun projects up to a P_{LOC} phrase and not a nominal one, in other words, *there* enters the configuration as a PP; and (iii) this structural (de)composition of *there/where* explains why they are closely linked to *place/location*, unlike nouns or other pronouns.

CHAPTER 5 A HOLISTIC APPROACH TO 'FROM'-PPS

The *wh*-extraction and *th*-word facts in the preceding sections were particularly revealing in terms of the categorial nature of the complement of 'from' because these tests offered a clear dichotomy between causatively and spatially interpreted 'from''s. There it was shown that 'where/there' are underlyingly prepositional (linking syntactically locations with PPs), while 'what/that' are nominal as commonly accepted so in the literature. This proposal can provide a syntactic explanation to why we ask for locations using 'where', but not for objects or individuals, something that has often been taken for granted. 'Where' and 'what' are never interchangeable, hence they are able to provide an explicit distinction between PPs and DPs. The 'where/there' and 'what/that' distinction was most useful because it gave a way to arguing for a different interpretation of 'from' contingent on phrasal selection.

But for the sake of completeness, we need to discuss those cases where a DP surfaces in the complement of 'from' and there is no *wh*-extraction or *th*-words. How are these DPs understood either as *cause* or *location*? Is there something different in their semantic or syntactic composition? Can a DP be interpreted as *location* on its own? The answers to these questions will offer a consistent analysis of the denotation of DPs across-the-board, placing the burden of interpretation onto the structural environment they are found in and ultimately reinforce the proposal that the disambiguation of 'from' is indeed dictated by the structural environment.

5.1 AN X-RAY OF CAUSATIVE 'FROM'-PPS

I will start with an interesting observation regarding the internal structure of causatively interpreted 'from'-PPs: the P's complement seems to always be nominal. This will become useful in comparing them later on with the argument structure of spatial 'from'. The main

argument, which is based on existing research on prepositional structure, is that a causative 'from' always selects for a DP structure even when its complement appears to be clausal. In light of this generalization, I would like to propose two possible internal configurations for every *cause*-denoting 'from' complement: (i) the (Eventive) Nominal[56] and (ii) the Clausal State of Affairs (SoA). Below are the two possible structural configurations for causative PPs illustrated in a coordinated sentence that includes both possible types:

(1) (EVENTIVE) NOMINAL CLAUSAL STATE OF AFFAIRS

(2) Back pain is from [a bad chair & sitting with bad posture].
http://www.sitbetter.com/sorted/search/chairs_for_back_pain/]

The (eventive) nominals cover those cases where the P-head directly selects for a DP that it also Case-marks as in:

(3) [My headache] was from [the wine/a bad wine].

Another possible complement is a clausal SoA. We find gerunds serving as the causing event that brings about the Causee found in the subject position, for example:

[56] The type of argument selected by the causative 'from' can optionally be eventive. For example, gerunds like *smoking* or *working hard* can be analyzed as eventive. The nominal Causes, however, are not always eventive. So although *the frequent tasting of the wine* or *the leaking of the pipe* are considered "complex event nominals" (Grimshaw 1990), DPs like *the wine* or *his negligence* are not eventive in the sense that they do not pass certain tests for eventivity. Example (i) tests for compatibility with adverbial modifiers. Provided that events can be divided in subevents (Parsons 1990), they can also be associated with incremental changes and thus measured by modifiers. Example (ii) tests for durative adverbials which are licensed by the property of events to culminate (Pustejovsky 1991):

(i) The gradual [leaking of the pipe/*wine].
(ii) The [leaking of the pipes/*wine] for hours.

(4) [His heavy breathing] is from [smoking cigars].

Although the nominal cases are quite straightforward under a DP, I will briefly discuss the status of gerundival SoA and why they end up under a null DP in the complement of causative 'from'.

The representation of gerundival SoA as clauses is based on Chomsky (1981) who shows that gerunds exhibit structural properties similar to those of verbs phrases, predominantly because they require the presence of a subject. Horn (1975) and Reuland (1983) offer additional arguments for the full clausal nature of NP-*ing*. Reuland (1983) notices that many sentential diagnostics provided in Willams (1975) apply to NP-*ing* constructions, for instance, their ability to combine with sentential adverbs (5), their ability to take non-motivational *because*-clauses (6), or that there is no restriction on the type of their subject, just like any tensed clause (the most important observation being that they require a subject in the first place).

(5) John probably being a spy Bill thought it wise to avoid him.

(6) Grass being green because it contains chlorophyll, it is one of the most common types of vegetation employing photosynthesis.

More synchronically, Pires (2010) follows the same path of argumentation regarding the clausal nature of gerunds and provides an extensive discussion on their syntactic properties concluding that they are in fact 'bare TPs', meaning that they lack a CP projection. Investigating the syntax of gerunds is not relevant here; what is of importance though is that we have different sources that concur with the conclusion that gerunds are clausal, which means that they are found under a TP or a CP[57].

[57] The conclusion that gerunds are TPs or CPs is not compatible with the generally accepted subcategorization frame of prepositions. We know that verbal or tensed clauses are generally dispreferred as prepositional complements (for further supporting discussion see Dubinsky&Williams 1995; Cornilescu 2004). So Ps in general are not expected to select either for CPs or TPs.

Additionally, we also find evidence for a nominal distribution of gerunds, although they might not be nominal themselves, in Emonds (1976). He shows that *ing* gerunds have an external distribution of NPs based on their position in the deep structure and behavior under movement in passives and clefts and submits the following "quasi-lexical" entry for gerunds:

(7) ing*, [+N], +V__, N: V+[ing] selects like V inside its maximal projection,but its maximal projection is syntactically an NP.*

Conclusively, the fact that gerunds distribute like nominals is reflected on their top-most syntactic head, which I have posted as a DP in (1). This is perfectly compatible with two facts:

(A) *Gerunds exhibit plural agreement in coordination.*

Since TPs cannot be subjects and thus cannot trigger sort agreement in any configuration, I will consider the gerunds to be under a CP due to their clausal status. But if this is true, then we have to deal with the McCloskey problem: How do coordinate CP subject clauses trigger plural verb agreement?

(8) [John dancing with his ex AND the new shoes being too tight] *were* Mary's major concerns the entire night.

Remember from 2.3.3 that Davies and Dubinsky (1998) show that case-resistant categories (i.e., CPs) in subject positions are structurally represented in a DP-shell. This is because with a DP in the subject position, EPP's [uD*] feature on T can be checked and a theta role can be assigned, thus satisfying subject requirements. Postulating null-DPs then also takes care of the agreement under coordination, since what is coordinated now are the DPs and not the CPs any more. So in the end, independently of whether these clauses are TPs or CPs, they are represented in a DP-

---

Wth regard to this, Reuland (1983:108) notes that "unlike other clausal complements […], Clausal Gerund constructions do occur headed by a preposition in a position subcategorized for by a verb". Pires (2010) submits the following example:

(i) Mary talked about [John moving out].

shell as suggested in (1).

(B) *Gerunds are compatible with nominal pro-forms.*

Gerunds are compatible with the pro-form THAT, which is associated to nominal phrases as discussed in the previous chapter. So although THAT clearly cannot stand-in for the embedded regular clause in (9), it can do so for the clausal gerund in *from*'s complement in (10), which is unambiguously interepted as Cause:

(9) He knew that {he had too many drinks /*THAT}.

(10) His accidents were from {him drinking before driving/THAT}.

So once again the gerund seems to distribute like a DP rather than a TP/CP as suggested in (1).

In this section I have claimed that causative 'from'-PPs always subcategorize for a DP. I also included a brief discussion on gerundival causes because these are not usually analyzed as nominals. Four facts were important in this discussion: (i) gerunds appear as complements of causative 'from' (ii) they are clausal (iii) they have a nominal distribution and (iv) prepositions do not subcategorize for clauses. These facts logically lead to the conclusion that clausal SoA are topped off by a DP layer representing the nominal distribution of those gerundival clauses. This conclusion was additionally supported by coordinate gerund subject clauses triggering plural agreement and their compatibility with the nominal pro-form THAT. Ultimately a causatively interpreted 'from' always selects for a nominal argument, either a lexicalized or a null DP, expressing the causing event.

5.2 AN X-RAY OF SPATIAL 'FROM'-PPS

Van Riemsdijk & Huybregts (2002) examine the relations between objects and events as realized by prepositions and identify two main relational dimensions: Location and Path. They start off their analysis based on Jackendoff (1983), Talmy (1983), Koopman (1993) a.o. and argue for

syntactically and morphologically specified positions in a spatial structure. The evidence provided concurs on a hierarchical ordering of Path over Place configuration projected above the noun phrase:

(11) $[_{V'}$ V $[_{PP}$ DIR $[_{P'}$ LOC $[_{N'}$ N]]]]

But more importantly, they also prove, based on locality considerations that only adjacent heads in this hierarchical sequence are able to appear together in (morpho)syntactic configurations while non-adjacent ones are blocked. In other words, we can have sequences like:

(12) a. $V–P_{DIR}$, $P_{DIR}–P_{LOC}$, $P_{LOC}–N$, $N–P_{LOC}$, $P_{LOC}–P_{DIR}$, $P_{DIR}–V$

but the orderings below are predicted to be impossible—and indeed they are not found:

b. $V–P_{LOC}$, P_{DIR} or $V–N$, $N–P_{DIR}$, $P_{LOC}–V$

The morphological evidence provided in van Riemsdijk&Huybregts (2002) comes from the overt sequence of morphemes in spatial expressions in Lezgian (spoken in Dagestan and northern Azerbaijan). The order detected is abstractly equivalent to $N–P_{LOC}–P_{PATH}$. Notice that Lezgian employs only postpositions that follow the noun they attach onto (Dryer 2007), nonetheless, the relative ordering is preserved in accordance to (11) with the locative morpheme attaching before the directional one, hence closer to the stem:

(13) sew - re - q^h - aj LEZGIAN
Bear augm. behind from
'from behind the bear'

Pantcheva (2009) provides additional morphological evidence in support of this relative order underlying prepositional constituents, building the Path on top of Place. For example, in Yanesha (an Arawakan language spoken in Peru) Goal and Source phrases in (14b&c) are always built on top of a locative layer, which when alone it gives out a purely locative meaning (14a). In this case system, Locative case expresses a static Location, Allative case expresses Goal oriented

paths, and Ablative case expresses Source oriented paths. (Examples are originally from Duff-Tripp 1997).

(14)	(a)	non^{y}t^{y}-o	(b)	non^{y}t^{y}-o-net	(c)	non^{y}t^{y}-o-t^{y} YANESHA
		canoe-LOC		canoe-LOC-ALL		canoe-LOC-ABL
		'in the canoe'		'towards the canoe'		'from in the canoe'
		[Place [DP]		[Path [Place [DP]]]		[Path [Place [DP]]]

More source-related data comes from the family of Pama–Nyungan languages (spoken in the region of Pilbara in Western Australia). These languages are interesting because of their complex overt morphology and productive use of the ablative case. Dixon (1980) points out that most Australian languages use ablative case suffixes to mark both locative and causal source. Dench (1995, 1997) studies the use of ablative suffixes and their different interpretations identifying five major interpretations (very much along the lines of Luraghi's (2003)):

(15) Ablative morphemes in Pama–Nyungan languages:

(a) *source of motion*:	X moves from place Y
(b) *temporal precedence*:	X dates from Y/is after Y
(c) *source of origin/habitual dwelling*:	X is from Y
(d) *direct cause*:	X results from Y
(e) *indirect cause*:	situation X is because of Y

But most importantly he submits overt morphological evidence showing that the a difference between spatial and non-spatial uses of ablatives comes from the additional locative morpheme (annotated as "L" in the table 5.3). And as predicted in van Riemsdijk & Huybregts (2002), the locative morpheme is attached to the nominal stem before the ablative suffix:

Language	Source (location)	Precedence (temporal)	Cause (direct)	Cause (indirect)
Nyamal	**L**+*kulyara*	*kulyara*	*kapu*	X
Ngarluma	**L**+*nguru*	*nguru*	*kapu*	X
Panyjima	**L**+*nguru*	*nguru*	*mari*	*ngarala*
Yindjibarndi	**L**+*ngu*	*ngu*	X	*ngaala*
Kurrama	**L**+*ngu(u)*	*ngu(u)*	X	*ngaala*
Martuthunira	**L**+*nguru*	*nguru*	*wura*	*ngalyarnta*
Warriyangka	***parnti***	X	***parnti***	X

Table 5.3: Ablative/Causal suffix forms in Pama–Nyungan languages (adjusted from Dench 1997). "X" indicates that no morpheme has been reported for those combinations.

The singled out case of Warriyangka (in bold) uses one morpheme, *parnti,* which explicitly links *spatial* and *causal* source. This morpheme seems to be able to perform spatial, temporal (although data is not available for Warriyangka, temporal uses of *parnti* have been reported for Thalanyji and Payungu, where is it also used for spatial meanings) and causal duties without any morphological alternation. So the use of an ablative morpheme in Warriyangka is close to the use of 'from' in Greek and Germanic with little overt morphological distinction.

For all other languages in table 5.3 we observe that the morpheme for the direct cause is morphologically unrelated to all other interpretations (*kapu, mari, wura*). What is of importance, however, is that the direct cause is not the only way to express causation. There is an indirect cause morpheme, which does not seem to be as morphologically independent as its direct cause counterpart. Compare the indirect cause morpheme in the forth column with the locative source denoting morphemes in the first column (shaded cells).

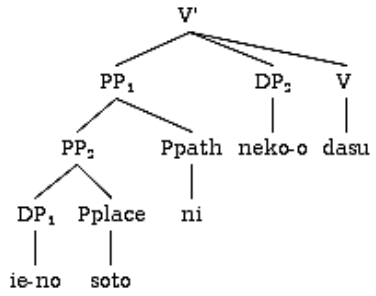
Although it would be extremely valuable to extend this close morphological identification across all three interpretations (e.g., *L+nguru–nguru–ngarala*), the ablative/causative suffix is slightly

altered. What is striking is that the suffixes across Panyjima, Yindjibarndi, and Kurrama follow very similar patterns of variation in their interpretations. Dench (1997) notes that *ngalyarnta* in Martuthunira should be treated differently, so it is not surprising that we do not get *ngarala* there. An etymological relationship has not been formally established for the suffixes of the first three languages. Nevertheless Dench (p.c.) does not rule out the possibility of analyzing the morphemes: *-*nguru* and *-*ngara*(*la*) as reconstructable to a common origin. A reason this relation should be approached with caution is the fact that there are only three vowels (+length) in the phonological inventory of these languages and a sporadic vowel alternation like this is not always warranted for an etymological derivation.

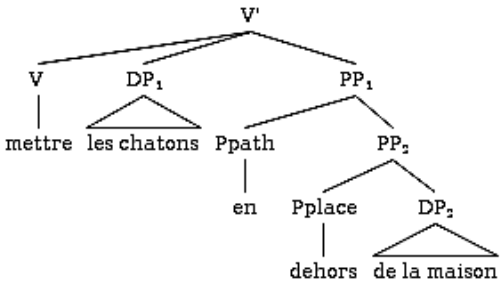
So table 5.3 gives strong evidence for a complex morphological make-up of spatial source as location+source. It also shows that this composition is productive, since in the absence of location we derive a different meaning. And finally we also noticed a morphemic resemblance underlying space, time and cause.

To more densely populated languages now, overt morphological evidence is presented from Japanese and French in Emonds (2007), where we find PathPs stacked on top of PlaceP. Examples (16a–d) all have the same translation 'take the kittens outside the house':

(16) a. *Japanese*

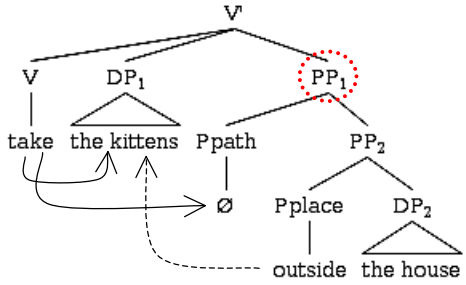


b. *French*

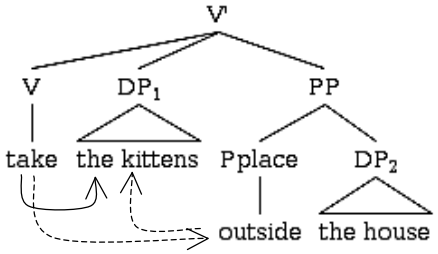


His analysis expands to arguing not only for a Path-Place sequence but, crucially, for the necessary presence of a null Path head, at least in certain English ditransitive contexts. The proposal for an obligatory Ppath head on top of PlaceP in structures analyzed as secondary predications is based on the *Revised Theta Criterion* (Emonds 2007:111). I will briefly explain its rationale below because it makes important assumptions about the theory of grammar that favors the presence of null P heads in certain syntactic configurations, like (16c), over what might have been a more economical representation, as in (16d), something that will be in the heart of this chapter's proposal.

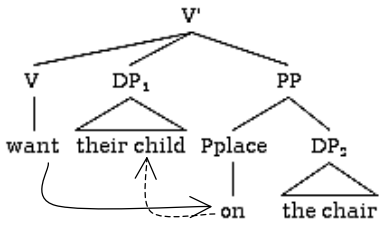
c. ✓Transitive V with a Path complement assigning two theta-roles



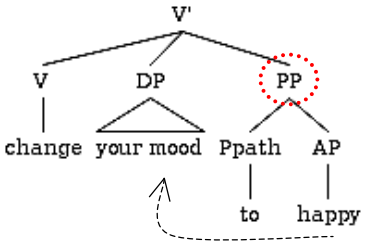
d. * Antitransitivity violation



e. ✓Secondary predication assigning 1 theta role



f. ✓Secondary predicate AP introduced by *to* (qua copula)



Emonds notes that the structure in (16c) in comparison to (16e) has to be different, because the latter is an instance of secondary predication with the verb assigning only 1 theta role internally, while (16c) is a transitive verb that takes a PATH complement and assigns 2 theta roles. The problem that arises is which head the second theta-role is assigned to i.e., the Pplace (16d) or some null Ppath (16c). The answer lies in one important detail: the Ppath constituent of *take* only

introduces and does not correspond to the secondary PP predicate as is the case with the Pplace of *want*. Emonds equates the role of this null Ppath with that of the Ppath in (16f), see circled PPs. The role of *to* under Ppath in (16f) is analogous to a higher verbal infection head I (also in Emonds 1987) incarnated as a P[58]. This *to*/Ø acts as a predicate head with a function similar to that of the copula or an inchoative verb conveying a change of state—in the case of (16c) *the kittens* ***are***/***got*** *outside the house*)—so the AP *happy* and the PPplace *outside the house* are secondarily predicated of the direct object, indicated by the dotted lines from Pplace/AP to DP in (16c&f). Emonds concludes that predications are expressed only by PPs of Place and not Path (Emonds 2007:107).

To theoretically support the distinction between (16c&e), Emonds appeals to a principle of the syntactic theory that will be able to predict (among other things) the presence of a null head, and more specifically here of a null PATH on top of PLACE. This is the Revised Theta Criterion that decrees that *theta-relatedness is anti-transitive* (ibid.:111). Let us see how this revision derives the structural difference of (16c) and (16e) and also blocks (16d).

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[58] In the literature, PPs are often analyzed in a parallel fashion with verbal phrases. Similarly to Emonds' parallelism, we find Ramchand (2008) and Lundquist&Ramchand (2012) who analyze *to*-PPs on a par with the syntactic projections of a verbal phrase. Ramchand (2008) analyzes the syntactic projection of argument based on event structure, which is comprised of three subevental components: *causing, process, result*. The category understood as V is ultimately comprised of a combination of some or all these three subevents. The directional structure where the P_{LOC} is embedded under P_{PATH} corresponds to a dynamic predicate procP which in turn selects for a result state resP that licenses the entity that holds the result state XP:

$[_{PpathP}\ P_{path}\ [_{PlocP}\ P_{loc}\ [\ \text{LocationP}\ ]]]$	Directional *to*-PP
$[_{procP}\ \textit{proc}\ [_{resP}\ \textit{res}\ [\ \text{XP}\ ]]]$	Accomplishment VP

Higgibotham (2001) analyzes the combination of *res*P with the *proc* head as a "telic pair formation" which corresponds to Ramchand's accomplishment/achievement verbs. This telic interpretation is carried over by analogy to the prepositional *to*-PPs. So in (12c), *the kittens* end up *outside the house*.

The solid lines among heads in (16c–f) represent theta-role assignment by the verb, while the heads of the constituents of secondary predication are connected with their subject DPs with dotted lines. Although (16d) is arguably more economical than its counterpart (16c), its theta-relatedness is "transitive": In (16d), the V is both *directly* related to the object DP (solid line) and *indirectly* via the Pplace head that is predicated of that same object DP, hence an external theta-role is assigned to it (dotted line). In other words, the V is related to the same argument twice. This then explains why (16d) is not the right structure. Banning the transitivity of theta-relatedness accounts automatically both for (16e) and (16c): the transitivity effect is avoided in (16e) because the V only has 1 theta-role to assign, which targets the Pplace, which then relates to its subject 'the child', but crucially there is no theta-relation between the V with that internal subject. In (16c) because the second theta-role is assigned to the null Ppath head, it does not 'return' to the object-DP (following the dotted lines via Pplace) since we had established that the Ppath head is not the predicate but Pplace is. Ultimately, this additional Ppath layer ensures that antitransitivity is observed and there are no theta-relatedness problems.

Notice that the distinction between (16e,f) and (16c) make the right predictions about positional verbs like 'hang', which are correctly analyzed as copular verbs in the sense that they take a small clause to which they assign their only theta-role according to Hoekstra&Mulden (1999). If Emonds (1997) is on the right track, then in 'hang the clothes on/onto the line' there is no thematic relation between 'hang' and 'the clothes'. The lexical meaning of 'hang' in H&M is responsible for the selectional requirement on the predicate of the small clause. This means that 'hang' selects for a small clause headed by a locative P, exactly as predicted by Emonds.

Importantly, this PP (even if lexicalized as 'onto') is not directional nor is there any P_{PATH} projected in this sentence. The directionality of the action 'hang clothes onto the line' comes

from world knowledge rather than a P_{PATH}. Den Dikken notices that this can syntactically be verified by the unavailability of a postpositional preposition in Dutch, since postpositional Ps are possible only in directional readings (cf. ch.4:(32a&b)): *Hing hij de kleren <aan> de lijn <*aan>*.

In sum, the structures Emonds submits for (16c&d) reveal two crucial assumptions: The obligatory existence of a null P head (to avoid theta-relatedness of the same argument with two different heads in a sentence), at least in certain structures, and their relative position with regard to the locative PLACE head. Thus the additional layer of PATH is obligatorily superimposed on certain PLACE PPs[59] not only based on overt morphological indications but also based on theoretical considerations.

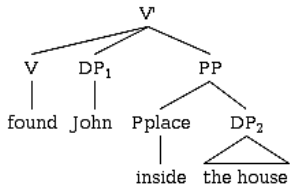
5.3 FURTHER STEPS FOR AN ACCURATE DIAGNOSIS

Although the literature on the distinction and ordering of directional and locative expressions is extensive (see for example, Jackendoff 1983; Wunderlich&Herweg 1991; Koopman 1997; Fong 1997; van Riemsdijk&Huijbregts 2001; Helmantel 2002; den Dikken 2003; Zwarts 2005;

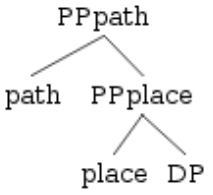
[59] Not all PLACE PPs require a PATH structure. For example, instances of post-verbal particles occur in PLACE contexts and not PATH (Emonds 2007:104):

(i) The management always stores appliances off. → The appliances are off.
(ii) The salesman found John in. → John was in.

Such particles differ from (16c) semantically and syntactically. Firstly, they have a more specific meaning i.e., *in* means 'in the office/the house' and *off* means 'disconnected/not scheduled'. Secondly, they relate to the direct object as secondary predicates giving out the paraphrases as shown next to each example and the tree below where there is only one semantic theta-role assigned from the V to the object DP_1. Thus the Pplace can now establish a predication relation between DP_2 and its subject DP_1 without violating the Revised Theta Criterion:



Svenonius 2006; Pantcheva 2009, a.o.), it is converging on one fact, that directionality is expressed compositionally in prepositional phrases with PLACE (or Location) being adjacent to the DP and hierarchically inferior to PATH[60].

(17) 

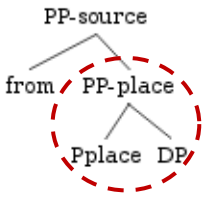
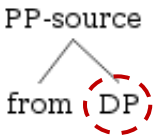
I have abstracted away from specific labels assigned in different works in the literature and kept only the general function of each head. So the heads represent the Path-Place syntactic sequence, but their projections encode their conceptualization in space. This prepositional make up of Path and Place as well as their distribution is fully aligned with the proposed treatment of directional 'from', for which I claim that it always selects for a locative prepositional layer either overtly lexicalized or not (nonetheless always present). Importantly this will also be the distinctive parameter in the interpretation of SOURCE between a causative and a spatial reading (an observation distilled from my meetings with Marcel den Dikken). Unlike spatial 'from'-PPs, which seem to always select another PP, causative 'from'-PPs directly select a DP-argument.

[60] I would like to distinguish *Direction* from *Path* at this point, although I will have to reserve the details for future work. This distinction, however, is valuable and will be used in section 5.3.2 to refer to *directional* particles and *path*-denoting prepositions, as in 'come *up from* the basement'. So the preposition 'from' always lexicalizes the head PATH, or as encoded here for simplicity reasons, SOURCE. Its directional interpretation, however, is contingent on whether it projects up to a DirP or not. Notice the difference between *come up from the 4th floor* vs. *come from the 4th floor*. It is only in the former example that we know the *direction* of the movement (*up* or *down* for example), while in the latter we only know the *path* onto which the movement takes place.

This distinction faithfully mirrors the division of Euclidean Vectors into the sum of *direction* and *phora* (Sourlas 2010) or *direction* and *sens* in French, *direzione* and *verso* in Italian, *dirección* and *sentido* in Spanish (Kassetas 2004). Each *direction* by definition has two *phoras*. This distinction is better portrayed in a tug of war game where there is one direction (the straight line), but two opposite forces are applied on it representing each *phora*. Note that the distinction has been lost in the Anglosaxonic school of physics, which treats these two as one entity. This entity is the *Vector* in English or *Richtung* in German (Kassetas 2004) and illustrates Path+Direction as one arrow.

The trees in the table below exhibit the argument structures for the two main types of 'from' that participate in non(lexical)-verbal configurations:

(18)

SPATIAL SOURCE	CAUSAL SOURCE
	

Structural difference between *spatial* SOURCE and *causal* SOURCE.

At this point let us take a quick look at the roadmap. The sections up to now seem to concur with the suggested proposal that directional 'from' is different from causative 'from' with regard to its phrasal selection. The main arguments were drawn from distribution patterns and their syntactic behavior. Although we could theoretically close the books on the disambiguation of 'from' here, I believe that the claim for any silent head should be argued for further given its elusive nature. In the following sections I investigate the suggested locative layer selected only by directional 'from' and reinforce the arguments for its existence by:

(a) Showing that in case of radical absence of a locative layer, the DP alone fails to deliver spatial interpretations (section 5.3.1).

(b) Providing overt morphological evidence from Germanic languages, namely Scandinavian, which lexicalize that locative layer in directional readings, whereas the Germanic languages under consideration here do not (section 5.3.2).

5.3.1 ARE DPS LOCATIONS?

Up to now the main discussion argued for the presence of some locative prepositional head in directional interpretations. In this subsection I will adopt the opposite approach to this issue and start out assuming that there is no P-locative layer intervening between directional 'from' and its

DP, with an eye to proving it unattainable. In the absence of P-locative, 'from' would select the DP directly, which would then be called upon to perform location-denoting duties, a property traditionally assigned to prepositions. Depending on whether DPs are in fact capable of denoting location will either make or break the initial proposed syntactic distinction of the interpretations of 'from'. If DPs indeed manage to deliver Location, then no P-locative is necessary for directional readings and the proposal in (18) fails. If on the other hand DPs fail to consistently deliver a location denotation, then the need for additional structure will be imperative and the proposal stands. In the following section I will briefly examine the nature of DPs based on Kracht (2002) and test whether they can denote Location on their own in examples that only license space-denoting phrases.

5.3.1.1 LOCATIONAL NOUNS: A FALSE POSITIVE?

Trying to ascertain whether a DP can denote location, Kracht (2002) starts with an exploration of the nature of space in language. An important observation he makes is that in natural language we do not speak of *regions* in an absolute way but they are defined by means of objects that occupy them (Kracht 2002:182). In other words, we do not need to separately indicate that our *home* is an object and incidentally a location too, because the noun *home* already encodes some region, namely the one it physically occupies. In this respect, he claims that locatives and DPs are similar. A second observation is that although DPs can perform double-duty (denoting objects and locations), there are linguistic items that are assigned exclusively to *regions* and similarly to *objects*, which indicates that regions should be treated as independent entities. Kracht offers as an example the words *there* or *where* which are reserved for locations only distinguishing them from objects, which are related to words like: *that* or *what*. I will discuss both observations based on empirical and theoretical considerations.

Kracht, following an analysis that is along the lines of the first observation, claims that nominals belong to the set of entities that denote objects, but there is a subset that can also denote locations. The following discussion will evaluate the arguments for this claim and will ultimately favor a separation of spaces and objects in language concluding that DPs can neither idiosyncratically nor optionally have spatial interpretations.

Firstly, the observation that in language we can refer to spaces by means of the objects that occupy them seems to be correct if we consider that (19a) is interpreted as going to a specific location:

(19) a. I went to [$_{DP}$ the bank]. [space]
b. They painted [$_{DP}$ the bank] white. [object]

However, compared to (19b), we see that the same DP denotes an object and not a location any more. So the problem that arises is how can one DP have two very different meanings and what is responsible for their disambiguation. To answer this, we will have to rely on the syntactic structures these DPs are found in, as there is nothing else that could point us to the right direction for disambiguating *the bank* in (19a) from *the bank* (19b). This avenue will give us an explanatory account for how each example can acquire a different meaning without appealing to lexical knowledge.

Secondly, with regard to the argument that language has meaning-specific items, thus, it is logical to assume that *spaces* and *objects* are also distinct linguistic entities, Kracht submits cases that show how location-specific morphemes are used to encode *space*. This becomes interesting when in the absence of those locative elements, spatial meaning still ensues. This is attributed to the nature of the noun, namely it can be *inherently locational* (Dench 1995). This means that certain DPs can denote location without an additional locative morpheme. I will present the

examples offered in support of these nouns, but also offer a possible re-analysis of the facts, as well as considerations regarding the conclusions Kracht draws from the behavior of certain nouns.

The first datum Kracht reports is from Dench's (1997) example in Martuthunira showing that a locative layer in directional 'from' is necessary. In table 5.3 I presented how Pama–Nyungan languages (Martuthunira being one of them) overtly distinguish spatial *vs*. temporal interpretations by adding the locative morpheme to the ablative *nguru*.

(20) a. kayara-li-nguru [directional] MARTUTHUNIRA
person-**LOC**-ABL
'away from the person'

The important observation here is that the spatial meaning is conveyed by an overtly lexicalized locative layer and that in the absence of *li*, the phrase acquires a different interpretation, namely a temporal one. Dench (1995) provides the following example:

b. kanyara-nguru [temporal]
person-ABL
'after [the time] they were people'

At this point Dench adds a provision which ensures that some nouns will still be able to denote location even if the locative morpheme is missing. In these cases, the ablative signals coinitial mode and is attached directly onto the noun. These are categorized as *inherently locational* nominals. Kracht reports an example from Dench (1995) of an adnominal ablative describing the immediate prior location of a linked argument, which in this example happens to be a 'centipede' that is responsible for a bite, hence the Effector case[61]. So (21) questions the place that the centipede came from:

[61] The Effector case marks passive agents and instruments, Dench (p.c.).

(21) *Wanthala*-nguru-lu? MARTUTHUNIRA
Where-ABL-EFF
'Where from?'

Kracht (2002:184) takes (21) to be the consequence of the existence of inherently locational nouns, which pre-empt the presence of a locative layer on DPs. Crucially, however, the spatial meaning of this example is conveyed by the *wh*-word itself, which morphologically contains a locative head (as was also argued in 4.3.8 for English, Dutch, and German). According to Dench (1995:131), *wanthala* means 'somewhere' and always refers to "a (unknown) place, an entity is located *in*". So an overt locative morpheme in these cases *is* present, namely the -*la*[62] we find attached in *wanthala*. We can be sure of that since the root *wantha,* which is the "morphologically unmarked and semantically more general", indicates a "generalized notion of unknown location". Ultimately, in (21) we are dealing with a *wh*-word that is overtly composed by 'place+LOC'[63] and not any special kind of nominal that has inherent locative denotation, contra what Kracht takes it to show.

To close the Martuthunira case, let me submit the two other examples of locational nominals according to Dench (1995): (i) *compass terms*. Here we find the four points of the horizon. These, however, come in three different forms representing: locative (*wartantu* 'in the north'), allative (*wartantari* 'away from the north') or centripetal (*wartantarni* 'away from the 'north' and towards the speaker) meanings. Although they are categorized as nominals, they always appear marked by a location suffix (ii) *locational 'adverbs'*. Dench puts them in the nominal category but indicates that they perform adverbial function. They indicate a direction of movement or relative position and they all interestingly exhibit some relation to the compass

[62] Other than –*li* and –*la*, we also find –*ta*, and –*ngka* as LOC suffixes.

[63] Quite similarly to the A. Greek *entha* 'where', which was the combination of 'in+locative suffix' or even the syntactically complex *where* under a P_{LOC}.

terms as Dench discusses (1995:128). For example, *kankarni* 'above' is marked by the centripetal *–rni* as seen above in *wartantarni*.

An interesting parallel to the analysis of those locational adverbs can be drawn for the English *left, back, front* as pointed out to me by McClure (p.c.). These clearly lack any sort of over case-marking, yet they can convey space or direction autonomously. Additionally, we cannot rely on their distribution to ascertain their syntactic identity because they distribute both like PPs and adverbs.

(22) a. He turned { to the left / left / abruptly}

What offers more dependable evidence for their syntactic structure is phrases like "left of the road" or "north of the town", which behave like locatives[64], and locatives are by definition PPs. This can be attested by the fact that they can undergo Locative Inversion with stative verbs (22b), just like their P-overt counterparts (22b):

b. [Just north of the house] stands a crenellated gate house.
[http://www.nationalregister.sc.gov/charleston/S10817710002/index.htm]

c. [Just to the north of the Cathedral] stands a bronze statue of Queen Victoria
[http://www2.newcastle.gov.uk/core.nsf/a/maintenance]

LI will be a useful diagnostic and I will return to it in chapter 6. What it shows in (22b) is that given that "north of the house" can undergo LI (unlike adverbs that do not), it has to be a PP that starts out as the predicate of a small clause and then raises triggering inversion of the verb and its theme (Hoekstra&Mulder 1990). Example (22b) then syntactically distinguishes *left, right* from

[64] Unlike their counterparts "right/left of center" which, as den Dikken notices, are commonly used in a political context and have a different distribution. They are never selected by other Ps like their spatial counterparts (i), and they invite modification by *very* (ii), which is suggestive of their adjectival use:

(i) We drove *up north of the town of Oregon*.
[http://augustana-lutheran.org/blog/2012/07/02/131/]

(ii) Two-thirds of Republican voters are now *very right of center*.
[http://www.msnbc.msn.com/id/44907466/ns/politics-decision_2012/t/republicans-lack-electable-candidate/#.UDENzallRmg]

the category of locational adverbs by showing that they have properties exclusively ascribed to PPs.

In sum, all cases of inherently *locational nominals* in Martithunira (the *wh*-word for 'where', the compass terms, and locational adverbs) cannot constitute evidence for nouns denoting location since each one of them is overtly marked with some location-denoting suffix (locative, allative, or centripetal) which is ultimately responsible for the location-meaning. Importantly, in the absence of those case morphemes, in English for example, these same words behave as prepositional elements. So up to now we can conclude that there are no strong evidence to support the existence of locational nouns and that locational meaning is contingent either on case morphemes or prepositional structure.

This is not the only argument Kracht submits for inherently *locational nouns*. He draws support from Chinese examples, which I will discuss after I briefly introduce his space-denoting model, which will be necessary in the discussion.

In Kracht's model in (23) we find a Localizer which denotes a stable location as a function of the noun. Localizers are an enhanced version of Zwarts&Winter (2000) including time dependencies and projective properties. They are built on top of an object, which is called *Landmark*, and they return a function from regions to a set of regions, what Kracht calls *neighborhoods*. When a Modalizer merges to this constituent, it adds a notion of movement with respect to the location conveyed by the Localizer. So the Modalizer describes an event which starts from inside the location and ends outside of it, necessarily requiring a change of location:

(23) [Modalizer [Localizer [Landmark]]][65]

Available Localizers are common locative Ps like 'in, on, at, between, under'. Kracht makes a crucial and clear-cut distinction between Localizers and causative 'because'. He claims that 'because' is deprived of spatial meaning, hence it cannot be a Localizer. To take this a step further, what it ultimately implies is that cause-denoting elements lack a spatial layer, which is responsible for turning Landmarks into regions. This is, in fact, congruent with the proposal in (1). Of course Kracht (2002) only looks into locative elements, so prepositions like *from* or *to* are not included in his study, but the provision for causative denotation is certainly of great value to this thesis.

Returning to the discussion about the status of *locational nominals*, Kracht wants to show that these nouns do not need a Localizer to convey location. If this is indeed possible, then the contrast between spatial and non-spatial interpretations based on their structure is jeopardized since this means that the locative layer, which I consider responsible for the spatial meaning, can sometime go missing. So let us put Kracht's arguments under the microscope like we did for (22) and try to evaluate their validity.

Nominals that are claimed to be inherently nominal are of two types, those that denote cities and those that denote buildings. Kracht reproduces the following sentences from Chinese:

(24) zai$_{\mathbf{MOD}}$ zhuozi-shang$_{\mathbf{LOC}}$ 'on the table' CHINESE

(25) dao$_{\mathbf{MOD}}$ huochezhan-∅ 'to the train station'

(26) wang$_{\mathbf{MOD}}$ Beijing-∅ 'toward Beijing'

[65] Not far from what we have already seen in previous chapters regarding the structure of PPs, for example:

FIGURE [Vector [Region [$_{DP}$ GROUND]]] *OR*
[$P_{DIR/PATH}$ [$P_{LOC/PLACE}$ [DP]]]

In (24) the Localizer *shang* attaches to the Landmark *zhuozi* to define a location. In (25&26), however, the Localizers are missing, yet the noun is still understood as a location in these clearly directional phrases. The questions I will address here are:

- Is the spatial meaning necessarily attributed to the exceptional nature of the nouns 'train station/Beijing' and what sort of consequences would this have?
- Could some syntactic mechanism be responsible for the spatial interpretation in the absence of an overt LOC morpheme?

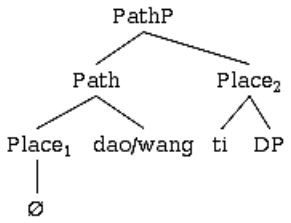
First let us focus on the modalizers. Kracht notes that the order of these modalizers and localizers is unexpected since they appear on each side of the noun, nonetheless no further emphasis is given on this observation. Remember that van Riemsdijk&Huybregts (2002) argue for a surface order where locative elements always appear closer to the stem and directional elements are built on top of Place based on empirical and theoretical cross-linguistic evidence—although they suggest that their conclusions should be taken with a grain of salt for there is always the possibility of exceptions. In none of the possible configurations predicted by van Riemsdijk&Huybregts can a directional element (here I treat Kracht's modalizers on a par with the directional elements based on his analysis on the function of a modalizer) be attached or adjacent to the noun in the presence of LOC. Obviously the empirical observations in (25&26) cannot be overlooked, but we should make sure that the observations are correctly identifying the elements showing up in as modalizers.

Up to now, the assumption that *zai*, *da*, and *wang* are modalizers is challenged on theoretical grounds due to their relative position to the noun. A second challenge comes from Kracht's formalization of Modifiers, which by definition require a necessary change of location. In directional (25–26) we should be able to detect some movement with respect to the location

denoted by the noun. Although this is true for (25–26), we cannot claim the same for (24), since *zai* participates in a clearly stative interpretation. So by Kracht's definitions *zai* does not qualify for a modalizer. But what about *dao* and *wang*?

A possible scenario that can explain the locative denotation in the absence of an overt localizer is incorporation. In this case, the modalizers *dao* and *wang* (unlike *zai*) would be responsible for the spatial interpretation by incorporating the localizer in a way parallel to the English complex prepositions *into* and *onto* (Svenonius 2004):

(25′)



The localizer in (25′) is silent so the derived surface word order faithfully reflects (25) and (26). The locative layer is preserved, which albeit null, is nonetheless fully active.

The considerations reviewed here raise the question: are those elements really modalizers in Kracht's sense or more generally directional morphemes? Although it is beyond the scope of this section to investigate exactly what these Chinese morphemes are or what their function and distribution is, it is nonetheless important to point out that they do not share some crucial properties with directional elements, i.e., their surface position and their semantics, both of which are be taken care of in (25′). So investigating the function of these elements further would be necessary before concluding that the nouns in (24–26) denote location on their own.

Let us evaluate Kracht's examples more broadly now—beyond Chinese. Granting to some nouns the property of denoting space without the aid of any locative elements raises questions about the denotations of this lexical category in general, which would then be expected to be found cross-linguistically. So if we allow toponyms to double as place- and an object-denoting entities (after all, had there not been such a distinction, we would not have had locative morphemes at all), the

first logical consequence would be an ambiguity. This, however, is not the case in (25&26) nor is it the case in other languages[66].

If we were to follow Kracht, we would have to necessarily consider the properties of the DP entirely responsible for the disambiguation and not the localizers. In this case we would have to decree a provision that separates object-denoting from place-denoting objects, thus leaving only one possible interpretation for each toponym. But this would also lead to an impasse: If a toponym always denotes *place*, then we would not be able to explain its distribution in configurations that resist a location interpretation as in (27a&b) which are both acceptable:

(27) a. Beijing annoys me.

b. Beijing organized the Olympic games.
[http://www.thedailytravelblog.com/exploring-china-at-its-best/]

In (27) *Beijing* is not understood as the geographical area but as *the city* or *the people* or some other *object*-denoting entity as pointed out by den Dikken. On the assumption that it is an inherently locational noun, thus it is always understood as location, we would expect for (27) to be ungrammatical or at least infelicitous. But this is not borne out.

At the same time, inherently locative nouns should be expected to be able to show up in positions that license only PPs given that they are understood as locations. But this is also not the case as (28) shows. *Beijing* can appear in the complement of these verbs only as the object of a locative or a directional preposition, but never as a bare noun:

(28) *He {lives/died/stopped} Beijing.

[66] Note that if we attribute the fact that (25&26) are not ambiguous to the morphemes *dao* and *wang*, this then leads us right back to the need for a more careful investigation of their semantics and underlying syntax.

The last two examples (27&28) show that the option of an absolute separation of place- and object-denoting nouns does not give out the right predictions because (i) we want to be able to opt for an object reading of toponyms (when needed) (ii) we need to account for the fact that they cannot be construed with verbs that subcategorize only for locative-PPs and (iii) a convenient double-duty noun should raise ambiguities, which is also not the case. The logical conclusion then is that assuming DP to be able to be locational, and thus responsible for the need and distribution of localizers, is suboptimal, raising more problems than it actually solves.

To summarize, it was shown that attributing the exceptional locative interpretation of toponyms and buildings to DP properties is dispreferred as it makes wrong predictions. On the other hand, a structure-based proposal as in (25′) could license empty localizers by incorporation, which accounts for their behavior in specific examples only, so we avoid overgeneralization. So we conclude that the locative layer in those location-denoting nouns or adverbs is responsible for their spatial interpretation. As an immediate consequence, provided that 'from' is not lexically marked for space and that a DP cannot denote location, the spatial interpretation has to be relegated to a locative syntactic layer, which is in accord with the proposal in (18).

5.3.1.2 WHAT DOES *WHERE* QUESTION?

Acceptable responses to 'where'-questions can be revealing of the type of the denotation of DPs. If we accept that 'where' always questions location, it is logical that the set of admissible answers must be able to denote location as well. Failure to do so would result in a mismatch, sufficient to give out an unacceptable response. So although an AP cannot answer the question in (29a), the DP in (29b) is acceptable:

(29) *Where are you now?*

a. …* [$_{AP}$ happy]

b. …✓[$_{DP}$ the library]
[http://fyreflybooks.wordpress.com/]

c. …✓[$_{NP}$ library]

One can make two observations based on (29): (a) certain grammatical categories, like AP, are incapable of answering *where*, suggesting that those categories cannot denote place. And (b) by the same token, since DP is an admissible category, we can tentatively conclude that it can denote location. This will be put to the test.

If we take (29b) to suggest that a DP alone *can* denote location, then we should expect spatial *from*-PPs to be able to select these DPs directly, thus, ridding the need for a P_{LOC}. Such an intermediate prepositional layer would be redundant since the DP would be able to convey a location meaning. This, however, would immediately be problematic for the causative *from*-PPs, since their crucial distinction with the spatial ones was the structure of their internal argument, namely, a DP *vs*. a PP. This is ultimately linked to the first main question of the thesis, namely how can we tell (30a) and (30b) apart?

(30) a. His passion for knowledge came from the local library.

b. The students came from the local library.

In this section, I claim that datum (29b) is not problematic and does not infringe on the main proposal, based on two arguments:

(A) Examples like (29b) are in fact cases of ellipsis, and as such, there is a PP layer, which nonetheless is elided. The example in (29b) is a fragment answer that corresponds to: ~~*I am in/at the library*~~. Given that English allows P-stranding and we can extract the DP complement out of that locative P, it is not surprising how we can end up with this fragment response. That fragment answers are contingent on the availability of P-stranding is evident if we compare English (29b)

with its Greek and Dutch counterparts, that is, with languages that do not allow P-stranding[67]. In these cases, we are not able to extract the DP away from the P head, thus the corresponding fragment response in these cases is always ungrammatical: **De bibliotheek/ *tin vivliothiki* 'the library'.

There is one more option, however, which I have not yet referred to, and that is the bare noun case in (29c). The acceptability of (29b) was attributed to extraction and P-stranding availability, yet we cannot claim the same for (29c), nonetheless it is surprisingly acceptable in all four languages. I will claim that these are cases of telegraphic speech because they are not sensitive to the distribution of P-stranding, and thusly they are acceptable in all languages considered above. So although the DP alone elicits a strongly unfavorable judgment in Greek, the bare noun is perfectly acceptable as a telegraphic response; compare the following Greek answer-pair to question (29):

(29b′) *…tin vivliothiki 'the library' *vs.* (29c′) ✓…vivliothiki 'library'

In sum, the fact that we can find a DP or an NP alone as an answer to *where*-questions—which necessarily elicit location—does not constitute evidence for their locative nature.

(B) It is the relative pronoun and not the relativized noun phrase that satisfies the selectional restrictions imposed by the verb in the relative clause. So the interpretation of the DP as an object or location is contingent on the *wh*-word used. Consider the examples in (31) below:

(31) a. The library **where** I study __ → I study *in/at the library*. [Place]
b. The library **that/which** I study __ → I study *the library (itself)*. [Object]

[67] P-stranding is exceptionally licensed in Dutch for *r*-pronouns. For locative Ps, however, no P-stranding is possible.

If DPs were able to denote location by themselves, then we would expect for (31b) to be able to have the same locative interpretation as (31a). But in (31a), *the library* is interpreted as a location because inside the relative clause there is a PP introduced by *where*. Remember that *where* is associated with locations only and that it projects to a PP. So in (31a) *where* can only be associated with a PP like 'in/at the library'. On the contrary, in (31b) the DP has to be interpreted as 'the object of my study' and not 'the location of my study', so it is rendered as the direct object of the transitive verb.

In conclusion I have shown that we cannot interpret DPs as locations unless there is some locative layer either overt or not. Cases where nominals appear without a preposition and still denote location were attributed to: (a) ellipsis or telegraphic speech or (b) the presence of a prepositional element in the relativizer. For the latter cases, I assume a DP in the head of a relative clause always denotes an individual or object, while the part responsible for its interpretation is only the relativizer i.e., *where* vs. *which/that*.

5.3.1.3 LEXICAL CLONING CONSIDERATIONS

Finally I would like to bring up an additional consideration in favor of opting against an idiosyncratic locative denotation of DPs. If nominals could convey location, we would be obliged to assume multiple lexical entries for each noun depending on its interpretation in different environments. This, however, is theoretically undesirable.

Assuming for a minute that nouns can also denote location, we would need to posit at least two entries for every noun-candidate: a locational and non-locational one. For example, *home* would have to have two entries in the lexicon:

***home*$_1$**: the physical object i.e., *I have built my home*.

***home*$_2$**: the space defined by the area occupied by the object *home* i.e., *I came from my home*.

Additional nominal uses of *home* could also cover 'the country one is a native of' or 'an institution one is admitted to'. The former, however, can be captured by *home*$_2$ as *homeland* is in essence a defined space just like someone's home. By analogy the latter could be conveyed by the lexical item *home*$_1$. However, different lexical entries would have to be postulated for the verbal uses of *home*.

If we allow the creation of distinct lexical entries for each interpretation, it could easily trigger an unrestricted and probably unregulated population of the lexicon where each entry would be maximally specified. As already stated in chapter 4, homonymy or polysemy will not be considered as possible scenarios as they go against the principles of conceptual economy and as such they are theoretically suboptimal within a framework that argues for an economic lexicon with as few structure and lexical entries as possible.

In the sections under 5.3.1 I have shown that DPs do not denote location on their own proving Point (a) that was set forth in 5.3. This is important because it shows that not every DP can be plugged in a spatial sentence or be interchangeable with a causative DP. Eventually, this strengthens the proposal for additional PP structure on top of the spatially interpreted DP versus the causative ones. I the following section, I will discuss Point (b), namely the availability of morphological evidence that support the existence of PP structure above spatially interpreted DPs.

5.3.2 WHAT'S IN AN EMPTY HEAD

The main difference between causatively and spatially interpreted 'from's was suggested to lie in the presence of a locative head for the spatial cases, which is absent from the causative ones. The

examples submitted here will offer grounds for the presence of an 'invisible' prepositional layer, showing that it is always semantically meaningful and in some languages lexicalized. In either case, the locative P is an active prepositional head which takes an object-denoting DP and gives out a *space*-denoting entity.

The evidence presented is based on Lundquist&Ramchand's (2012) comparative analysis of English and Scandinavian SOURCE *vs*. VIA structures, who also offer support for a silent IN occupying the Locative head based on the semantics of directional particles in SOURCE interpretations.

5.3.2.1 TRICEPHALOUS REGIONS

The conceptualization of spatial PPs presented in chapter 4 involves projecting from the DP GROUND argument (Talmy 2000) up to a PLACE/REGION, that is a continuous set of points in space (Creary *et al.* 1989, Nam 1995), and from there to a VECTOR (Zwarts 1997, Zwarts&Winter 2000), with each vector pointing to a possible point in space towards a specified direction. The FIGURE is ultimately located in or moving towards the set of points defined by the Vectors stemming from the Region of the DP Ground:

(32) FIGURE [VECTOR [REGION [$_{DP}$ GROUND]]]]

Moving from Ground to Region is a conceptually and semantically important step as it expresses a transition from *objects* to *locations*. Wunderlich (1991:597–8) discusses this region from two different points of view: the *conceptual* and the *semantic*. Conceptually, he refers to it as the *eigenplace*, a function which takes any object *x* and yields the place it occupies *r*, that is, its *region*. Such conceptual relations denote "within a homogeneous sortal field", that is, between entities with similar denotation. But semantically, he also introduces a distinct function LOC (x,

r), which is interpreted as 'x is located in r' and which encodes the cross-sortal relation between *objects* and *regions*. For example, for Locations, the conceptual relation has to be between two *regions* (same sortal field), while the semantic relation can span across sortal fields from an *object* to a *region*. Similarly, for Causation, the conceptual relation pertains to the relation between two *events*, while the semantic one can connect an *object* (cause) with an *event* (causee).

Although Wunderlich explicitly claims that the *eigenplace* cannot be lexicalized—which is the reason he introduced the LOC function—its name has nonetheless been associated, in later syntactic accounts, with the head responsible for the sortal shift. Svenonius (2006, 2008), for example, introduces a function similar to *eigenplace*, namely K: "K returns what Wunderlich (1991) calls an *eigenplace*, the space occupied by the Ground" (Svenonius 2008:7). Semantically, K sortally shifts the DP from the domain of *objects* to the domain of *regions*. Syntactically, it hosts genitive case-markers (K being a mnemonic for case) and can be overtly lexicalized in many languages. Once the sortal shift takes place, the rest of the projections specify the subpart or extend of that REGION. The AxPart hosts words like *front* or *top* and refers to a subpart of the *eigenplace* defined by K. And finally, the PlaceP identifies a projected REGION on the basis of vectors[68]. Ultimately, REGION is a syntactically complex function which takes an object and returns a space that may also include information about some specific subpart of the Ground or some projected region. The main components of REGION can be seen in (33a) below:

[68] This includes the region of the object (Ground) plus the region in relation to it i.e., *above the table* is the region that begins at the table top and extends up to a certain degree (if not specified then it is constrained by pragmatic considerations) and into the air towards all possible different directions. The endpoints of those vectors mark the extended region beyond the table. In other words, the PlaceP takes a region defined by the KP, gives the vector space of the Loc, and ultimately defines its endpoints (in Deg) as a region again.

(33a) [$_{PlaceP}$ Place [$_{AxPartP}$ AxPart [$_{KP}$ K [DP]]]]

Lundquist and Ramchand (2012) also project three distinct heads for REGION:

(33b) [$_{PlocP}$ Ploc [$_{LocationP}$ Location [$_{KP}$ K [DP]]]]

According to Lundquist&Ramchand (p.c.), KP and LocationP are different with respect to their output. Although the first takes an object and returns its Ground, a LocationP takes the output of K and returns a new location related to that Ground. If Lundquist&Ramchand's (2012) analysis is on the right track, we will have more instances of lexicalization of the *eigenplace*. Although this proposal is still in the making, I will present some of its main points in the next section with more emphasis on its interrelation with the Path projection, as this is where we would expect to find 'from'.

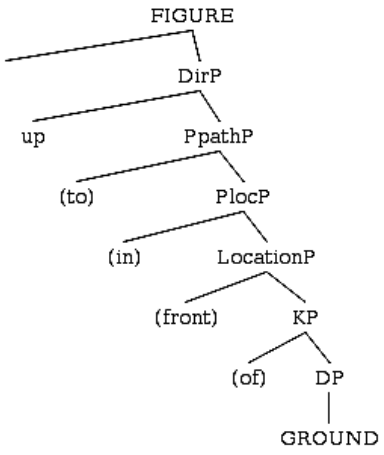
Clearly there is variation in the labeling and analysis of these location-related heads, while their presence can be contested on the grounds of non-overtness. Nonetheless the main function of the REGION part in the structure in (32) remains the same cross-linguistically: The sortal switch from *object* to *region* has to be structurally reflected and a deeper exploration of the syntax of REGION helps establish its presence even when phonetically null. Ultimately this cross-sortal relation will project a locative layer on top of the Ground DP, which will be precisely the locus of the spatial and causative difference in the interpretation of 'from'.

5.3.2.2 LOCATIVE MUTATIONS

Lundquist&Ramchand's analysis is based on the general conceptual framework as described in (32). For a more specific syntactic analysis of directional PPs, they follow an adjusted version of Svenonius (2006, 2008). The cases under consideration will all involve a directional particle, which is necessary because it ultimately contributes the directional interpretation (the Vector,

that is) for examples where the element that lexicalizes the location head (we shall see which one) cannot contribute a spatial interpretation on its own. The parenthetical items are provided as samples of possible realizations of each head in (34):

(34)



This structural representation intuitively suggests that the particle *up* contributes the direction to an already defined PP_{Path} over which it takes scope. Lundquist&Ramchand argue that the particles 'up, down, in, out' are found under this directional particle head governing $P_{path}P$, where we find 'from'.

The two are different in that only prepositions can license a DP Ground, while particles act simply as a sort of modifier to the Path denoted by the P_{path} head. An important assumption they make is that these particles are not simply homophonous with the corresponding prepositions, but they are directional elements that obligatorily combine with a PathP[69]. When these particles are used in directional environments (unlike their intransitive uses as in *he passed out, she locked up*), they exhibit selectional properties with regard to the kind of DP Ground they are compatible with[70]. So (a) is acceptable but (b) is not:

[69] Although there is no explicit argumentation for this statement, notice that it in accord with the earlier suggested division of vectors into two components necessarily present: the *direction* and the *phora*.

If this is true, then the condition of building DirP on a PathP is automatically derived even if the latter remains null. A direction alone (**>**/**<**) cannot contribute any meaning unless there is a predefined path (——) in a pre-defined space to give out the complete VECTOR: ——**>**

[70] These properties are contingent not only on the physical geometry of the object, but also on world knowledge. One can *carry a box up a table* for as long as the size of the table relative to the size of the carrier of the box is such that 'carrying' is a felicitous verb. So if the carrier of a

(35) a. She carried the box *up* [$_{DP}$ the hill].

b. # She carried the box *up* [$_{DP}$ the table].

The main chance in Lundquist&Ramchand (2012) is that although in English and Norwegian these directional particles appear to be construed directly with the DP Ground argument, in Danish and Swedish an overtly realized preposition intervens between the particle and the DP Ground. Their observations are summarized below:

					DIR PRT				
(36)	a.	I	chased	him	**out**[71]	[$_{Path}$	[Ø	[$_{DP}$ the door].	ENGLISH
	b.	Jeg	jaget	ham	**ut/in**	[$_{Path}$	[Ø	[$_{DP}$ døren].	NORWEGIAN
	c.	Jeg	jagede	ham	**ud/ind**	[$_{Path}$	[**ad**	[$_{DP}$ døren].	DANISH
	d.	Jag	jagade		**ut/in** honom	[$_{Path}$	[**genom**	[$_{DP}$ dörren].	SWEDISH

					DIR PRT				
(37)	a.	They	carried	him	**down/up**	[$_{Path}$	[Ø	[$_{DP}$ the stairs].	ENGLISH
	b.	De	bar	ham	**ned/opp**	[$_{Path}$	[Ø	[$_{DP}$ trappen].	NORWEGIAN
	c.	De	bar	ham	**ned/op**	[$_{Path}$	[**ad**	[$_{DP}$ trappen].	DANISH
	d.	De	bar		**ner/upp** honom	[$_{Path}$	[**för**	[$_{DP}$ trappan].	SWEDISH

Lundquist&Ramchand adopt one and the same underlying syntax for all these four languages which will account for the distribution of locative prepositions. Firstly, a similar cross-linguistic variation with regard to lexicalizing locative prepositions is also found in verbs of contact. These verbs select for a locative complement and the inanimate direct object DP has to be understood as a location. According to Lundquist&Ramchand's observations, English and Norwegian pair together in contradistinction to Swedish and Danish, which exhibit a different pattern in terms of the lexicalization of a locative layer in the complement of a verb of contact as summarized below:

---

tiny box is an ant, then carrying it up the table is a possible scenario where the ant is climbing up a leg of that table.

[71] The corresponding version of English *in* does not exhibit the same property so it was left out of this data set.

(38)	a.	I kicked		the table	in frustration.	ENGLISH
	b.	Jeg sparket	(**til**)	bordet	i frustrasjon.	NORWEGIAN
	c.	Jeg sparkede	*(**til**)	bordet	i frustration.	DANISH
	d.	Jag sparkade	*(**på**)	bordet	i frustration.	SWEDISH

Lundquist and Ramchand (2011) concluded that the non-affected inanimate objects are in fact under a prepositional layer, which is responsible for their conversion into the location they occupy. They argued that English and Norwegian can get away with a null locative head because their *eigenplace* is featurally rich, which enables it to convert the *object* DP into the *place* it occupies. On the other hand, Danish and Swedish have a featurally poor *eigenplace,* which means that their prepositional sequence has to come bag and baggage with all prepositional heads lexicalized (*til* and *på*).

The same assumptions are carried over to (36–37) where the Ground DP can be licensed in directional environments by an independent locative prepositional element that governs it (see highlighted parts in (36&37)). The function of this locative preposition is to convert the denotation of that DP from *Object* into *Location* (Ground to Region). This preposition is considered to remain silent in English and Norwegian but is lexicalized in Danish (*ad*) and in Swedish (*genom, för*). With the locative layer (some incarnation of the *eigenplace* head) denoting an extended location, the Ground DP is now of the correct and compatible semantic type to combine with the Path head directly as its complement.

These observations and their analysis constitute overt morphological evidence for the existence of a locative layer between directional prepositions and their DP complement. In other words, the complement of a directional preposition (with an eye to extending such assumptions to the treatment of the directional 'from') is not just a DP, but a phonologically (for certain languages)

and semantically (cross-linguistically) fully functional locative prepositional layer (highlighted in (39)) that contains the Ground DP:

(39) **VECTOR** **REGION** **GROUND** [Spatial PPs]
[*Direction* [*Path* [*Location* [*DP*]]]]

This notion of 'compatibility' translated as a locative prepositional layer is the crux in this account and also in the proposal of this thesis. L&R (2012) argue that if any (spatial) path-denoting preposition must combine with something of the sortal type of 'locations', then the selected functional structure in the complement of Ppath will have to be a LocationP[72]. The name of this head will not be relevant; what is of great importance is its presence and function in spatial PPs, in contradistinction to its radical absence in non-spatial ones.

5.3.2.3 NATURAL SELECTION UNDER HOMOMORPHISM

Let us now see what the proposed syntax is for directional PPs and what is special about them. Provided that directional particles always encode some Path information, which is syntactically represented as selection of PpathP by DirP, L&R (2012) suggest that DirP and PpathP can be lexicalized together by one directional particle, following the principle of *homomorphic unity*, stemming from Krifka (1992, 1998),[73] and syntactically extended in Ramchand (2006) and Ramchand&Tungseth (2006).

[72] It is not definitive yet whether it will be the LocationP or the KP. Lundquist&Ramchand (p.c.) predict the variation to be attributed to the KP/*eigenplace*, which is either lexicalized or null depending on the strength of each language's features. In the trees provided, I will follow the notation used in Lundquist&Ramchand (2012) with the understanding that it is currently under revision.

[73] Krifka (1992) proposes an object–to–event mapping model for analyzing incremental (cumulative) propositions. For example in the sentence *John is drinking a glass of wine*, the predicate *drink a glass of wine* exhibits its own semantic properties, separate from the semantic composition of the whole sentence. The main idea is that there is an event (*drink*) and an object (*glass of wine*), which is mapped onto the event *homomorphically*. This means that every part of

Homomorphism, as Ramchand (1997) explains, is found in certain event–object relations where the properties of the object (i.e., *cumulative* like water, running or *quantized* like 5 apples) are acquired by the verb that is thematically related to that object. So for *cumulative* objects, every subpart of the event will correspond to a subpart of the object. Argument-to-event homomorphism is found in creation or consumption verbs that give out atelic predicates, where the properties of the argument are reflected on the properties of the event it participates in. In this context, homomorphism relates in two ways:

(A) It exhibits how the cumulative constitution of *mountain* maps onto *climbing* in *he climbed up the mountain*. Here homomorphism suggests that the progress of the event climb is equal to the accumulation of the area climbed at each point in time. Importantly, the event climb is constantly in contact with and measured by the object mountain. On the other hand, in a non-homomorphic relation like *he climbed up the table*, we do not map the event onto every single point of the table. We rather interpret this as a telic predicate, where the table is the end point of the event, which started somewhere not on the table and ended up on it.

(B) According to the *homomorphic Unity* (Ramchand 2006): When two event descriptors are syntactically Merged, the scalar structure of the complement must unify with the scalar structure of the head by means of homomorphism i.e., the relevant scales must be synchronized and unified to describe the complex event. Ramchand and Tungseth (2006) show how this principle can extend to cover different syntactic constituents i.e., V and

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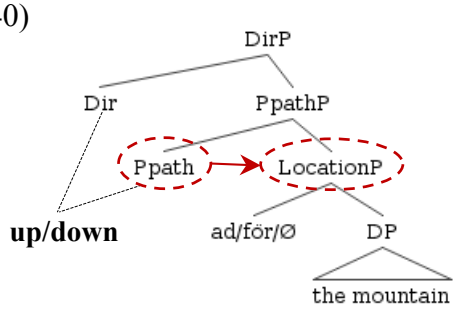
the glass of wine being drunk (the *incremental theme*) is reflected on the progress of the drinking (the *event*). The degree of wine being drunk (object) represents the degree of completion of the drinking event (Wechsler 2005), so object and event are constantly reflected onto each other at every point in time.

P_{PATH} or P_{LOC} and DP. By extension then, Lundquist and Ramchand (2012) will apply this same principle of homomorphism to the P_{PATH} and DIR. For the remaining sections, I will assume that homomorphism is lexicalizing the Dir+Path and provide a discussion on the syntactic analysis of the particles *up/down* vs. *out*:

(40)



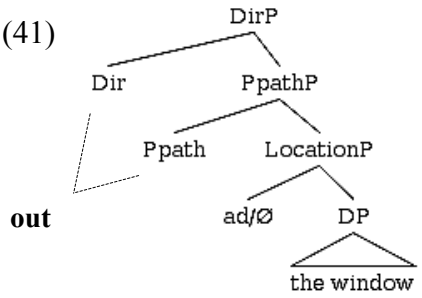
The particles *up* and *down* can serve both as particles and prepositions as they are drawn from the same lexical inventory. The tree in (40) gives the syntactic treatment of *up/down* pointing out the parametrized overt realization of the locative layer in Swedish and Danish, unlike English and Norwegian. This layer (be it the KP or the LocationP) takes the DP that denotes *individuals* and returns a LocationP that denotes *space* (*non-atomic locations*). The importance of (40) is that it exemplifies how the presence of the Location head is forced by the selectional properties of PathP. Although this is not always immediately evident, the Swedish and Danish examples bring this fact up by lexicalizing the Locative layer.

The Path head denotes an "extended sequence" (i.e., a line) and combines with a Ground DP that can be converted into an *extended ordered location*. This is possible only for VIA interpretations because the "material constitution of the DP is mapped to, or somehow defines the Path travelled by the Figure". In other words, the path traveled by the Figure in (40) is an inherent part of the greater area defined by the *mountain*. Consequently if you are *climbing up the mountain*, you are heading upwards (*up*) at every single point of your path, which is always traced onto (or touching) the mountain. Homomorphism ensures that the progression of "moving upwards along your path" is reflected onto the progression of your "climbing up the mountain".

This further explains why it is we can say that we have climbed up to different points of a *mountain*, but cannot say we have climbed up to different points of a *table*. Given that *the mountain* can be cumulative, we can have gradations of the path climbed and by extension the mountain, i.e., *I climbed further up the mountain*, but **I climbed further up the table*. The unavailability of the latter sentence can be illustrated by the fact that to the extend we can *climb a table*, what happens is that we start from a place that is not the table and we end up on top it. So tracing the path onto the table is not possible and consequently modification of the progression of climbing in this case is not possible.

Turning now to a different selection under homomorphism we will compare a VIA and SOURCE configuration under the directional particle *out*. These cases are different because the directional P *out* is not scalar as *up/down* are. This difference will ultimately account for the distinct syntactic treatments of VIA and a SOURCE:

(41)



The tree in (41) represents a VIA intereptation, very much like (40) with the same structural requirements with regard to selection of the LocationP head. L&R note that the PATH head here is *triphasal* indicating the two phases of the Path on either side of the transition location.

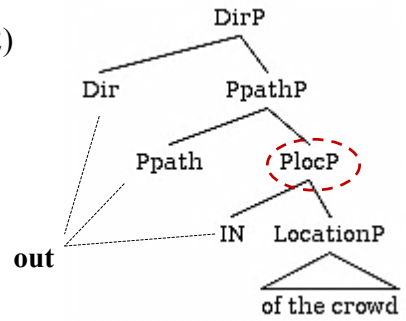
He tossed the cat out the window.

Another important difference is that the directional scale of the Particle *out* is 'absolute'. So for the sentence *he tossed the cat out the window*, there is a complete transition through the material location of the DP (similar to *climb the table*). The directional particle is used as the PATH and the DP is understood as the transition point. In (41) *the window* has a portal-like interpretation describing the transition from one phase of the path to the other. The transition path does not

always need to be punctual, however, but can have an *extended* meaning as in *he carried the treasure out the tunnel*. But how is this different from a SOURCE structure?

Lundquist&Ramchand isolate the difference in an additional locative layer, namely the P_{LOC} as seen below:

(42)



The tripartite representation of the semantics of *out* is attributed to the structure of source prepositions by Pantcheva (2011) who maps *source*-denoting *from* onto three heads, lexicalizing *Source, Goal,* and *Place*.

Pantcheva (2009, 2011) provides evidence for such an analysis from languages that can lexicalize all three distinct heads. The Papuan language Hua, for example, offers such a transparent lexicalization, where each of the three heads is spelled-out by an independent morpheme:

(43) zu-ro(-ga)-ri' oe. HUA
work-AT-TO-FROM come
'I have come from work.' (example originally in Haiman 1980:234)

Closing this parenthesis and focusing back on (42), what is important is that we find a P_{LOC} head, which is missing from (40&41). Most importantly, this head is not null, but has a silent IN which is not accidental but has a semantic function[74]. So what are the conditions and consequences of

[74] L&R additionally suggest that the P_{LOC} head is incarnated as the preposition *in* due to the fact that its directional scale is 'absolute'; giving out the meaning 'the Figure is *in* something'. In fact, they characterize *in* as "profoundly locative". I would like to submit a possible explanation as to what this might mean, concluding that its realization as *in* is not a necessary condition, but it might be language specific. Nonetheless, this does not infringe on the presence of the P_{LOC} or its semantic function.

A first approach in translating *in* as "profoundly locative" could be the fact that it is usually the interpretation of the Locative case in languages that have such a case, like Yanesha (repeated from (11)) or Martuthunira, among others. In all these language it is systematically the case that

this P_{LOC}?

L&R suggest that the P_{LOC} head is directly connected to the semantics of the directional particle when used as a preposition and the nature of the PATH:

- Directional particles with 'absolute scales' have a P_{LOC} use, which returns an absolute location for the Figure. IN is used to represent the property of absolute containment

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LOC is systematically translated as *in* without there being any other element specifying for containment or inclusion for example:

(i) a. Ngayu tharnta-a nhuwa-lalha parla-ngka. MARTUTHUNIRA
1SG.NOM euro.ACC spear.Part hill.**LOC** (Dench 1995)
'I speared a euro **in** the hills.'

b. Ngayu pawulu nyina-nguru ngaya-rra maya-ngka-rru
that.NOM child sti-PRES cry-CTEMP house.**LOC**.NOW
'That child is crying **in** the house now.'

(ii) non^{y}t^{y}-o YANESHA
canoe-**LOC** (Pantcheva 2009)
'**in** the canoe'

(iii) Utavalu-pi kawsa-ni. IMBABURA QUECHUA
Otavalo-**LOC** live-1 (Cole 1985)
'I live **in** Otavalo.'

(iv) a.aç-ta TURKISH
tree-**LOC** (van Riemsdijk&Huybregts 2002)
'**in** the tree'

But this is not always true. For instance, in English we find two other locative prepositions: *at* and *on*, which also give out slightly different meaning of location with at being the less marked location. Compare, for example, (43a&b):

(v) a. I am *at* school (somewhere in the vicinity of the school)
b. I am *in* school. (inside the building defined as school)

Moreover, in other languages, we find this same locative meaning being conveyed by prepositions which are otherwise directional. Some languages which utilize the same P for 'to' and 'at/in' are M.Greek, Bellinzoneze, Paduan and Venician (Terzi 2010). The rendering of a more specific 'in' meaning would require the use of the locative adverb *mesa* 'inside':

(vi) *Ime sto sxolio*. vs. *Ime mesa sto sxolio*. GREEK
1SG.PRES to-the school 1SG.PRES inside to-the school
'I am at school.' 'I am in(side) the school.'

These examples show that it that P_{LOC} does not necessarily have to be IN, as Location is conveyed in different ways cross-linguistically. On the other hand, it seems that IN would indeed make sense in (35), given that it is diametrically opposite from the reversative *out*.

(something is either *in* or not). This gives the SOURCE interpretation of *out*.

- Directional particles with 'relative scales' do not contain a P_{LOC} and have a P_{PATH} use. In these cases the Ground defines the Path onto which the Figure is moving or passing through, which also accounts in some cases for the gradable properties of the Prt. This gives the VIA interpretations for *up/down/out*.

If this is on the right track, we can predict two things: (i) only directional particles with 'relative scales' to invite scalar modification and (ii) 'from'-paths to be impossible to combine with particles with 'relative scales' due to the fact that the former requires a P_{LOC}, a head that is missing from the latter. Through the following Danish examples[75] (44–45), I will show how both these predictions are borne out.

Directional particles with 'relative scales' are deprived of the P_{LOC} layer because there is no position in which the Figure can be found in its entirety. The 'relative scale' of the particle implies that the Figure can be more or less *down*/*up* the location defined by the Ground, which for (44) is *the hole*. The interpretation of (44) is that he crawled up inside the hole, but we do not know whether he actually made it out or not, so there is no accomplishment. Also based on the homomorphic relation of the event and its object, the amount of crawling should reflect the progress of completion of the event, which by extension should be modified accordingly. Indeed we see in (44) that we can optionally have the modifier 'further':

(44) Han kravlede (videre) op ad hullet. [VIA] DANISH
'He crawled (further) up (inside) the hole.'

In the SOURCE interpretation in (45a), there is a clear understanding of an accomplishment. The event of "crawling the hole" has reached an end. Importantly, the Figure (in its entirety) is found

[75] The examples and their interpretations are attributed to Thomas Sølling.

in a difference location from the location the hole occupies as he is now entirely out of the hole. Since the DP is not traced onto the Path any more, gradation is also not possible. This is shown in (45a), where 'further' is illicit.

(45) a. Han kravlede (*videre) op fra hullet. [SOURCE] DANISH
b. * Han kravlede op fra ad hullet.
'He crawled (further) up from the hole.'

The major difference between (44) and (45a) lies in the semantics of the directional particle, which has either a PATH use or a LOC use. Ultimately (44&45a) prove prediction (i) right, namely that only directional particles with 'relative scales' invite scalar modification.

Turning to the second prediction now, let us focus on (45b). In this example the Particle has a 'relative scale', just like (44), but this time, there is a directional 'from' as well. Although the combinations "op ad" and "op fra" were acceptable, it is impossible for the three of them to appear together. This confirms our prediction regarding their incompatibility based on the semantic contribution of P_{LOC} head, forced in the presence of 'from'-PATH, but absent in directional particles with relative scale. This proves prediction (ii) right, namely 'from'-Paths do not combine with particles with 'relative scales' because source paths require an internal P_{LOC} which the specific particles resist.

To sum up this lengthy analysis, L&R provide evidence based on a comparative study of Germanic languages, which show that the lexicalization of directional PPs, that is Dir+Ppath, demonstrate selectional criteria on the categorial nature of their complement. Firstly, independently of their spatial interpretation (GOAL, SOURCE, VIA), they always select a phrase of the sortal type 'location'. Although in English and Norwegian this locative layer always remains silent, Swedish and Danish bring out the underlying structure by including overt locative

elements. Secondly, contingent on the type of the directional particle, two internal structures were identified: (a) for particles with relative scales (*up/down*), the PathP selects a LocationP which is the minimal locative structure while the Ground defines the Path that the Figure moves on. This makes gradation of the directional particle possible with regard to the Path travelled; (b) for particles with absolute scales (*in/out*), the PathP selects a silent P_{LOC} headed by IN. Because its directional scale is absolute, IN is responsible for rendering the location of the Figure in its entirety, thus pre-empting any modification.

These conclusions will be vital plug-ins for the proposed structure of spatial 'from' because they ensure that spatial 'from' always comes equipped with a P_{LOC} layer (lexicalized or not), which I claim to be absent in the causative 'from'-PPs.

CHAPTER 6 THE PROPOSED TREATMENT UNDER THE MICROSCOPE

In this chapter I will focus explicitly on causative 'from'. Based on the proposal in chapter 2 regarding the predicative nature of the 'from'-PPs, I will explore the underlying 'microsyntax' of 'from' across Greek, English, German and Dutch. This will be useful in explaining how particle verbs are able to encode a *Causee–Cause* relation even in the absence of an overt 'from'.

6.1 FROM'S ANATOMY

The preposition *apo* from in Greek, based on its different semantic uses, may denote two types of relations with the noun phrases it combines (Holton *et al*. 1997): (i) *Concrete* relations, which convey the meaning of space, time, direction, or origin and (ii) *Abstract* relations. In these relations *apo* can have an extensively varied range of meanings i.e., causative, partitive, material, ablative, comparative, distributive, medium, and change of state. Here, the focus will be on causative *apo* which typically assigns accusative[76] in Modern Greek.

Causative *apo* combines with simple or particle verbs as in (1a,c)[77]:

(1) a. i megales idees {erxonte / ***(pro)***erxonte} ***apo*** mia plousia fantasia. GREEK
the big$_{\text{FEM.PL.}}$ ideas {come / ***out***flow } ***from*** a$_{\underline{\text{ACC}}}$ rich$_{\underline{\text{ACC}}}$ imagination$_{\underline{\text{ACC}}}$

b. i megales idees ***(ek)***pigazoun ***ek*** mias plousias fantasias.
the big$_{\text{FEM.PL.}}$ ideas ***out***spring ***from*** a$_{\underline{\text{GEN}}}$ rich$_{\underline{\text{GEN}}}$ imagination$_{\underline{\text{GEN}}}$

c. i megales idees ***(ek)***pigazoun ***apo*** mia plousia fantasia.
the big$_{\text{FEM.PL.}}$ ideas ***out***spring ***from*** a$_{\underline{\text{ACC}}}$ rich$_{\underline{\text{ACC}}}$ imagination$_{\underline{\text{ACC}}}$

[76] This is in contrast to ancient Greek, where *apo* always assigned genitive. In its other semantic uses, *apo* may also assign accusative or genitive (*aparhis* 'from the beginning', *apo ghenisimiu* 'from birth', *apo kardhias* 'from the heart', *afenos-afeterou* 'on the one (hand)-on the other (hand)').

[77] *apo-* can also give particle verbs, but it is not optional like *pro-* and *ek-*. So although *aporreo* 'outflow' is etymologically and morphologically related to *reo* 'flow', there are pragmatic restrictions that disallow them to be used interchangeably (*ideas *(out)flow from imagination*). It is the case, however, that in P$_{\emptyset}$ constructions *apo* particle verbs do pattern alike with other particles verbs. Since these restrictions are not within the scope of the syntactic analysis of this paper, I will put the case of this verb aside for now.

d. i megales idees {*erxonte/***ek**pigazoun/***apo***reoun } **Ø** mias plousias fantasias.[78]
the big$_{FEM.PL.}$ ideas { come /***out***spring /***out***flow } **Ø** a$_{\underline{\textbf{GEN}}}$ rich$_{\underline{\textbf{GEN}}}$ imagination$_{\underline{\textbf{GEN}}}$

The particle verbs used interchangeably in examples (1a–c) feature different combinations of particles, like *ek-, pro-,* and *apo-*, which all convey the meaning 'from' and combine either with 'come' or other lexical verbs. Although these particles are historically prepositions themselves, after their lexicalization as preverbal particles, they seem to have lost their independent case assigning function. Notice that the presence of an overt preposition is necessary in (1a–c), independently of the presence of a particle, which is optional. Ultimately, the case of the final DP-argument solely depends on the P head that selects it. This becomes clear in (1b&c), where different prepositions, namely *ek* and *apo*, are associated with different cases, which are reflected on their arguments, to wit, accusative in (1b) and genitive in (1c). So in the presence of an overt preposition, the DP's case depends *exclusively* on that preposition while the particle does not participate in any Case-assigning process.

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[78] I am providing some additional examples in Greek because such sentences tend to be less common as they have a more archaic tone. So the prepositional version has become more dominant in colloquial use.

(i) I anikanotita **proerxete tis psixosis**.
the incompetence **Prt**-comes the psychosis$_{\textbf{GEN}}$
'The incompetence comes from the psychosis.'
[http://www.zougla.gr/blog/article/498825]

(ii) To "edo" **ekpigazi tis fantasias** ton anthropon…
the "here" **Prt**-springs the imagination$_{\textbf{GEN}}$ the people
'The "here" out springs from the imagination of the people…'
[http://amonibooks.blogspot.com/2010/03/blog-post_21.html]

(iii) i xorotaxiki katanomi pou **aporei aftis tis antagonistikis drastiriotitas** antikimenopii
the county planning that **Prt**-flows this$_{\textbf{GEN}}$ competitive$_{\textbf{GEN}}$ activity$_{\textbf{GEN}}$ objectifies
afton ton nomo.
this D law
'County planning that comes from this competitive activity makes the law objective.'
[https://athens.indymedia.org/local/webcast/uploads/h_arnisi_tis_arnisisewyucu.pdf]

(iv) O Jigger tha analavi ti ritra pou **aporei tis symvasis** me tin eteria Actor
D Jigger will take-up D clause that **Prt**-flow the$_{\textbf{GEN}}$ contract$_{\textbf{GEN}}$ with the company Actor
'Jigger will take responsibility for the clause that comes from him contract with the company Actor.'
[http://www.sentragoal.gr/article.asp?catid=10534&subid=2&pubid=129001276]

Causative 'from'-PPs are also observed in the following Germanic languages (2–4), where they seem to behave similarly with regard to the type of verbs they can appear with:

(2) Eine geniale Idee kommt **von** einem$_{\mathbf{DAT}}$ wirren Kopf. GERMAN
Eine geniale Idee ***ent***springt **Ø** einem$_{\mathbf{DAT}}$ wirren Kopf.
'an ingenious idea {comes **from**/***out***springs} a$_{\mathbf{DAT}}$ mazy head.'

(3) Grote ideeën komen **van** een rijke verbeelding. DUTCH
Grote ideeën ***ont***spruiten ***aan*** **Ø** een rijke verbeelding.
'big ideas {come **from**/***out***spring **Prt**} a rich imagination.'

(4) Great ideas come (**out**) **from** a rich imagination. ENGLISH
Great ideas come ***out*** ***of*** a rich imagination.

What is interesting in (1–4) is that the preposition 'from' may be left out only under certain restrictions and with repercussions on the case of the P's argument or the addition of other morphemes. For the P-less cases, the common restriction across this set of languages is the *obligatory* presence of a particle. This can be observed in (1d&2–4), where the $P_{Ø}$ alternants are grammatical *only* with particle verbs and not with the simple verb 'come' any more. Also the alternation of causative 'from' with $P_{Ø}$ comes with an interesting morphosyntactic repercussion: contingent on language-specific parameters, we observe either a change in the morphological case or the emergence of functional elements. The observed patterns for each language are as follows:

- For Greek—compare the minimally different (1a&1d)—the alternation of causative *apo* with $P_{Ø}$ consistently covaries with a change in the case of the DP-complement, more specifically from accusative (1a) to genitive (1d).
- In German (see (2)), the simple verb *kommen* 'come' necessarily takes an overt preposition *von* 'from'. In the absence of *von*, the structure requires a particle, in this case *ent-*, in order to be grammatical. Although German also overtly reflects case, no change parallel to Greek is observed in the dative *einem*.

- For Dutch similar restrictions apply. In (3), the simple verb *komen* 'come' requires an overt-P, *van* 'from', while it is only particle verbs that yield grammaticality in the absence of that preposition.
- For the English example in (4), the simple verb *come* must be construed with the overt preposition *from*. Similar to the Greek example in (1a)—but unlike the overt-P cases of (2&3), which ban the co-existence of lexical particle verbs with overt prepositions—the aspectual *come* may optionally appear with a particle (*come* or *come out*) when construed with a preposition. I will assume that *out* in (4) does not act as a full-fledged preposition, but as a particle parallel to the particles *ek/apo-, ent-, ont-* that show up in all the other languages under consideration here. The distribution of *out* further supports its non-prepositional (in the sense of Case-assigning) function in these examples. For example, in the absence of *from*: (i) *out* is unable to stand alone (ii) it becomes obligatory just like all particle example in (1–3).

Let us turn now to the additional elements *aan* and *of* that show up in (3&4). Since neither Dutch nor English overtly inflect morphological case on determiners, adjectives, or nouns[79], case marking of the argument DP is not possible. Instead it seems that *aan* and *of* perform a function similar to the morphological cases instantiated in (1d) and (2). Note that it is not uncommon for English and Dutch to employ prepositional elements where German uses morphological marking instead (Emonds 1985). Another similar morphological marking pattern is found in indirect objects marked with dative in German V>DO_{ACC}>IO_{DAT}, while the corresponding English and

[79] With the exception of proper nouns that inflect for genitive as in *John's* for English or *Jans* 'Jan$_{GEN}$' for Dutch—and to an extent to common nouns as well: *'s mans gedrag* 'the$_{GEN}$ man$_{GEN}$ behavior'.

Dutch example would employ an overt prepositional element (*to* and *aan*) (McFadden 2004)[80]. To summarize, the presence of a particle, the absence of the overt 'from', and a morphosyntactic case reflex all seem to be correlated:

Language	Type of V	P_{overt}/ $P_{Ø}$	Case
Greek	V/PrtV	P_{overt}	ACC
	PrtV	$P_{Ø}$	GEN
German	V	P_{overt}	DAT
	PrtV	$P_{Ø}$	DAT
Dutch	V	P_{overt}	–
	PrtV	$P_{Ø}$	*aan*
English	V/V-Prt	P_{overt}	–
	V-Prt	$P_{Ø}$	*of*

Table 6.1: Simple *vs*. Particle verb alternations.
A bird's eye view of all the observations in examples (1–4).

6.2 VITAL SIGNS FOR PREDICATION

The central argument in support of the predicative nature of causative 'from'-PPs in chapter 2 and 3 was based on the fact that in the non-verbal examples under consideration the 'from'-PP was the predicate *per se*, hence its obligatoriness. The same holds for (5a–d) below, where the copula connects the two arguments in an unequivocally causal relation: on the one hand, the argument of 'from' is understood as the *cause* and, on the other hand, the subject is the *causee.* Interestingly these 'from'-PPs are not optional or replaceable by other prepositions as was the case with the verbal causatives discussed in chapter 3:

(5) a. o piretos ine ***apo*** to krioma. GREEK
'the fever is **from** the cold.'

b. Die Verbrennung ist ***von*** der Sonne. GERMAN[81]

[80] This correspondence should be taken as a rough approximation and not as a generalization that holds among these languages. Ditransitive constructions are contingent on many independent syntactic, semantic, and lexical considerations. So, for example, German *does* have a prepositional counterpart to the dative construction, while Dutch may occasionally allow the second object in a V NP NP configuration to be a Goal/Beneficiary.

[81] Such copular examples in German but mostly in Dutch—although not ungrammatical—have a limited frequency mostly due to lexical and semantic considerations. Verbal elements like

'the burning is **from** the sun.'

c. De koorts is ***van*** de griep. DUTCH
'the fever is **from** the flu.'

d. Her fever is ***from*** the flu shot. ENGLISH

Crucially, these are stative predicates without lexical verbs, which means that causation cannot be attributed to any causative head in some projection of the lexical verb or to the verb's semantics/encyclopedic meaning even, since there is a radical lack of any lexical verbal material. A causative interpretation, however, is rendered for all the examples in (5). This straightforwardly has led to two core assumptions up to now: (i) The preposition 'from', being the only causatively interpreted element in these cases must be responsible for causation and (ii) this relation is structurally represented in the form of a predication configuration, abstractly illustrated in (2.17) and repeated below as (5′), where the PP-*cause* is predicated of the subject-*causee*:

(5′) CAUSEE $[_{PredP}$ $[_{PP}$ 'from' CAUSE]]

Adopting a predicational analysis for the causative 'from'-PPs will ultimately be the key to the source of causation in non-verbal or non-lexical verbal environments, which radically lack the intricate underlying syntax associated with causation in the work of Alexiadou *et al.* (2006 *et seq.*). Instead the interpretation of causation is now relegated to the interplay of the semantic properties of 'from' and its argument structure that directly establishes a relation between its components (subject–predicate). These were the main points of the analysis up to now. This

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'come' are more preferable than the copula. Also Ramchand (2006) attributes this to a general incompatibility of stative verbs to combine with PathPs (like 'from') due to the incompatibility of the PPs structure, which is scalar, and that of the stative event.

This phenomenon is not always observed however. Compare for instance the Dutch (also used in German, but without explicit preference) 'I *come* from NY' to the English and Greek equivalent 'I *am* from NY'. But independently of lexical preferences, both *von* and *van* are used in causative constructions successfully introducing *cause* (see (2&3)).

section will attempt to strengthen this line of argumentation by providing further syntactic evidence which will squarely put causative 'from'-PPs in the predicate category.

One compelling syntactic piece of evidence is the fact that causative 'from'-PPs can undergo Locative Inversion. More specifically, skeletal configurations of the type: '*x comes from y*' can undergo Locative Inversion, giving out '*from y comes x*'. McClure (p.c.) correctly points out that examples (1–5) do not faithfully reflect the non-verbal configurations '*x is from y*' used in the previous chapters. The reason I had to resort to *come* in order to use LI as a diagnostic for predication is because copular examples, in general, seem to resist Locative Inversion. This is true not only for causative 'from'-PPs, but also for locative and more so for directional Ps: *?on the corner is a house*, **from Africa are the two zebras*. Notice also that although the copula resists LI, stative (analyzed on a par with the copula i.e., Hale&Keyser 1997) or locational verbs readily accept it, so the acceptability is systematically improved: *on the corner stands a house, in the box slept a cat*. Ultimately LI is valuable as a predication diagnostic, which nonetheless comes with a general restriction for copular examples.

The examples in (1–4) as well as those in (6c,d) all readily allow the 'from'-PP undergo Locative Inversion across all four languages:

(6) a. [$_{PP}$***apo*** mia plusia fantasia] erxonte megales idees. GREEK
'***from*** a rich imagination come great ideas.'

b. [$_{PP}$ ***from*** a rich imagination] come great ideas. ENGLISH

c. [$_{PP}$ ***van*** uitstel] komt afstel. DUTCH
'**from** postponement comes cancellation.'

d. [$_{PP}$ ***von*** nichts] kommt nichts. GERMAN
'**from** nothing comes nothing.'

That all these examples *can* undergo Locative Inversion suggests that these causative-PPs are predicative in nature; more specifically predicates of a small clause complement

(Hoekstra&Mulder 1990). The fact that LI is restricted to predicative small clauses only can be attested by the unacceptability incurred when fronting a PP that is not a predicative complement. Compare (7a) and (7b) and their unacceptable non-predicative counterparts in (7c) and (7d):

(7) a. ✓*From* debt comes distress.
[http://www.cyberprop.com/cyber1_06052010_8.shp]

b. ✓*From* incite comes insight.
[http://duckdown.blogspot.com/]

c. **with* a cane walked a man

d. **in* anger left the man

According to Hoekstra & Mulder's (1990) analysis of the syntax of Locative Inversion, the PP originates as the predicate of a small clause and then undergoes A-movement to SpecIP or to some other sentence-initial position. Although the concise landing site or derivation varies across the literature on LI, what is crucial is that this PP is a predicate:

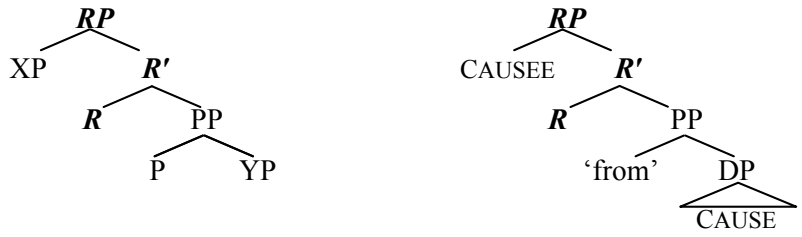
(8) $[_{IP}\ [_{PP}\ P\ DP\ ]_i\ [\ I\ [_{VP}\ V\ [_{SC}\ DP\ \ [_{PP}\ t_i\ ]]]]]$

If we accept that (8) is on the right track, it could be used as a platform for a predicational analysis of all causative 'from'-PPs, whose underlying structure was sketched only in broad strokes in (5′). Of course, the challenge for any predicational model now would ultimately be to accommodate all the observations in Table 6.1.

6.3 THE RECEPTOR OF PREDICATION (RP)

Having established that the examples in (1–4), similarly to the ones in (5), can undergo Locative Inversion and they are, thus, predicative in nature, let us now focus on the (micro)syntax of the configuration that relates the source-PP (more specifically its *cause* argument) with the theme (*causee*). The predicational small clause model proposed in den Dikken (2006) captures the syntactic and semantic relation between subject-predicate, mediated by a functional RELATOR head.

(9)



With the copula traditionally being treated as the mediator of predicational structures, we can interpret (9) as a predicational relation with the copula realizing the R head that connects the *cause* and the *caused event* constituents. For the purposes of this work, I will refer to both *cause* and *causee* as DPs, without suggesting that these are the only possible syntactic categories that can be found in causative constructions.

The RELATOR is an abstract head that mediates predicative relations. Depending on the structures it participates in, it can be occupied by the copula, prepositional elements, T, or any head that relates subject and predicate. Additionally, the R head is able to accommodate case particles which assign morphological case to the predicate. Such cases are discussed in É. Kiss (2002) for Hungarian, where the R head instantiates the dative case by lexicalizing R as *nek*: *Mari Jánost rámenős-nek tartja* ‘Mary considers John pushy’. Den Dikken (2006) parallels the distribution of the Hungarian dative marker to that of the English RELATORS lexicalized by *as*, *for*, and *of* (i.e., *I take him for/regard him as a fool, idiot of a doctor*).

In sum, the R head can be occupied by different functional elements. When spelled-out, it can be instantiated by the copula or other prepositional elements. When not overtly pronounced, it can be occupied by some functional head, like T, or be realized as morphological case. Specifying the nature and the restrictions of the underlying representation is essential in order to best accommodate the structures of (1–4) and account for the observations regarding the presence of particles and/or case alterations.

6.3.1 FIRST TRIAL: P_{OVERT}

Having established some necessary theoretical and empirical background in terms of the structure and the nature of causative constructions, I will tentatively adopt the predicative small clause analysis for all examples in (1–4) and based on the properties of a RELATOR small clause structure I will attempt to encapsulate the facts and restrictions as described in the previous sections and more specifically the distribution facts in (1).

Let's first turn to the P_{overt} versions of (1–4). Each one of them describes a relation between the *cause* XP (instantiated here as as a DP) and the *causee* YP. Acording to the predicative model adopted, the two constituents are generated in a small clause headed by a RELATOR, which will establish a syntactic and semantic connection. Importantly it will also be able to accommodate the predicate inversion facts.

(10) $[_{\mathbf{RP}}$ CAUSEE $[_{R'}$ **R** $[_{PP}$ **'from'** CAUSE]]] ⇨

$[\,[_{PP}$ **'from'** CAUSE$]_j$ $[_{TP}$ [$\mathbf{T^{EPP}}$] $[_{VP}$ V $[_{\mathbf{RP}}$ CAUSEE $[_{R'}$ **R** [t_j]]]]]]

For the P_{overt} cases the R head straightforwardly mediates a causal relation between DP_{CAUSEE} and DP_{CAUSE}, either being overtly realized as the copula—deriving the example set in (5)—or being null in the presence of external verbal material—instantiating the examples in (1–4).

The next step is to check whether licensing considerations are fulfilled in order for the derivation to converge. Both DP constituents are in need of checking their Case features against some Case checking head. In this case the Cause in the predicate can check its Case features against the P head, since P is an overt θ-role assigner. The Causee, however, is still not Case-licensed. This will have to be taken care of by a head external to RP. Since the small clause is selected by the aspectual verb *come* the DP_{CAUSEE} raises out of the Spec of the small clause to a structural subject position for EPP reasons as demonstrated in (11) below:

(11) … DP_{CAUSEE} [$_{V}$ COME [$_{SUB}$ ~~DP_{CAUSEE}~~ [$_{R'}$ **RELATOR**= Ø [$_{PP}$ *from* [DP_{CAUSE}]]]]]

The configuration in (11) encapsulates the predicational nature of the relation between *cause* and *causee*, while, at the same time, successfully licenses both nominal constituents. This, admittedly, does not come as a surprise, since it is commonplace for any predicational model to accommodate such structures. But if (11) looks unnecessarily complex, the prepositionless (1d)&(2–4) raise the ante of expectations for any predicational model which is expected not only accommodate P-less cases but also to correctly predict their behavior as summarized in Table 6.1.

6.3.2 SECOND TRIAL: P_{NULL}

6.3.2.1 THE INVISIBLE $P_{Ø}$ ATOM

The proposed structure in (9) readily accommodates the P_{overt} cases in (1–4), satisfying the licensing conditions. On the other hand, this is not the case for their P_{null} counterparts. So it is surprising that the P_{null} cases are not 'penalized' since the same licensing conditions do not obtain in the absence of an overt P.

Although a null P has been postulated for the prepositionless examples, this is not immediately evident. There is, however, suggestive evidence for the presence of a null P coming from restrictions on Locative Inversion. Showing that the examples in (1–5) undergo Locative Inversion was used as an argument in favor of the predicational nature of the relation between the two major constituents of these sentences, namely the *cause* and the *causee*. Nevertheless not all examples in (1) undergo Locative Inversion. More specifically, examples (1a–c) with a P_{overt} *can* be inverted, while the P_{null} counterpart in (1d) systematically resists Locative Inversion (cf. (12a&12b)):

(12) a. $[_{PP}$ ***apo*** mia plusia fantasia$]_i$ [T $[_{VP}$ ***ek***pigazun $[_{RP}$ megales idees [R t_i]]]]
from a_{ACC} $rich_{ACC}$ $imagination_{ACC}$ **out**spring $big_{PL/NOM}$ $ideas_{PL/NOM}$

b. * $[_{PP}$ ***Ø*** mias plusias fantasias$]_i$ [T $[_{VP}$ ***ek***pigazun $[_{RP}$ *megales idees* [R t_i]]]]
a_{GEN} $rich_{GEN}$ $imagination_{GEN}$ **out**spring $big_{PL/NOM}$ $ideas_{PL/NOM}$

The challenge in (12) is two-fold: to respect the conclusion drawn from the previous sections, namely that P establishes a causative relationship and to account for the ungrammaticality of (12b). Example (12a) converges with the PP on the left edge of the sentence being co-indexed with its trace t_i which, in turn, is licensed by the R head in the small clause. Since (12a&b) are minimally different, it suggests that this difference, namely the absence of an overt P, is most probably the locus of the ungrammaticality of (12b).

One possible scenario is the radical absence of prepositional structure. This effortlessly explains why (12b) is unacceptable: If Locative Inversion by definition involves fronting the locative argument over the subject, then in the absence of a PP, LI is simply not available any more. This scenario, however, is not able to encompass the grammatical (1d) as well as the $P_Ø$ counterparts of (2–4), which crucially involve unaccusative verbs, unable to take the *cause*-DP as a direct argument. Additionally, all these examples convey a causative interpretation which was attributed to the presence of a P head. Radical absence of the P head would have incurred not only grammatical but also semantic repercussions.

The other scenario involves a null P in (12b), which, by definition, would require formal licensing by a locally adjacent head. In line with the small clause analysis postulated in (9), this head would be the RELATOR head. Performing Locative Inversion of the null P, however, immediately forfeits this possibility, since R would not locally c-command the prepositional phrase any more. Note that c-commanding the trace of a fronted PP is not a sufficient condition

to license a null P head[82], thus, deriving the ungrammaticality in (12b). Since a null-P head in (12b) is in consonance with the proposal that P is responsible for establishing a causative relationship and, at the same time, its nullness helps us explain the ban on Locative Inversion, I will proceed to the analysis of particle verbs considering that there is a P_{null} in all prepositionless cases.

6.3.2.2 DISSECTING PARTICLE VERBS

With some indication for the presence of a null P head in place, we can now proceed to the analysis of prepositionless cases. One major consideration in these cases is licensing: the complement of the null P (the *cause*) cannot be Case licensed any more, unlike in (11). Additionally, since the other licensing path involves the unaccusative 'come', we are led to an impasse because it cannot case-license the *cause*-DP. So there remains no other proper licenser in the sentence to take care of that DP.

It is in these cases that the RELATOR head is called upon as a last resort mechanism in order to check Case features. In (13) below, the RELATOR head is the closest possible head that could check the Case features of the DP_{CAUSE}:

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[82] Unlike cases of "beheaded" PPs (see discussion in den Dikken 2006) that *can* undergo Locative Inversion without the P head being necessarily fronted as well:

(i) $[_{PP}\ t_P$ this issue$]_k$ has been paid little attention $to_i\ t_P$ in the literature.

Such examples are considered LI constructions with the exception that their P head is extracted from the PP before the inversion. What is crucially different between "beheaded" cases and (12b) is that the reversed PP in the former contains a trace of the moved P (t_P), while a P head in the latter would have be radically null ($P_Ø$). This minimal difference then accounts for the different judgments based on the fact that traces are subject to different licensing requirements compared to null-heads. If traces are processed via reconstruction, structural adjacency of the licenser and the trace is not required (and is not even possible if there is more than one trace). On the contrary, null heads must be locally bound by their proper licenser, a restriction that is not satisfied in (12b).

(13) DP_{CAUSEE} [$_{V}$ *come* [$_{Prt}$ *(Prt=*ek-/ont-/ent-/out*) [$_{RP}$ ~~DP_{CAUSEE}~~ [**R**=GEN/DAT/*aan*/*of* [$_{PP}$ P=**Ø** [DP_{CAUSE}]]]]]]

The different cases in Hungarian and English, which were presented above, indicate that the R head can be lexicalized by prepositional or morphological particles. In causative constructions of the type in (13) then, it is not surprising that the R head can overtly accommodate the functional prepositions *aan* in Dutch and *of* in English, as well as overt morphological case reflected in the *cause* in Greek and German. The prepositional nature of these Case markers endows the RELATOR with a Case feature and, in turn, enables it to check the Case features of the *cause* embedded in the complement PP.

What is important to note here is that while the particle may optionally emerge in P_{overt} cases, it is always *obligatorily* present in P_{null} cases across-the-board. I will argue that the necessity of a particle, when there is no overt preposition, is correlated to the activation of the R head, and subsequently to its ability to perform Case-licenser duties. The relevant theoretical precedent to this mechanism is found in Chomsky (2005, initially explored in 2001), who proposes that all operations are triggered by phase heads (PH), like C or v*. Only phase heads have the necessary features that mediate agreement and trigger raising. These features can be inherited by the head each PH selects i.e., from C to T or from v* to V. Feature Inheritance activates the selected head, which can then act as a "proxy" of its PH. So T has no Agree or Tense features in and of itself, but must inherit them from the local C phase head. In other words, T can trigger syntactic operations only after C has been merged. Once T inherits C's features, it can then enter into an Agree relation with a goal in its c-commanding domain in order to value the goal's uninterpreted features—either *in situ* under long-distance Agree or by attracting it to SpecT.

So in the same way T remains 'defective' unless selected by C, the R head remains inactive[83], in terms of checking Case or agreement unless strictly locally c-commanded by a head with such features. This head is the Particle which I base-generate in a head position immediately outside RP. From there the Particle will activate the R head as suggested to me by den Dikken. As a result, the R head can now enter into a Case/agreement relation with its complement. Thus, the P_{null} manages to get licensed via agreement with the activated R head. This scenario straightforwardly explains the obligatoriness of the particle for the prepositionless cases: Although the particle is incapable of licensing the null P, it is, nevertheless, able to select and activate the RELATOR, which can then participate in a Case/agreement structure with the null PP that contains the *cause* DP.

To recapitulate the analysis proposed for P null cases, let us examine the assumptions that the structure in (13) yields for each language: (i) For Greek and German, when the obligatorily present particle activates the R head, we expect morphological case to be overtly reflected on the nominal and adjectival elements of the *cause*. (ii) For Dutch and English, on the other hand, there is no overt case-marking available for the respective elements (i.e., 'a rich imagination'), so we would anticipate for case to be lexically instantiated. This is indeed the case since R ends up being spelled-out as a functional particle—*aan* and *of*. These general predictions follow directly from the underlying structure that was adopted in (9) and then adjusted in (13) to reflect the P null cases. Note that these predictions have now come full circle since they are readily borne out by the empirical observations as summarized in Table 6.1.

[83] How T can serve as a Relator is extensively discussed in den Dikken (2006).

6.4 WHAT WE SAW UNDER THE MICROSCOPE

The main focus in this section was the underlying syntax of causative 'from'-PPs in Greek, English, German and Dutch. Based on the facts that causative 'from'-PPs: (a) are licensed in copular sentences (both non-verbal configurations as well as non-causative verbal ones) and (b) undergo Locative Inversion, I have concluded that they have to be predicative in nature. Following den Dikken's (2006) predication model, I have represented the causative 'from' as the head of a prepositional small clause containing the *cause* and predicated of the subject-*causee*. This structure is not only able to accommodate the predicational relation between *causee* and *cause* and the Locative Inversion facts, but more importantly, to account for the licensing of P null cases. In these cases the Particle head was called upon as a last resort Case-checking mechanism to salvage the structure by activating the R head, which, in turn, licensed the null P head. In conclusion, the R head becomes activated *only* when the following two conditions apply: (i) the P head is null and there is no other proper licenser and (ii) the small clause RP is selected by a Particle head. Note that the latter is not a sufficient condition on its own to activate the RELATOR head, which may remain de-activated, hence accounting for the optionality of particle verbs in P_{overt} examples (cf. (1a–c&4)).

CHAPTER 7 CONCLUSIONS

7.1 OVERVIEW DISCUSSION

The main theme of this work is an investigation of the causative interpretation of the preposition 'from' in terms of its meaning, source, and syntax. Unlike most previous systematic studies on causation, I have chosen to focus on non-verbal or non-lexical verbal causative constructions. In the absence of lexical verbal layers, language seems to resort to certain mechanisms and atoms equally able to convey causation. The syntax and function of these atoms, in this case 'from', is ultimately responsible for the distinction between causative and non-causative interpretations as well as their cross-linguistic distribution. This thesis has two main theme questions:

(1) *How does natural language manage to convey causation in non-verbal configurations, which are traditionally considered to be the locus of causation?*

(2) *What is responsible for the causative* vs. *the spatial interpretations of 'from' in sentences like 'X is/comes from Y'?*

With these general questions in mind, various other syntactic and semantic problems were addressed in passing, which I will briefly discuss below:

The thesis starts with a historical flashback and cross-linguistic examples of the grammaticalization of *Source* as the preposition 'from'. It also explores how *Cause* is spatially conceptualized as *Source*. So an important link between Cause and Space is established. Taking these two findings together, we derive that Cause, just like Space, can also be inherently encoded in locative prepositions across many languages.

Empirical support for an explicit relation between prepositions and causation comes from the fact that in the absence of any lexical verbal projections, for example in '*x is from y*', natural language can still convey a causative meaning, thus answering question (1).

Chapter 2 presented the most important aspects of a seminal syntactic approach to lexical verbal causatives. The intent of this chapter was to give a snapshot of how verbal causation is broadly envisioned in syntax and where causative 'from'-PPs fit in this schema. Some initial theoretical concerns if we were to extend the 'from' analysis to lexical causatives would be to reconcile the two *Sources of Causation*, namely a *v* and a P. With both heads available in cases like *he wet his pants from fear*, we are led to believe that the two heads can be reconciled in one sentence under the right structural configuration. More specifically, the 'from'-PP is predicated of the entire *v*P acting as the Cause of the *v*P[84] *he wet his pants*, while the *v* introduces the Agent responsible for the causative event described by the VP *wet his pants* (see the structure in (3.45)). Note, however, that Agentivity is not always required. In examples like *he broke the vase from clumsiness*, *he* is not acting willfully (also noted in Schäfer 2007). At the same time, certain restrictions apply to the kind of Causes available. It was shown that 'from' cannot introduce Agents, thus, replacing *fear* with *the old lady*, immediately yields a degraded outcome (*??he wet his pants from the old lady*).

With question (2) in mind, chapter 2 set the stage for separating possible 'from' configurations and then ascertaining whether it is possible to categorize them according to their meaning. There the LCL (Law of Coordination of the Likes) was used as a first diagnostic to test which PPs were able to be coordinated and which not, thus pointing to their semantic proximity. Through the

[84] Thus showing that causative 'from'-PPs can also combine with accomplishments (example attributed to den Dikken).

judgments, it was confirmed that similarly interpreted PPs are available for coordination unlike PPs across semantic groups.

Finally a closer investigation of past analyses (Solstad 2007, Rákosi 2010, and Roy&Svenonius 2009) combined with the assumption that the copula in '*x if from y*' relates a subject with a predicate, led to the formulation of the proposal that causative 'from'-PPs introduce the *Cause* and are predicated of the *Causee*:

(3) **[CAUSEE [$_{PredP}$ [$_{PP}$ 'from' CAUSE]]]**

Chapter 3 provided an umbrella discussion on causation. One major concern was to establish a dependable diagnostic that would be inherent to causative constructions only. For this purpose, I tailored Levin's (2007) alternations to *make/be from* alternation extending them to *cause*: *the unemployments is from the crisis* ↔ *the crisis caused the unemployment*. These bilateral alternations served well in distinguishing causatives from non-causatives, but also in shedding light on marginal cases like unergatives or internal change of state verbs—both traditionally resisting external causes.

All examples tested confirmed that Causes are independent entities from Agents and that their difference is both semantic and syntactic. Causatively interpreted 'from'-PPs introduce inanimate causes, which are always generated lower in the structure (in the PP) than their agentive counterparts that are introduced by verbal heads.

Finding evidence for this structural distinction, and mostly for the low generation site of Causes introduced by 'from', fed most of the discussion in this chapter. I resorted to Connectivity Effects to show that their generation site is indeed a much lower one than that of Agents. The relevant examples included reciprocals whose antecedent was found inside the 'from'-PP. Given

that these reciprocals have to be bound by their antecedents, it was argued that they had to be generated low and later moved up. This scenario conformed well with all causative examples used.

Finally, chapter 3 was wrapped up by a reference to a theoretical consideration regarding both the generation site as well as the nature of Causes *vs*. Agents. The point of this discussion was to: (i) draw a line between the two thematic roles and (ii) to offer theoretical support to the low generation account for Causes. If there is a derivational relationship between *make/be from* alternations—which would also be desirable from a UTAH point of view—then the underlying structure would have to be the 'from'-counterpart; otherwise its derivation would require downward movement to the complement of a P head, raising crucial theoretical concerns.

Having identified the semantic variations of 'from' and proposed a predicative analysis, **Chapter 4** explored formal syntactic devices that could pinpoint the syntactic difference between *causative vs*. *spatial* uses—which are nonetheless identical on the surface. For example: *the headache was from the wine* vs. *the wine was from Chile*.

Two tests, *wh*-word extraction and *th*-word compatibility, drew attention to the complement of 'from'. It was shown that causative *vs*. spatial complements consistently covary with 'that' *vs.* 'there' (initially discussed in ch.2) and are extracted with 'what' *vs*. 'where'. The next step was to analyze the syntactic identity of 'that/what' *vs*. 'there/where'. This led to a fine-grained analysis of the nature of *r*-words, where it was shown that 'there/where' are underlying prepositional, but 'that/what' are nominal. This distinction indicated a crucial difference in the internal structure of 'from'-PPs, namely the head of causatively interpreted PPs selects a nominal

argument, while spatially interpreted PPs have a prepositional argument (the answer to question (2)):

(4) SPATIAL SOURCE: [$_{PP_{SOURCE}}$ 'FROM' [$_{PP}$ LOC [DP]]]
CAUSATIVE SOURCE: [$_{PP_{SOURCE}}$ 'FROM' [DP]]

Chapter 5 was built on the proposal distilled from chapter 4, that the distinction between 'from'-PPs is syntactic in nature and contingent on the complement of the P-head. The purpose of this chapter was to reinforce this position with logical arguments and pre-empt other possible explanations.

The first alternative that needed to be vetted was the possibility of the object DP itself to be responsible for the locative interpretation of the 'from'-PP. If DPs can convey *space*, then there would be no need for an additional P head in the spatial source. This would be possible under either of these two conditions: (a) DPs that convey *space* and DPs that convey *cause* should be in complementary distribution in order to ensure the necessary semantic distinction of 'from' and (b) DP objects should be able to autonomously convey *location* for the spatial 'from'-PPs. Condition (a) was proven to be false given that there are ambiguous cases of 'form'-PPs that may carry either interpretation, for example *the internet* can be the argument of either a causative or a spatial PP. This shows that DPs are not 'marked' in any way to denote either *space* or *cause*. Condition (b) is also proven false based on evidence from cross-linguistic morphology i.e., cases of location-denoting nominals carry overt locative morphemes; and distributional patterns i.e., location denoting DPs still require the use of a P after stative verbs. So this alternative was abandoned. These observations gave useful insights on the status of "locational adverbs" in English like *left* or *north* indicating that they should also be prepositional in nature.

The second issue that had to be addressed was the necessary presence and nature of an unpronounced locative layer postulated for the spatial 'from'. Its absence would render the proposed spatial structure equivalent to the causative one, hence the syntactic distinction would fail. Two arguments were mostly stressed in support of the presence of a P_{LOC} even if unpronounced:

(a) Overt morphological evidence for lexicalization of a locative P layer in the complement of directional Ps in Scandinavian and Pama–Nyungan languages.

(b) The P_{LOC} head was shown to be semantically active in Source readings. Namely it values the scale of the directional head that selects it either as 'absolute' or 'relative'. In other words, 'from' requires the presence of a P_{LOC} not only for syntactic reasons, but also for semantic ones. The P_{LOC} is responsible for conveying an absolute and distinct position of the Figure with regard to the Ground/Source.

With the locative layer securely in place in the complement of P_{PATH}, the burden of the causative interpretation falls entirely on the internal composition of an underspecified 'from'-PP whose complement is nominal.

Chapter 6 provided an even more microscopic analysis of the internal structure of causative PPs. I showed that causative 'from'-PPs in non-lexical verbal configurations undergo Locative Inversion. This puts them squarely in the category of predicates—remember that this proposal was initially based on the fact that in *the fever is from the flu* the 'from'-PP has to be the predicate. Another required errand was to discuss whether radical absence of PP structure or null-headed PP should be assumed for the P-less examples with particle verbs. Preliminary

syntactic and semantic considerations pointed towards the presence of a null P for all the examples discussed.

The ultimate challenge then was to find such a type of predication model able to accommodate all phenomena and their language-specific irregularities, namely: simple *vs*. particle verb configurations; their ability to appear with or without an overt 'from'; morphological case change effects on the cause argument in the absence of P; and the emergence of functional elements. The model followed was den Dikken's (2006), which was able to accommodate Causee and Cause in a predicational relation, with the latter being necessarily introduced as the complement of a small clause prepositional phrase headed by 'from':

(5) $\begin{matrix} \text{....} \\ \text{..PRT} \end{matrix}$ $\begin{matrix} [_{RP}\ [\ \text{RELATOR}\ [\ P_{FROM}\ \textit{CAUSE}\ ]]] \\ [_{RP}\ [\ \text{RELATOR}\ [\ P_{Ø}\ \textit{CAUSE}\ ]]] \end{matrix}$ *OR*

The structure on (5) was able to accommodate not only the overt P cases, but more importantly their null P counterparts as well. For these latter cases, Chomsky's (2005) activation mechanism of functional heads by their respective phase head via inheritance of Agree features was recruited. This accounted for the necessity of the particle in the absence of a preposition (or some other proper licenser) as well as for the existence and function of an abstract mediating head, the RELATOR. The line of argumentation was that just as C can activate T, so can the Prt activate the R head, but only as a last resort in the absence of P. With the particle being the activator in P_{null} cases, the R head gets activated and consequently able to license the P_{null}, thus yielding a grammatical outcome.

7.2 GENERAL CONTRIBUTIONS

In a verbo-centric theory of causation, the proposal that CAUSE can be attributed to more than one grammatical sources poses theoretical and empirical puzzles. Examining non-verbal causative sentences like *my headache is from the wine*, it was shown how natural language uses prepositions, more specifically 'from', to independently convey CAUSE. In such sentences, the preposition 'from' can autonomously convey causation, in the same way the *v* of *break* is responsible for the causative meaning of *John broke the vase*. This makes important assumptions about how natural language grammaticalizes causation, something traditionally considered a verbal prerogative.

Importantly the causative interpretation was attributed to 'from' when it enters a configuration. The semantic interpretation of 'from' is contingent on directly selecting for a nominal phrase, while the spatial interpretation requires selection of a prepositional layer. Ultimately, the causative *vs*. spatial demarcation between *my headache was from the wine* vs. *the wine was from Chile* can be attributed to the internal syntax of their 'from'-PPs. This provides a straightforward connection between semantic interpretation and syntactic structures.

This close semantico-syntantic relation has further bearings on the lexical nature of the category P itself. I am not making the claim that all prepositions are lexical, for example, we saw the use of "up, down, out" as directional particles projected by Path Ps or the use of "of" lexicalizing the R head (a finctional head) in examples like *great ideas came out of a rich imagination*. The preposition 'from' in the causative cases, however, shares many important properties with lexical heads, namely: (i) it has semantic content related to Source (ii) it can license empty heads, a P_{LOC} for the spatial cases (iii) it has aspectual layers that can host modifiers like and (iv) it assigns thematic roles, *Cause* in this case, to its argument. The relation with the *Causee* argument,

however, is established syntactically via a predication relation and not thematically by the P head. These constitute solid arguments for arguing for the lexical nature of Ps, more specifically for 'from' in causative contexts.

Examining the distinction between spatial and causative interpretations brought to light another important conclusion about the nature of nominals. In semantic literature, we find analyses that treat adverbs like "north, left, right" or nominals like "Beijing, bank, school" as *locational* in the sense that they denote location/space inherently. This, however, was challenged by looking more closely into the morphology of Pama–Nyungan languages which were claimed to have *locational nominals*. It turned out that the spatial semantics was closely related to the presence of case morphemes, which along with prepositions, are responsible for spatial denotations. For languages like English, on the other hand, where morphological transparency is not available, we had to rely on distributional and syntactic grounds. It was shown that what are considered to be locational adverbs ('left, right'), are in fact prepositional in their syntactic configuration because they exhibit a syntactic behavior idiosyncratic to PPs only. For example, they are able to undergo Locative Inversion, a syntactic mechanism available only to predicates of prepositional small clauses. Thus these so-called locational adverbs are in fact PP predicates. The upshot of this investigation was to show that nominals are restricted to *objects* or *individuals* and not locations, which always require the presence of some prepositional structure, even when not phonetically realized.

7.3 FUTURE RESEARCH

One of the main diagnostics in this thesis for ascertaining whether a 'from'-PP is causative was based on Levin's (2007) alternations with the inherently causative verb "make" (or "cause", which seems more prevalent among the non-verbal examples). This turned out to be an excellent

diagnostic as it separates the wheat from the chaff, so to speak, by showing that *only* causative uses of 'from' can participate in these alternations:

(6) *The unemployment is from the crisis* ⇔ *The crisis caused the unemployment*

but never spatial ones:

(7) *Elizabeth is from London* ⟸⇏ ***London caused Elizabeth***.

To enhance its validity, I showed that such alternations are in fact syntactic in nature by appealing to connectivity effects showing that the Cause can bind a reciprocal in the theme position. In other words causatively 'from'-PPs are derivationally related to their *make/cause* alternants.

The derivational relation also finds theoretical support in the UTAH. On the assumption that *the crisis* in each alternant in (6) has the same thematic role, namely Cause, then according to the UTAH, it should originate in the same underlying position. This position then was proven to be in the complement of the P ('from x') and not the external argument position of the verb ('x causes'), since the latter would require downward movement in the argument of 'from' which is blocked. If this analysis is on the right track, as syntactic and theoretical argumentation has indicated up to now, it opens up a wide avenue of research on whether there are indeed two different sources of causation or not.

If we accept that there is a unified source of cause, then we could envision an analysis for Agents and Causers along the lines of Causes, namely that they start low and move higher in the structure to derive the alternant. This is not impossible for Agents as they can also appear low in prepositional phrases (*by*-PPs). Parallel to the causative *'x is from y'* that derives *'y causes x'*, we

find the well-know derivational relation between passive and active voice. So if we assume that the source of causation is always in a low prepositional position and that Agents follow the 'course' of Causes, then the direction of the active–passive derivation would have to be from passive to active in the same way V_{CAUS} was derived from "be from".

The discussion in this thesis leads me to believe that a prepositional approach to causation is attractive because it can offer an underlyingly uniform syntax for causative constructions, while at the same time it can accommodate connectivity effects (discussed in 3.2.4) and abides by the UTAH (see 3.4). Based on the fact that *be from* alternates and is syntactically related to *make/cause* (which are verbal elements) we can assume that prepositional causatives could derive verbal causatives, but importantly not the other way round. This is an important observation of an explicit link between non-verbal and verbal configurations.

A similar derivational proposal is also found in the literature, where according to Benveniste (1966), Freeze (1992) and Kayne (1993), verbs like *be* and *have* are also derivationally related. Freeze (1992) argues that possessive and existential *have* is syntactically derived by the incorporation of *BE*+P. The structure for each type of *have* is abstractly rendered in Bhatt (1998) as follows:

(6) a. John has a book.
b. $BE_{possessive}$ [(book) (to John)]
c. There is a book on the table.
d. $BE_{existential}$ [(book) (on the table)]

Kayne (1993) extends this analysis to the auxiliary *have*, which he derives by incorporating the P, sitting in a small clause in the complement of BE, into the BE head. The complex head is then pronounced as *have*. Although I will not go into the details of this proposal, what is valuable to

point out is that Kayne (1993) suggests that the incorporated P into BE is not thematically related to the possessor in subject position. Parallel to this proposal, we notice that the copula in the causative constructions '*x is from y*' also selects a small clause PP, while the relation of the subject Causee and P is not thematic ('from' does not assign a *Causee* role). Ultimately we could envision a BE+'from' incorporation scenario in causative constructions which is then spelled out as *cause*:

(7) a. The wine caused the headache.

b. BE_{CAUS} [(the headache) (from the wine)][85]

[85] The subscripts on BE do not suggest of course that there are different types of copulas or that there is a causative BE. In (6&7) subscripts are conventional.

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