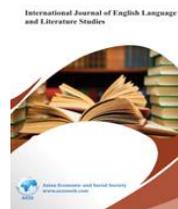




## International Journal of English Language and Literature Studies

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### COGNITIVE ANALYSIS OF EXOCENTRIC VERB-NOUN COMPOUNDS IN ENGLISH

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#### ABSTRACT

*Verb-Noun compounds in English can be classified into endocentric compounds and exocentric ones. Among exocentric Verb-Noun compounds, two types of constructions are very common: 'Verb + Object = Agent' construction and 'Verb + Object = Instrument' construction. Based on the cognitive analysis of endocentric V+N compounds, this paper argues that exocentric V+N compounds can be analyzed in the same way as endocentric V+N compounds in terms of cognitive concepts such as composite structure, component stem, trajector, landmark, etc. In order to derive the correct semantic denotation of exocentric V+N compounds, one more cognitive mechanism called metonymy is needed. This paper also argues that one way to distinguish endocentric V+N compounds and exocentric V+N compounds is whether the trajectors of the relationship denoted by the verbs in these compounds are overt or covert. And one slight difference between 'Verb + Object = Agent' construction and 'Verb + Object = Instrument' construction is that the former has an animate trajector while the latter has an inanimate trajector.*

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**Keywords:** Endocentric, Exocentric, Verb-Noun compounds, Composite structure, Component stem, Trajector, Landmark, Metonymy.

Received: 9 April 2014 / Revised: 9 July 2014 / Accepted: 14 July 2014 / Published: 18 July 2014

#### Contribution/ Originality

The paper's primary contribution is finding that both endocentric and exocentric Verb-Noun compounds can be analysed in a similar fashion from the perspective of cognitive grammar. The unified account of V+O=A and V+O=I constructions proposed in this paper is suitable and economical for the analysis of compounds.

## 1. INTRODUCTION

In English, there is a class of compounds in which a transitive verb combines with a noun. The verb describes an action, and the noun is generally the direct object of the verb or recipient of the action. However, the combination of the verb and the noun does not designate either the verb or the object. Rather it designates an agent who does the action to the object or an instrument that an agent uses to do the action to the object. Examples include *scarecrow*, *passport*, *pickpocket*, *spoilsport*, *killjoy*, *cutthroat*, etc.

These compounds are exocentric structures according to the most prominent criteria for the classification of endocentric/exocentric compounds: Endocentric compounds are those compounds that denote a special case of their right-hand member (their head) whereas exocentric compounds do not fulfill that condition, i.e. they do not have a head (Plag, 2003; Booij, 2007). For instance, a *doorknob* is a kind of knob and *knob* is the head of *doorknob*. So *doorknob* is an endocentric compound. In the case of *turnkey*, Beauer (2008) claims that the head element is the verb *turn*, but *turnkey* is a noun, and thus cannot be a hyponym of the head of the compound. Similarly, *pickpocket* is exocentric because it denotes neither a special type of pocket, nor a special way of picking something: this compound is a noun and refers to an agent who picks (that is, steals) things or money from others' pockets.

Because of the exocentricity of V+ O=A/I constructions, the analyses of these constructions are much ignored by linguists who view exocentric compounds as semantically non-transparent (Selkirk, 1982; Spencer, 1991; Dirven and Verspoor, 1998). This paper will take a closer look at exocentric V+ O=A/I compounds and tentatively set up a framework for the analysis of this kind of compounds with the help of cognitive grammar.

## 2. A COGNITIVE ANALYSIS OF ENDOCENTRIC V+N COMPOUNDS— *TOWTRUCK*

Before we come to the cognitive analysis of exocentric V+N Compounds, we first do the analysis of endocentric V+N compounds so that we can set a solid foundation for the former analysis.

In the compound *towtruck*, *truck* is not the direct object of the verb *tow*; rather, it is a hyponym of the whole compound. So in this way, the compound *towtruck* is endocentric and is headed by the noun *truck*. Next we will take *towtruck* as an example to analyze this kind of endocentric V+N compounds in cognitive frame.

Canonically, a minimal construction (representing a single level of organization) consists of two component structures which are integrated to form a composite structure (Langacker, 2003). According to this concept, a compound is a composite structure which consists of two component stems or words. Therefore the compound *towtruck* is a composite structure which is made up of two component stems, *tow* and *truck*. The two component stems are integrated into a condensed composite structure which otherwise can be expressed as a verbal clause: A truck that pulls other

vehicles with a rope or a chain or an iron bar. From this verbal clause, we can easily find that the noun *truck* in *towtruck* is the agent of the verb *tow*.

According to Langacker (2003), the notions of profiling and trajector/landmark alignment are important to conferred prominence on various elements in CG. An expression's profile is the entity which designates the conceptual referent of the expression and is regarded as a focus of attention (Langacker, 2003). And in CG verbs reflect our structuring of the world as we experience it into relations (Radden and Dirven, 2003).

When a relationship is profiled, its participants are made prominent to varying degrees. The most prominent participant, called the trajector (*tr*), is construed as the entity being located, evaluated, or described. It is the primary focus ('figure') within the profiled relationship. Often another participant is made prominent as a secondary focus. This is called a landmark (*lm*) (Langacker, 2003). Take the verb *tow* in the compound *towtruck* as an example. *Tow* expresses a pulling relationship between two prominent participants, something that causes motion by pulling with a rope or chain and something else that is attached to the rope or chain and is caused to move (Tuggy, 2003). In this relationship, the thing which pulls the other thing is the trajector (that is, *truck* is expressed as the trajector) and the thing which is being pulled is the landmark (in the case of *towtruck*, the landmark is not expressed overtly. But according to our world knowledge, we know the landmark here refers to the vehicles, especially vehicles that are destroyed in traffic accidents). So the relationship of *tow* can be shown in the following way: *tr* PULL *lm* with a rope or a chain.

In terms of composite structure, component stems, trajector and landmark, the endocentric compound *towtruck* can be analyzed in the following way:

*Towtruck* is a composite structure that consists of two component stems or words: *tow* and *truck*. This composite structure is a noun which is transferred from a verbal clause: A truck that pulls other vehicles with a rope or a chain. In this composite structure, one of its component stems is a verb (*tow*) and another stem is a noun which functions as an agent of the verb (*truck*). What's more, the noun *truck* is the head of the composite structure and this makes the compound an endocentric one.

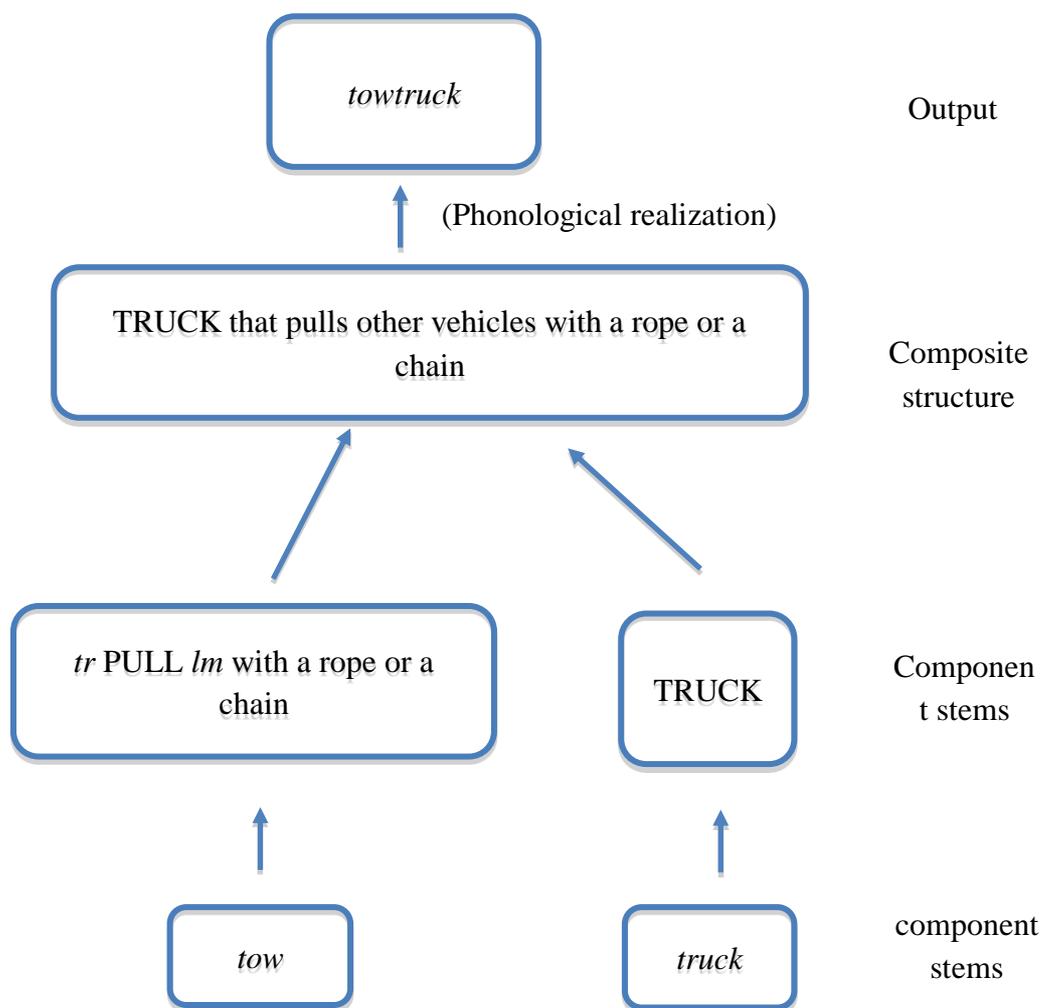
In a construction, it is usual for one component structure to contain a schematic structure corresponding to the profile of the other component structure (Langacker, 2008). In the compound *towtruck*, one of the components (*truck* in this case) is schematic for the composite semantic structure and this component *truck* is profiled.

The notion of *tow*(ing) carries within it the notion of two prominent participants: something that causes motion by pulling with a rope or chain and something else that is attached to the rope or chain and is caused to move. Just as what we have mentioned, the former, more prominent participant is called trajector and the later, secondarily prominent participant is called the landmark. In the compound *towtruck*, the second component (*truck*) is construed as identical with the trajector. Such identification of a nominal entity (one designating a thing) with the trajector of a verbal entity (one designating a process) amounts to agent status for the nominal entity.

The two component stems (*truck* which is construed as the trajector of a verb *tow* and the verb *tow* which denotes a process) are integrated into a condensed composite structure *towtruck* which means a truck that pulls other vehicles with a rope or a chain.

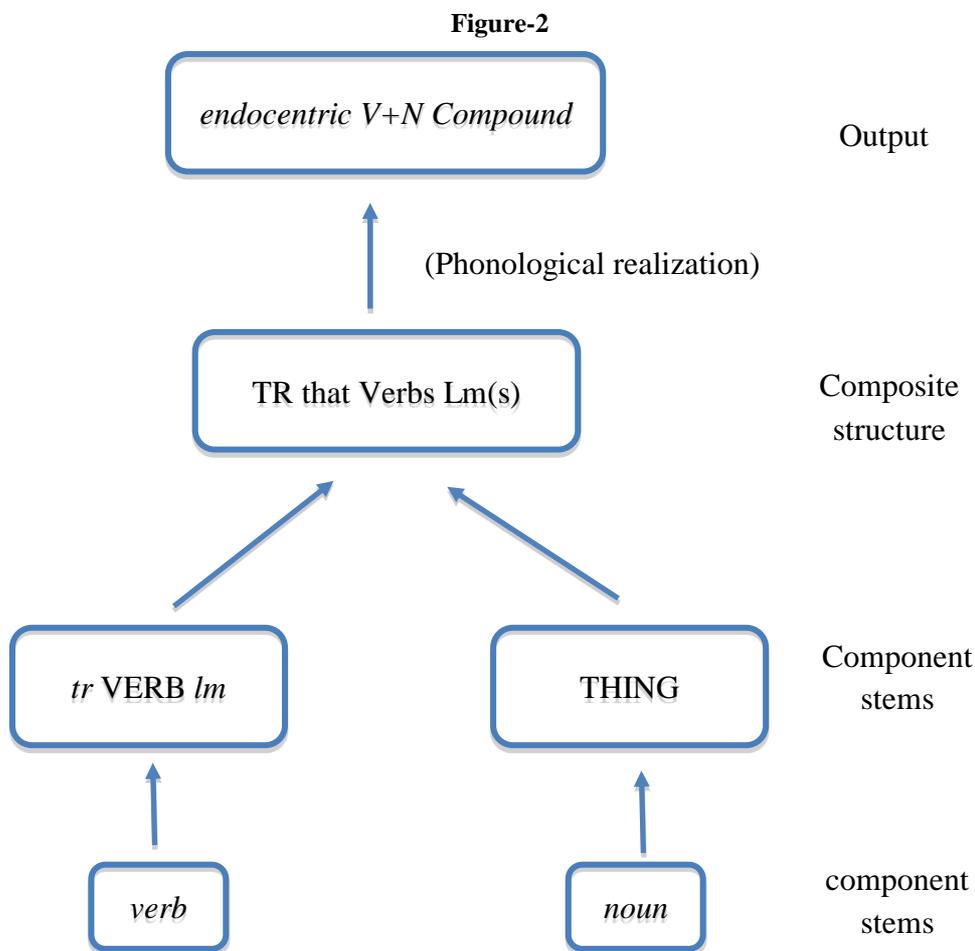
Figure 1 shows the analysis of *towtruck* where the component stems *tow* and *truck* are integrated to form the composite structure *towtruck*. It is usual for the composite structure to inherit its profile from one of the components, which is thus called the profile determinant (Langacker, 2003). In *towtruck*, *tow* profiles a relationship of pulling between two things and *truck* profiles a thing. Finally the compound *towtruck* inherits its profile from one of its component *truck* and profiles a thing that is a specific type of a truck. Solid arrows are used to represent the derivation process of the composite structure in Figure 1 and the following figures which are based on the framework of Tuggy (2003) and Langacker (2003).

Figure-1



We can find some other similar examples of endocentric V+N compounds. One feature that we should consider is that the noun component in this kind of compound is the agent of the verb and

the head of the compound. Hence we can use a schema to generalize the structure of *towtruck* and structures of similar compounds such as *dumptruck* (a truck with a large open container at the back that can move up to pour sand, soil etc. onto the ground), *scrubwoman* (a woman who scrubs or cleans things), *grindstone*(a round sharpening stone that is used for grinding or sharpening ferrous tools) and so on. The schema of structures of endocentric V+N compounds is shown I figure 2.



In a word, a compound is a composite structure which consists of two component stems. In endocentric V+N compounds, one component is the noun which is the agent of the verb and functions as the head and the schematic component of the whole compound. In the cognitive frame, the noun is the trajector of the relationship denoted by the verb and the landmark is covert and we have to understand the landmark according to our world knowledge. The composite structure inherits the profile of the profile determinant that is the noun in the case of the endocentric V+N compound and profiles a specific type of things denoted by the noun.

### 3. A COGNITIVE ANALYSIS OF EXOCENTRIC V+N COMPOUNDS

In section 2, we argue that an endocentric V + N compound inherits the profile of its profile determinant. While a composite structure may lose its connection to its components and only

sporadically the connection between the composite structure and its component stem is considered (Tuggy, 2003). In this kind of composite structures, no component-stem profile corresponds to the composite-structure profile. This is the reason why these kinds of compounds are regarded as exocentric rather than endocentric compounds. We can find many exocentric V+N compounds such as *pickpocket*, *scarecrow* in English. The compound *pickpocket* encompasses the meaning of an agent that performs an action and *Scarecrow* denotes the meaning of an instrument that is used to perform an action. Contrary to opinions held by many scholars who believe in the non-analyticity of exocentric V + N compounds, we argue that the semantic denotation of such compounds can be analyzed in a similar way with endocentric compounds in the cognitive frame, but in the last stage of analysis we need to supply the mechanism of metonymy to derive the denotations from the component stems of such exocentric compounds. Among V + N compounds, ‘Verb + Object = Agent’ construction and ‘Verb + Object =Instrument’ construction are the most common types in English. Next we will analyze these two types of exocentric V + N compounds based on the analysis we developed in section 2.

### 3.1. A Cognitive Analysis of ‘V+O=A’ Construction—*Pickpocket*

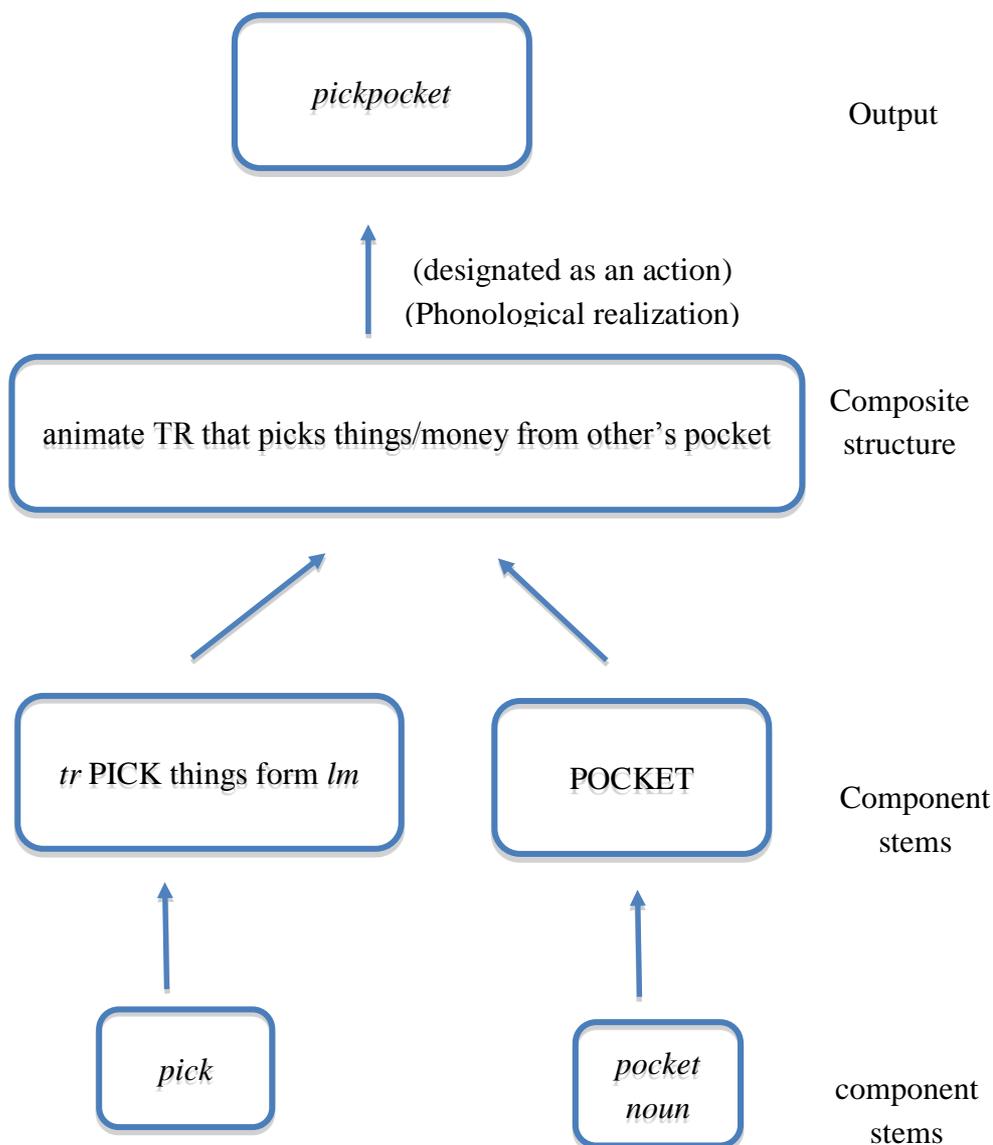
The compound *pickpocket* is one example of a compounding pattern in which the two components comprise a verb and a noun; the latter functions as the object of the verb. Different from *towtruck*, neither of the two component stems functions as the head of the composite structure *pickpocket* and this makes *pickpocket* an exocentric compound. While similar to *towtruck*, one of the components (*pick* in *pickpocket*) is schematic for the composite semantic structure and this component *pick* is profiled.

*Pick* has various meanings, but in this compound it profiles an action of removing something from a location, that is other’s pockets (Langacker, 2008). According to our world knowledge, we need an entity to exert force to induce this motion of picking. This entity is covert, which means that it is not explicitly showed in the component. And this entity is the trajector of the action denoted by the verb *pick*. Relevant here is a more specific sense, in which the original location is focused as the landmark. A pocket is a kind of a location. Correspondences identify the pocket with the landmark of *pick*, and its contents with the object removed.

The semantic meaning of the composite structure *pickpocket* does not mean a specific kind of pockets which are denoted by the noun component *pocket*. Nor does *pickpocket* designate a process of picking which is profiled by the verb component *pick*. Thus neither of its components imposes its profile at the composite-structure level. Instead, the composite structure designates an agent: a *pickpocket* is a person who picks pocket, to be specifically, a *pickpocket* denotes a person who steals from other people’s pockets, purses, etc., esp. in a crowded public place. However, even though the composite-structure profile of *pickpocket* is not inherited from its component elements, the choice of this profile which consistently corresponds to the verb’s trajector follows a regular pattern. The correspondence between the profile and the trajectory is specified in the constructional schema for V+N compounds. This is not to say that these exocentric expressions are fully

compositional since these composite forms derive their specific import from cognitive domains (e.g. the practice of picking pockets) are not evoked by either component structures individually.

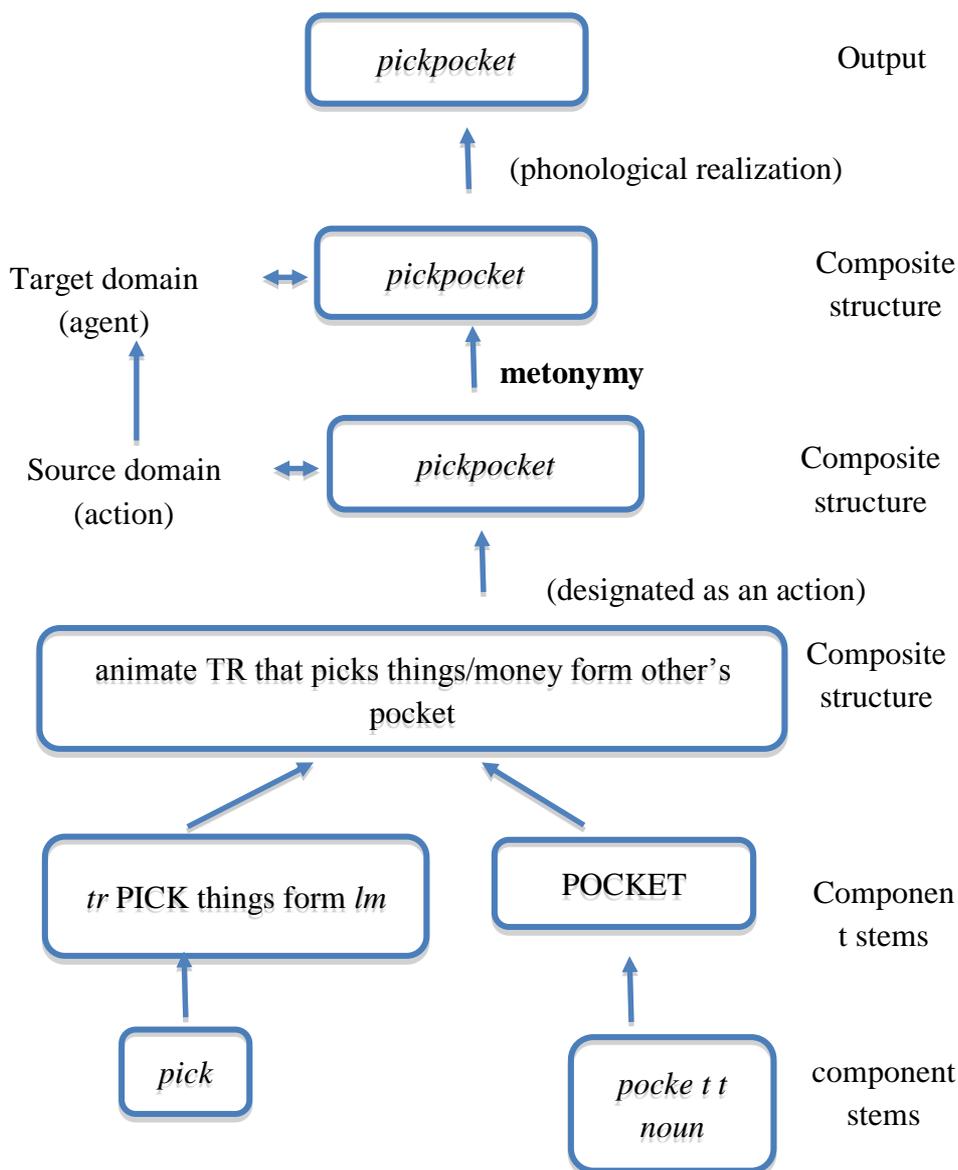
Figure-3



In Figure 3, we get the composite structure *pickpocket* as an action denoted by the verb *pick* and performed by a covert animate entity. Actually *pickpocket* can be associated with the meaning of an agent instead of an action. Here, the original meaning of the predication is almost intact, as in 'X picks things from other's pocket' (X stands for the covert agent who performs the action of picking). In this sense, I argue that this compound type is metonymy-based, as the mapping of the source domain (e.g., an action of picking pockets) onto the target domain (e.g., an agent who picks pockets) is internal to one domain. Metonymy is a cognitive operation in which a mapping of the source onto the target is internal to one domain (Barcelona, 2000). In other words, in compounds

such as *pickpocket* the agentive sense of picking pockets is metonymically accessed from ACTION, in the same way as an action which is denoted by the predication. It is the ACTION FOR AGENT metonymy. Such metonymy-based compounds are semantically less complex and require less processing time (Libben *et al.*, 2003), as both parts of the compound and the semantic relation between them are easily ‘analyzable and hence immediately transparent’ (Dirven and Verspoor, 1998). So from Figure 3, we need one more stage of derivation: a metonymical process that can

Figure-4



derive the AGENT interpretation from the Action reading. After adding the metonymical process, we can get the correct semantic denotation of *pickpocket*: a person who picks things/money from other's pocket. The whole process of getting the semantic denotation of *pickpocket* is shown in figure 4.

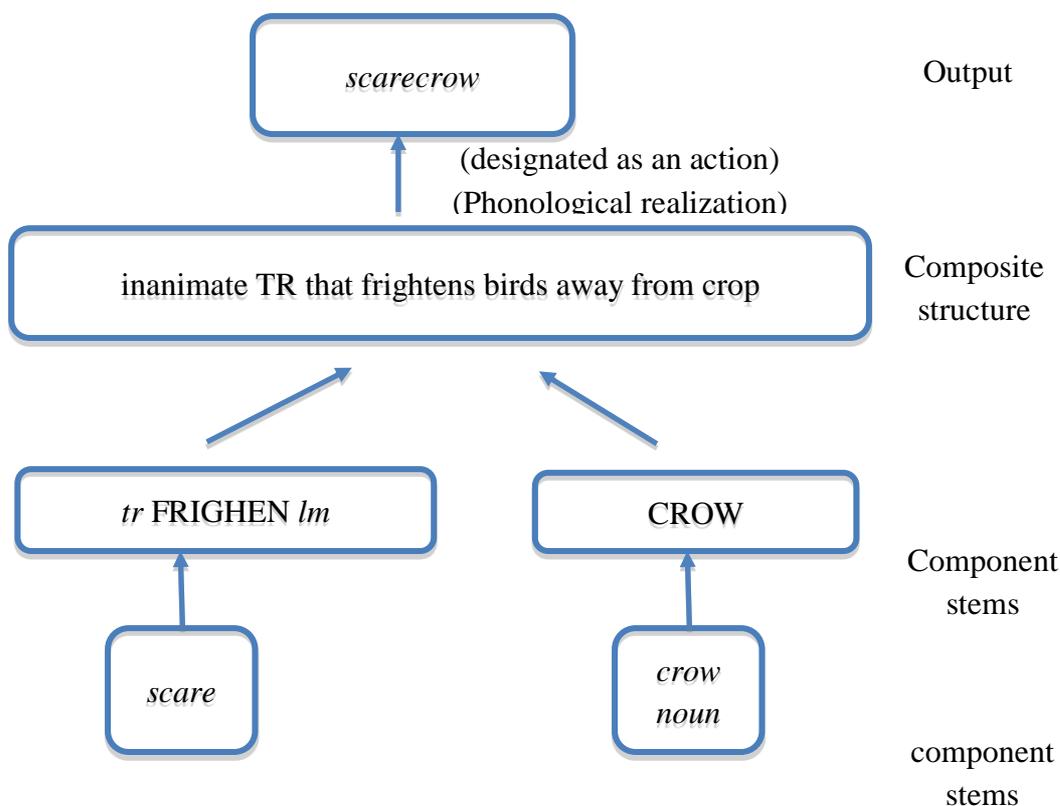
### 3.2. A Cognitive Analysis of ‘V+O=I’ Construction--*Scarecrow*

The compound *scarecrow* is another type of V+N compounds which designates an instrument with which the action denoted by the verb is done.

Similar to compound *towtruck* and *pickpocket*, *scarecrow* is a composite structure that consists of two component stems or words, *scare* and *crow*. One component is a verb and the other one is a noun, which functions as the object of the verb. However, the composite structure made up of the component stems designates an instrument. Neither component stem is the head or schematic for the composite structure. This is why the compound *scarecrow* is exocentric.

In *scarecrow*, the concept of frightening denoted by the verb *scare* implies a trajector--something that causes fright, and a landmark--an animate thing that experiences the fright. In the case of *scarecrow*, it is the *crows* that experience the fright. The profile of the second stem (the thing designated by *crow*) is identified with the landmark rather than the trajector of the verbs. This means the direct object status for *crow* in *scarecrow*.

Figure-5



However, the whole structure of *scarecrow* designates the trajector of it--the thing that does the frightening. This trajector happens to be an inanimate thing which is covertly expressed. One more thing we should focus on is the semantic denotation of *crow*, designating a particular kind of black birds, which corresponds to the more generalized concept of a bird in *scarecrow* Tuggy (2003). The deriving process of *scarecrow* is shown in the uper figure:

In Figure 5, we get the composite structure *scarecrow* as an action which is denoted by the verb *scare* and performed by a covert inanimate entity. But *scarecrow* should be associated with the meaning of an instrument instead of an action. Here, the original meaning of the predication is almost intact, as in ‘X scares birds from crop’ (X stands for the covert agent who performs the action of scaring). This is the same as the analysis of *pickpocket*. The only difference between *pickpocket* and *scarecrow* is that the former has an animate agent whereas the latter has an inanimate agent. To get the proper semantics of *scarecrow*, we still need the mechanism of metonymy, which transfers an action into an instrument. The mapping of the source domain (e.g., an action of scaring birds) onto the target domain (e.g., an instrument to scare birds) is internal to one domain. In other words, in compounds such as *scarecrow* the instrumental sense of scaring birds is metonymically accessed from ACTION, as denoted by the predication. It is the ACTION FOR INSTRUMENT metonymy.

Similarly we add a metonymical process to derive the instrumental meaning of *scarecrow*: an instrument which is used to scare birds from crop. The derivation process of *scarecrow* is reflected in figure 6.

### 3.3. A Schema for ‘V+O=A/I’ Constructions

From the analysis in 3.1 and 3.2, we discover that ‘V+O=A’ construction and ‘V+O=I’ construction have some similarities: firstly, both composite structures are composed of a verbal component and a nominal component. Secondly, the nominal components function as the object of the verb in both composite structures. Thirdly, the verbs in both compounds profile a relationship between two participants whereby one participant is the trajector of the verb and the other is the landmark of the verb. Fourthly, in both compounds the nominal components correspond to the landmarks and covert agents correspond to the trajectors of the relationship denoted by the verb. A slight difference about the trajectors is that the ‘V+O=A’ construction has an animate trajector whereas the ‘V+O=I’ construction has an inanimate trajector. The last similarity is that both compounds have to be transferred from an action dictated by the verb to an agent or an instrument related to the action by using the mechanism of metonymy.

In English, we can find more examples falling into these two kinds of V+N compounds:

‘V+O=A’ Constructions: *cutthroat*, *cutpurse*, *daredevil*, *eat-bee*, *killjoy*, *makeweight*, *pick-cheese*, *shearwater*, *spendthrift*, *spitfire*, *spoilsport*, *suck-egg*, *turnkey*, *wagtail*, ...

‘V+O=I’ Constructions: *break-water*, *catchfly*, *cureall*, *dreadnought*, *passport*, *shakeweight*, ...

Since we find many examples and many similarities of ‘V+O=A’ construction and ‘V+O=I’ construction, we may use one schema to generalize these structures. The schema is illustrated in Figure 7:

Figure-6

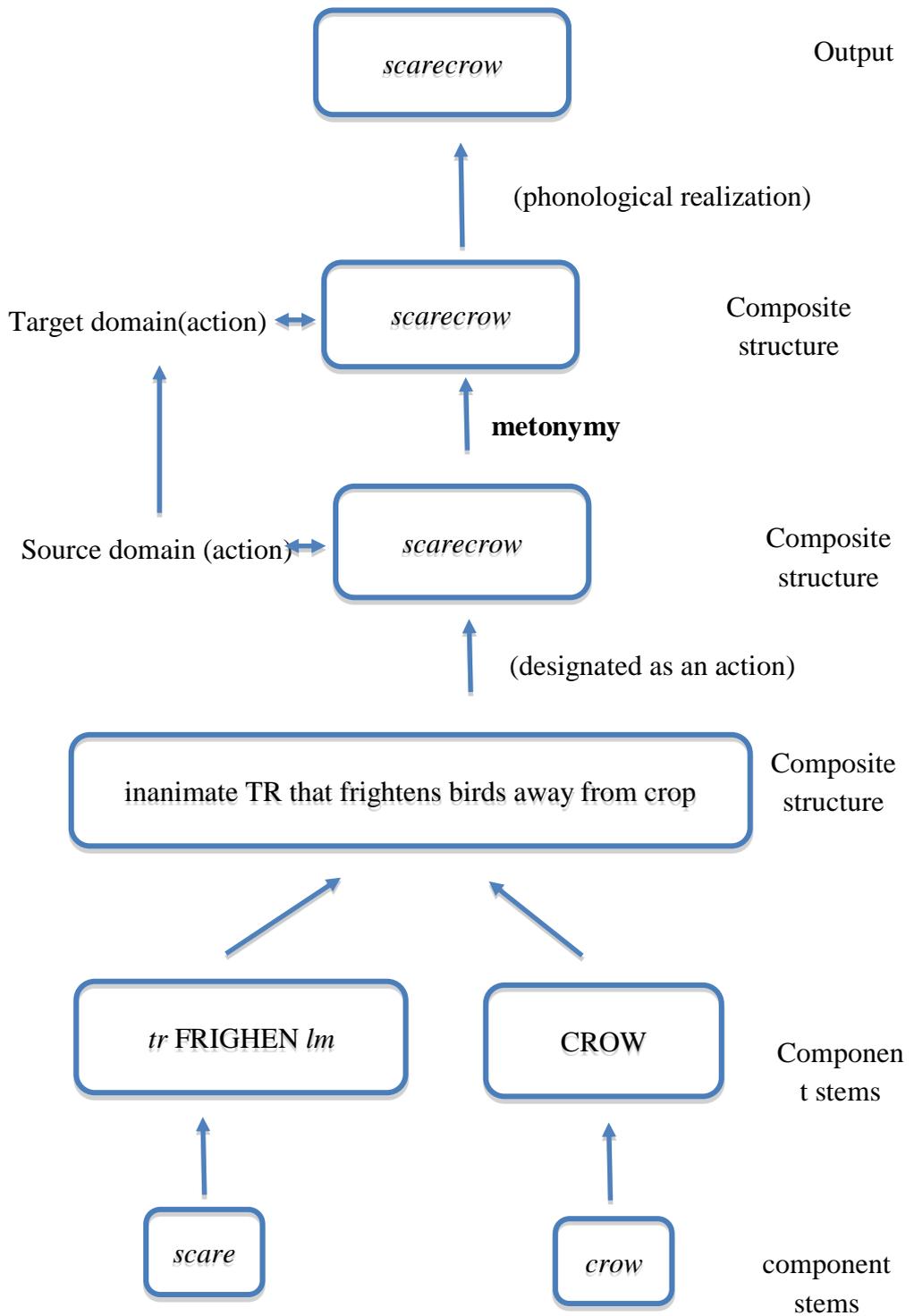


Figure-7

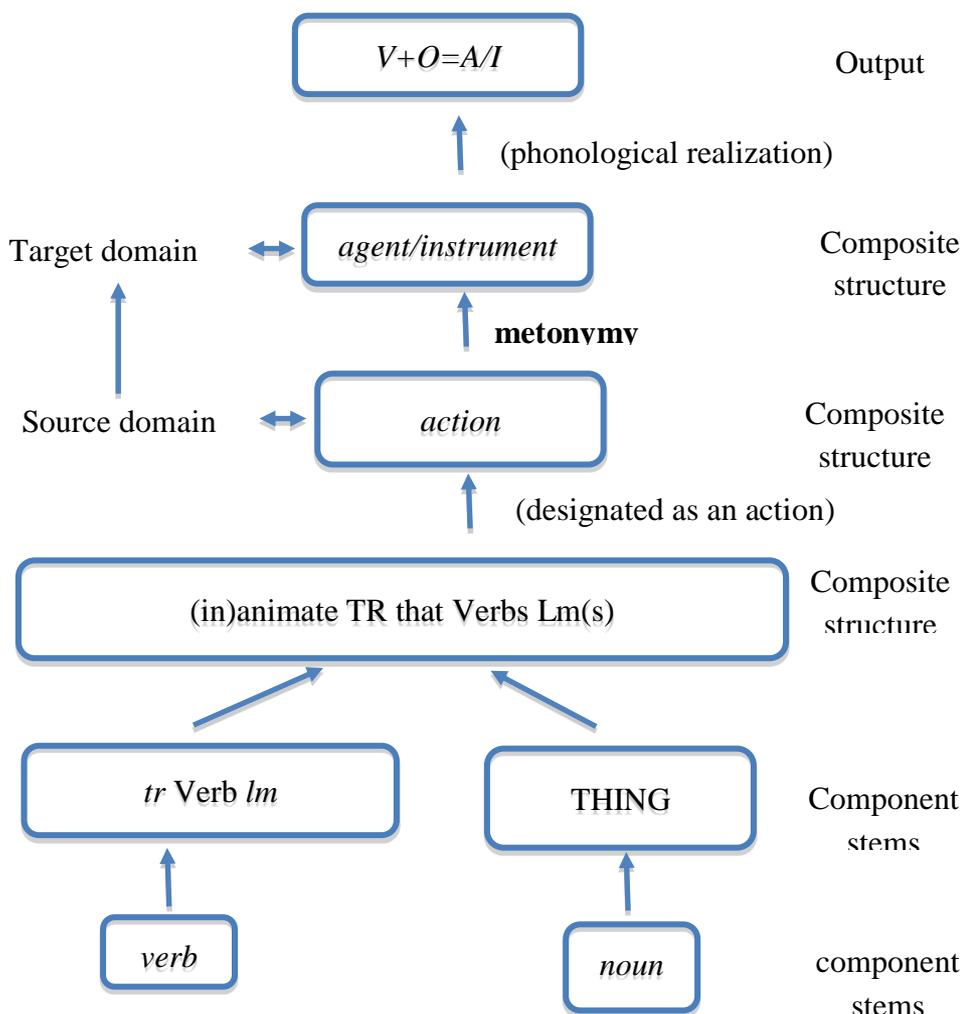


Figure 7 can also be regarded as the schema of exocentric V+N compounds because both ‘V+O=A’ construction and ‘V+O=I’ construction are exocentric compounds. Compared with Figure 2 which is the schema of endocentric compounds, we find that the analysis of exocentric V+N compounds is similar to the analysis of endocentric V+N compounds except that one special mechanism of metonymy is needed in the analysis of exocentric V+N compounds. Another delicate difference is that in an endocentric V+N compound, the trajector of the relationship denoted by the verb is overt and is realized by the nominal component stem while the landmark is covert. In an exocentric V+N compound, the landmark of the relationship denoted by the verb is overt and is realized by the nominal component stem while the trajector is covert. In my opinion, this is perhaps one way to distinguish exocentric V+N compounds from endocentric V+N compounds. The overt trajectors are prominent and they can easily profile and schematize the compounds, which makes the V+N compounds with an overt trajector endocentric. However the landmarks are secondary focuses according to Langacker (2003), so exocentric V+N compounds with overt landmarks cannot be profiled by the landmarks. Further more, the exocentric V+N compounds have covert

trajectors. As a result, neither component stems in exocentric V+N compounds can profile and schematize the compounds and this makes V+N compounds with overt landmarks but cover trajectors exocentric.

#### 4. CONCLUSION

Based on the cognitive analysis of endocentric V+N compounds, this paper sets up a cognitive framework to analyze two types of exocentric V+N compounds: 'V+O=A' construction and 'V+O=I' construction in terms of composite structure/component stem, trajector/landmark alignment and metonymy.

The process of analyzing exocentric V+N compounds is similar to the analysis of endocentric V+N compounds. Both kinds of compounds can be regarded as a composite structure consisting of two component stems: one stem is a verb and another stem is a noun. In both kinds of compounds, the verbal component stem designates a relationship with two participants, which express either as a trajector or as a landmark. In endocentric V+N compounds, the trajectors are realized by the nominal component stems, whereas in exocentric V+N compounds, the landmarks are realized by the nominal component stems. This is another way besides headedness to tell endocentric V+N compounds from exocentric V+N compounds. Considering 'V+O=A' construction and 'V+O=I' construction, both of them are exocentric and can be analyzed in the same way except that 'V+O=A' construction has an animate trajector, whereas the 'V+O=I' construction has an inanimate trajector.

Different from the opinions held by some linguists who view exocentric compounds as semantically non-transparent, this paper argues that exocentric 'V+O=A/I' constructions can be analyzed in the similar way as endocentric V+N compounds by applying an additional mechanism of metonymy, which transfers the action denoted by the verbal component into an agent or instrument related to the action. This also implies that in cognitive frame, exocentric compounds--with the help of cognitive tools such as trajector, landmark, metonymy and so on--can be analyzed in the same way as endocentric compounds.

Funding: This study received no specific financial support.

Competing Interests: The author declares that there are no conflicts of interests regarding the publication of this paper.

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