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## A UNIFIED ANALYSIS OF EXISTENTIALS AND PSYCH-CONSTRUCTIONS IN KOREAN AS PSEUDO-TRANSITIVES\*

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### Abstract

This paper compares the transitivity of existential and psych-constructions in Korean to canonical transitives and intransitives. It is shown that these constructions are neither transitives nor intransitives. This paper argues that they can be unified as pseudo-transitives (i.e., somewhere between transitives and intransitives) and provides a structural analysis for pseudo-transitives using Appl. Pseudo-transitives provide support for the theory that transitivity is a continuum, and not categorical (Hopper & Thompson 1980).

**Keywords:** transitivity, pseudo-transitive, existential, psych-construction, applicative

### 1. Introduction

Transitivity has been playing an important role in shaping and sharpening the various areas of linguistics, e.g., the semantics of arguments (Hopper & Thompson 1980, Kittilä 2002, Næss 2004), case (Tsunoda 1981, Malchukov 2005, Butt 2006, Kittilä 2009), argument structure (Hale & Keyser 1993, Levin & Rappaport 1995, Marantz 1997, among others), and passives (Perlmutter 1978, 1989, Burzio 1986), to name a few. This paper focuses on the transitivity of particular types of clauses that are known to be intransitives in Korean; namely, existentials (1) and psych-constructions (2). In particular, it will address the argument structure of existentials and psych-constructions in comparison to transitives, unergatives, and unaccusatives.<sup>1</sup>

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<sup>1</sup> The Korean nominative marker has two allomorphs: *-i*, which appears after consonants (1), and *-ka*, which appears after vowels (2). The dative marker also has two forms: *-ey*, which appears with inanimate entities (1a), and *-eykey*, which appears with animate entities (1b). I discuss this in more detail below.

(1) a ku       maul-ey       kum-i       iss-ess-ta  
       DEM   town-DAT   gold-NOM   exist-PAST-DEC  
       'There was gold in that town.'

b. Swuni-eykey   kum-i       iss-ess-ta  
       Suni-DAT    gold-NOM   exist-PAST-DEC  
       'Suni had gold.'

(2) a. Swuni-eykey       Inho-ka       miw-ess-ta  
       Suni-DAT       Inho-NOM   hate-PAST-DEC  
       'Suni hated Inho.'

b. Swuni-eykey       holangi-ka   musew-ess-ta  
       Suni-DAT       tiger-NOM   be.afraid.of- PAST-DEC  
       'Suni was afraid of a tiger.'

Previous analyses of psych-constructions and existentials have not distinguished them from unaccusatives (e.g., Belletti & Rizzi 1988, Kim, Y.J. 1990, Bennis 2004), despite apparent differences in properties that they show with respect to unaccusatives (see section 5). In Kim, Y. J. (1990), for instance, it was argued that (1)-(2) belong to the class of intransitives, as they do not have accusative-marked arguments. However, counterevidence can be drawn from the fact that existentials (1) and psych-constructions (2) have two arguments, just like transitives do. On the other hand, they differ from transitives in their case-marking pattern, DAT-NOM, which is noted as a non-transitive case pattern (Comrie 1978, Tsunoda 1985, Malchukov 2005). The dative case marking shown in (1)-(2) is not unusual. In fact, it has been well attested cross-linguistically (Zaenen et al. 1985, Ura 1999, Bhaskararao & Subbarao 2004, Landau 2010, among many others). The fact that existentials can have either locative (1a) or possessive (1b) meanings is not new either (e.g., Lyons 1967, Clark 1978, Freeze 1992, Heine 1997). Although existentials and psych-constructions in general are widely attested, the existing analyses proposed to date do not seem to extend very well to existentials and psych-constructions in Korean

(see section 3). For instance, the most well known approach to existentials, a PP predicate approach (e.g., Freeze 1992, Harley 1995, 2002), appears to have difficulties in accounting for the fact that the dative arguments in (1) and (2) do not form a constituent with the verb. Moreover, as will be shown throughout the paper, existentials (1) and psych-constructions (2) share particular morphological and syntactic properties which existing proposals fail to provide an account for. The range of structures available in current syntactic theory, i.e., transitives, unergatives, or unaccusatives (e.g., Chomsky 1995, 2001, Adger 2003, Butt 2006) cannot account for the properties of (1)-(2). For instance, the correct structure for (1)-(2) cannot be the same as that for transitives (e.g., NOM-ACC), as the case marking pattern of DAT-NOM in (1)-(2) shows.<sup>2</sup> Neither unergative nor unaccusative have the capacity to assign the dative case shown in (1)-(2).<sup>3</sup>

These considerations suggest that a different type of structure is needed to account for existentials (1) and psych-constructions (2). I argue that the structure in question is neither transitive, nor unergative, nor unaccusative, but pseudo-transitives that lie between transitive and intransitive, in accordance with the claim that transitivity is a continuum, and not categorical (Hopper & Thompson 1980). I provide a structural analysis of pseudo-transitives as applicatives (see section 4); the data examined in this paper suggest that pseudo-transitives can be represented by an applicative head (Appl), rather than Voice (see section 2 and 4 for details of these heads). Appl in the proposed account is different from Voice in its agentivity and case assigning properties, which in

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<sup>2</sup>As Korean is a nominative-accusative language, ergative case marking is not relevant here.

<sup>3</sup> As Malchukov (2005) points out, it is not just the case pattern that is related to clause structure. Rather, the point of this discussion is that currently available structures cannot account for (1) and (2). The case pattern is only one of the properties of (1) and (2) which cannot be easily captured by the current syntactic theories.

line with the current approaches to Appl (e.g., Cuervo 2003, MacFadden 2004, Kim, K. 2011, Schäfer 2012).

This paper is organized as follows. Section 2 discusses canonical transitives, unergatives, and unaccusatives in Korean, and identifies the problems of the current approach to transitivity with respect to the constructions in question (see (1)-(2)). Section 3 presents previous analyses for existential and psych-constructions, and shows why they cannot account for the same types of constructions in Korean. Section 4 proposes an applicative analysis for these constructions, and provides evidence for the proposed analysis. Section 5 discusses consequences of the applicative analysis for pseudo-transitives. Section 6 concludes the paper.

## **2. Transitives, unergatives, and unaccusatives in Korean**

The transitivity of a clause can be distinguished by a number of properties cross-linguistically. I use the following diagnostics amongst those proposed by Hopper & Thomson (1980): the number of arguments it takes and the agentivity of its subject. In addition, I use well-known criteria used for examining the transitivity of Korean clauses: the presence or absence of accusative case marking (Kim, Y.J. 1990), the possibility or impossibility of passivization (e.g., Hong 1991), and their compatibility with resultative phrases (Lee 2004). The properties discussed here will be useful tools for the discussion in section 4.

Clauses can be classified loosely into transitives and intransitives, based on the number of arguments they take. Traditionally, a transitive clause is considered to bear two arguments, while an intransitive clause is considered to bear one argument. For example,

the Korean transitive clause in (3a) has two arguments: the subject ‘Suni’ and the object ‘the table’.<sup>4</sup>

- (3) a. Swuni-ka            chayksang-ul    ilpule            takk-ass-ta  
          Suni-NOM        table-ACC        on purpose        wipe-PAST-DEC  
          'Suni wiped the table.'
- b. emeni-ka            chayksang-ul    takk-usi-ess-ta  
          Mother-NOM    table-ACC        wipe-HON-PAST-DEC  
          'Mother wiped the table.'
- c. \*Swuni-ka            emeni-lul        ep-usi-ess-ta  
          Suni-NOM        mother-ACC    carry.on the back-HON-PAST-DEC  
          'Suni carried her mother on the back.'
- d. Chayksang-i        (Suni-ey.uyhay)    takk-eci-ess-ta  
          table-NOM        Suni-BY            wipe-PASS-PAST-DEC  
          'The table was wiped by Suni.'

I assume that the subject of a clause is the argument that shows the typical properties associated with T(ense), such as agreement or NOM case marking (Chomsky 1993, 1995). For instance, in Korean, an argument that shows honorific agreement with the verb is considered to be the subject (Ura 1999). In (3b), *emeni* 'mother' shows honorific agreement with the verb, as indicated by the honorific morpheme *-si* on the verb, and is thus the subject of the clause. In (3c), the accusative-marked *emeni* 'mother' does not allow honorific agreement on the verb and is thus no longer the subject of the clause. Subjects of transitive clauses are generally agentive and volitional, since they can be modified by agent-oriented adverbs, as indicated in (3a). Passivization is possible with transitives, but not with intransitives (see (5)) (Hong 1991, Kim J.B. 1993). Thus, the transitive clause in (3a) can undergo passivization, as in (3b), with the passive morpheme *-(e)ci* on the verb.

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<sup>4</sup> Korean also has ditransitive clauses which have three arguments. As these are not crucial to the topic of this paper, I will not discuss them in detail here but see footnote 14 for an example.

Unlike transitives, there is only one argument in intransitive clauses, as shown in

(4).

- (4) a. Swuni-ka            (ilpule)            tally-ess-ta  
      Suni-NOM        (on purpose)    run-PAST-DEC  
      'Suni ran (on purpose).'
- b. Swuni-ka            (\*ilpule)            yawi-ess-ta  
      Suni-NOM        (on purpose)    become.thin-PAST-DEC  
      'Suni became thin/lost weight (\*on purpose).'
- (5) a. \*(Swuni-ey uyhay)    tallye-ci-ess-ta  
      (Suni-BY)            run-PASS-PAST-DEC  
      'It was run (by Suni).'
- b. \*(Swuni-ey uyhay)    yawi-eci-ess-ta  
      (Suni-BY)            become.thin-PASS-PAST-DEC  
      'It was become thin (by Suni).'

Passivization is not allowed with both types of intransitives in Korean. As (5a) and (5b) show, there are no impersonal passives in Korean.<sup>5</sup> Although both clauses take a single argument, the clauses in (4) are different in terms of their thematic roles. The argument 'Suni' in (4a) is generally considered to be an agent, whereas the same argument in (4b) is a theme. An agent-oriented adverb can modify the subject of (4a), but not that of (4b). The verb *yawi-* in Korean (4b) carries a similar lexical meaning to the English 'lose weight', but it does not have a possible agentive meaning, unlike the English one.<sup>6</sup>

In general, in Korean, amongst the different types of intransitives, only the argument of unaccusatives, and not unergatives, is compatible with a (KEY)-resultative

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<sup>5</sup> A reviewer suggests that (5b) is grammatical when it means 'come to become lose weight.' This is true, as the passive morpheme in Korean is ambiguous with inchoative meaning; the passive morpheme can indicate inchoative meaning when it is suffixed to an adjectival predicate. Importantly, however, (5b) is a passive clause, as the presence of the agentive *by*-phrase indicates. The sentence is ungrammatical with a passive interpretation, which is the relevant reading for the purposes of this paper.

<sup>6</sup>The corresponding agentive verb in Korean is *sal-ul ppay-* (weight-ACC reduce).

phrase (to be discussed shortly below, see (6)) (Kim, J.B. 1993, Lee 2004), which is also argued to be true for English predicative resultatives (e.g., *The river froze solid*) (Carrier & Randall 1992, Levin & Rappaport 1995, Van Vilan 1990, Lee 2004).<sup>7</sup> This is because of a general requirement on resultatives: to be compatible with a resultative phrase, the verb must bear an argument that is affected by the action described by the verb, as formalized in Direct Object Restriction (DOR) (Simpson 1983), followed in much subsequent literature (e.g., Levin & Rappaport 1995).<sup>8</sup> In DOR, a resultative phrase can be predicated of an object (i.e., a D-structure object in traditional sense) but not of a subject. Thus, unaccusatives that have a theme object (which eventually appears in subject position) are compatible with resultatives. By contrast, unergatives, which lack themes, are incompatible with resultatives.

Compatibility with a resultative phrase marked with *key* (i.e., KEY-resultative) can be a useful test in Korean, as it tells us whether a clause has a theme. This paper is only concerned with KEY-resultatives.<sup>9</sup> With respect to intransitives, compatibility with a KEY-resultative phrase indicates that a verb is unaccusative, and not unergative (Lee 2004). Consider the sentences in (6).

- (6) a. \*Swuni-ka        phikonha-key tally-ess-ta  
          Suni-NOM        tired-RESULT run-PAST-DEC  
          'Suni ran and she became tired.'

<sup>7</sup> However, see Wechsler (1997) for a different view for English.

<sup>8</sup> A reviewer points out that resultatives with small clauses are an exception to this, e.g., *she ran her shoes flat/broke*. I only discuss KEY-resultatives that do not take an extra argument (e.g., *her shoes* in the English sentence); a KEY-marked phrase predicates over an available argument, such as the subject in (6).

<sup>9</sup> In Korean, there are several types of resultative phrases (J.B. Kim 1993, Lee 2004). For instance, some resultatives can be marked with *-tolok*, as illustrated in (i). Unlike resultatives (6a), resultatives marked with *-tolok* are compatible with unergatives and indicate a degree interpretation, as illustrated in (i).

(i) Swuni-ka        phikonha-tolok tally-ess-ta  
      Suni-NOM        tired-RESULT run-PAST-DEC  
      'Suni ran to the point where she was tired.'

b. Swuni-ka	holccukha-key	yawi-ess-ta
Suni-NOM	thin-RESULT	become.thin-PAST-DEC
'Suni lost weight and became thin.'		

The sentence in (6a) cannot mean that Suni became tired because she ran, whereas the sentence in (6b) means that Suni became thin because she lost weight. The incompatibility of the resultative phrase with (4a), as shown in (6a), indicates that the clause in (4a) is an unergative clause. In contrast, the compatibility of the resultative phrase with (4b), as in (6b), indicates that the clause in (4b) is an unaccusative clause. As noted earlier, resultative phrases are compatible with clauses that bear a theme; thus, it is not surprising that transitives, as in (3a), are compatible with resultatives, as illustrated in (7). The sentence (7) means that the table became clean as Suni wiped it.

(7) Swuni-ka	chayksang-ul	kkaykkusha-key	takk-ass-ta
Suni-NOM	table-ACC	clean-RESULT	wipe-PAST-DEC
'Suni wiped the table clean.'			

The presence of accusative case marking is known to be a property that distinguishes transitives from intransitives in Korean (Kim, Y.J. 1990). This is not surprising, as the presence of accusative marking in a nominative-accusative case marking language is cross-linguistically known to indicate a higher degree of transitivity (e.g., Hopper & Thompson 1980, Tsunoda 1985, Malchukov 2005, Kittilä 2009). In contrast, non-accusative markings, such as instrumental, locative, or dative case, indicate a low degree of transitivity, which also appears to be true in Korean. In transitives, one argument is nominative-marked, and the other is accusative-marked, namely the object. In intransitives as in (4), the argument is not marked with the accusative case.

The following table summarizes our discussion of transitivity in Korean.

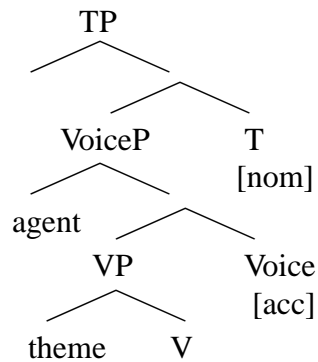


Table 1. Transitivity in Korean

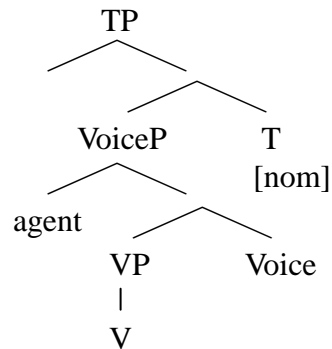
	Transitive	Unergative	Unaccusative
a. Number of arguments	2	1	1
b. Agentivity/volitionality of the subject	✓	✓	✗
c. Passivization	✓	✗	✗
d. Compatibility with resultative phrase	✓	✗	✓
e. The presence of accusative case	✓	✗	✗

The different clauses in terms of transitivity in Table 1 can be represented structurally in the Minimalist framework (e.g., Chomsky 1995, 2001, Adger 2003, Butt 2006), as illustrated in (8).

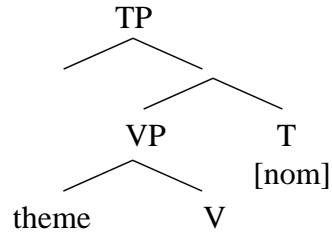
(8) a



b.



c.



The transitive structure in (8a) captures the fact that the clause bears two arguments: an external argument that is introduced by the Voice head (Kratzer 1996), which introduces agents,<sup>10</sup> and the object argument appears as a complement of V. I assume that Voice introduces agentive arguments including animate causers. Voice introduces an argument external to an 'eventuality' (i.e., an event or state, following Bach (1981)), described by the VP, and that the verb itself names a property of the eventuality. Voice accounts for the presence of accusative case marking on the object argument. The nominative case on the subject is assigned from T.<sup>11</sup> The unergative structure in (8b) and the unaccusative structure in (8c) account for the difference between the two types of intransitives. The argument in unergatives is an external argument that is introduced by Voice, while the argument in unaccusatives is an internal argument that appears as the complement of V. Thus, there is no Voice head in unaccusatives (8c).<sup>12</sup> The presence (8a-b) or absence of Voice (8c) captures the agentivity of the subject in each clause. The compatibility of KEY-resultative phrases correlates with whether there is an argument that is the complement of V, which holds for transitives and unaccusatives. In the unergative structure (8b), there is no object argument to be marked with the accusative, thus the sole argument moves to the specifier of TP in order to get nominative case. Although the unaccusative structure in (8c) has an object, the object moves to the specifier of TP and gets nominative case.

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<sup>10</sup> Chomsky (1995) presents a head similar to Voice, called little *v*. The same representation, *v*, is also used to indicate a verbal head that takes a root phrase (Marantz 1997). In order to avoid confusion, I use Voice in this paper for an external argument-introducing head.

<sup>11</sup> I am abstracting away from the technical terms in Minimalism as the technical terms are not crucial to the current discussion.

<sup>12</sup> Voice can be present in unaccusatives (e.g., McGinnis 1998, Alexiadou & Anagnostopoulou 2004 or Embick 2004). For example, for McGinnis (1998), Voice plays the role of marking aspectual information. It is unclear whether unaccusatives in Korean mark or show any aspectual distinctions which are different from other clauses. What is clear is that unaccusatives in these studies are non-agentive, as in Korean. For these reasons, I assume the simplest structure, as in (8c), without a Voice projection.

Passivization in Korean is only possible with a transitive configuration, as in (8a), where both an external and an internal argument are present.

### *2.1 Existentials and psych-constructions in the current view of transitivity*

Although the structures in (8a-c) discussed in the previous section can account for many clauses in Korean, there are intransitive clauses, psych-constructions (9) and existentials (10), which do not seem to fit any of the possible structures. These intransitives are traditionally classified as unaccusatives in Korean (Kim, Y.J. 1990). Like transitives, however, they bear two arguments. In fact, the predicates in (9) and (10) have been called two-place predicates in Korean.

- (9) a. Swuni-eykey                      Inho-ka                      miw-ess-ta  
        Suni-DAT                         Inho-NOM                      hate-PAST-DEC  
        'Suni hated Inho.'
- b. Swuni-eykey                      holangi-ka                      musew-ess-ta  
        Suni-DAT                         tiger-NOM                      be.afraid.of- PAST-DEC  
        'Suni was afraid of a tiger.'
- (10) a. ku            maul-ey            kum-i                      iss-ess-ta  
        DEM    town-DAT            gold-NOM                      exist-PAST-DEC  
        'There was gold in that town.'
- b. Swuni-eykey                      kum-i                      iss-ess-ta  
        Suni-DAT                         gold-NOM                      exist-PAST-DEC  
        'Suni had gold.'

The examples in (9) are psych-constructions that have dative experiencers and nominative themes. The examples in (10) are existential clauses where a locative (10a) and a possessor argument (10b) appear with dative marking and the theme is marked with the nominative. The marker *-ey* in (10a) is the dative case marker for inanimate entities, while the marker *-eykey* in (9) and (10b) is the dative case marker for animate entities.

(see footnote 14 for further discussion on the animacy of datives). Both existentials and psych-constructions are stative (Kim, Y.J. 1990); in other words, the VPs in both denote stative eventualities (see Kim, Y.J. 1990 for details). Kim, Y.J. (1990) argued that these clauses belong to the class of unaccusatives, since neither of the arguments is marked with the accusative. However, this is not a reason to conclude that the sentences in question are unaccusatives; unergatives also lack accusatives just as these sentences do. Moreover, these types of intransitives cannot be accounted for by any of the configurations available in the current syntactic theory (8). For instance, the intransitive structures in (8b) and (8c) cannot capture the number of arguments of the clauses, since there is more than one argument, and the transitive structure in (8a) cannot account for the non-agentivity of the subject, and the absence of accusative case marking. Throughout the paper, I will show that psych-constructions (9) and existentials (10) are not transitives, unaccusatives, or unergatives; they belong to the class of pseudo-transitives (see section 4).

In sum, in Korean, the number of arguments a clause takes and the agentivity of the subject can help us to determine whether a clause is transitive or intransitive. The possibility of passivization and the presence of an accusative case-marked argument correlate with the transitivity of a clause. Unaccusatives are distinguished from unergatives by their compatibility with resultative phrases, due to the presence of a theme with the former and the lack of a theme with unergatives. In the sections to follow, however, I suggest that these properties do not indicate whether the clauses in (9-10) are transitives or intransitives. I first show how some previous analyses fail to account for the properties of these clauses.

### 3. Previous analyses of existentials and psych-constructions<sup>13</sup>

#### 3.1 Existential with PP predicates

Existential clauses with locative or possessive meanings are also found cross-linguistically (e.g., Lyons 1967, Clark 1978, Freeze 1992, Heine 1997). Examples from Hindi are given in (11). A well-known unified analysis of the two different meanings of existential clauses is found in Freeze (1992): Freeze argues that both are derived from a single underlying structure, as illustrated in (12), where locative or possessor arguments appear as the complement of P, and themes appear as the specifier of P. A copular verb appears under I.

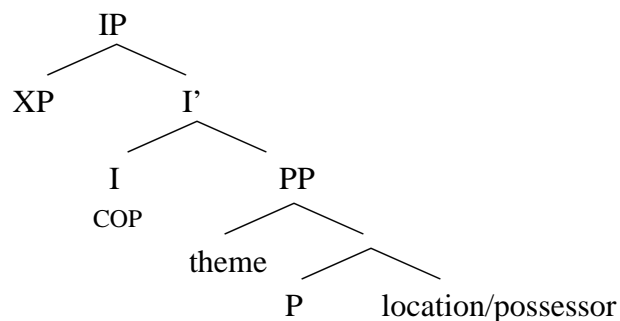
(11) Hindi

a. mǎĩ hindustaan-mēẽ thaa. (Theme Locative V)  
 I India-in COP.SG.MAS.PAST  
 'I was in India.'

b. kamrēẽ-mee aadmii hai. (Locative Theme V)  
 room-in man COP.3SG.MAS.PRES  
 'There is a man in the room.'

c. larkee-kee paas kuttaa hai.  
 boy.OBL-GEN PROXIMITY dog COP.3SG.PRES  
 'The boy has a dog.' (lit. 'By the boy is a dog.') (Freeze 1992)

(12)



<sup>13</sup>A DP analysis for possessive *have* has been proposed (Szabolcsi 1983, Muromatsu 1997). Szabolcsi argued that *have* sentences are derived from possessive DPs; for instance, in Hungarian, a dative possessor and the possessed object agree in person and number, which is reflected by the pattern of agreement between the subject and the verb. However, this type of analysis cannot account for the Korean facts. In Korean, there is no such agreement pattern between the possessor and the possessed noun.

With locative existentials as in (11b), the locative phrase 'in the room' moves to the specifier of IP. This movement occurs when the theme is indefinite, as in 'a man'; in contrast, the theme moves to the specifier of IP, when the theme is definite, as in 'I' in (11a). With possessive existentials, as in (11c), the derivation is the same as for the locative existential (11b); it only differs in the animacy of locative and possessor. The locative argument is inanimate 'the room' in the locative existential (11b), whereas the possessor argument is animate 'a boy' in the possessive existential (11c).

There are three problems with limiting the possible structures in Korean to those given in (12). First, in (12), the theme forms a constituent with the locative or the possessor argument. This prediction is not borne out in Korean, as the substitution test shows. Potential constituents are bracketed in the examples below. As illustrated in (13b), for instance, the theme and the locative cannot be substituted with a single word, e.g., *kukestul* 'they'. Alternatively, as suggested by Freeze, it may be the case that the theme and the locative, or the theme and the possessor, form a PP together (see (12)), and thus, they may be substituted with a PP, rather than a pronoun. However, this also yields ungrammaticality, as shown in (13c): they cannot be substituted with the PP *talun kos-ey* 'in other place'. The ungrammaticality of (13b) and (13c) suggests that a locative (or possessor) and a theme do not form a constituent, thus they cannot be a PP, contra Freeze, or a DP.

- (13) a. ku        maul-ey        kum-i        iss-ess-ta  
          DEM   town-DAT   gold-NOM   exist-PAST-DEC  
          'There was gold in that town.'

b. \* [ku    maul-ey       kum-i]       iss-ess-ta,       kuliko  
       DEM   town-DAT    gold-NOM    exist-PAST-DEC       and  
       [kukestul]-to       iss-ess-ta  
       they-even       exist-PAST-DEC  
       Lit. 'There was [gold in that town], and [they] were there too.'

c. \* [ku    maul-ey       kum-i]       iss-ess-ta,       kuliko  
       DEM   town-DAT    gold-NOM    exist-PAST-DEC       and  
       [talun       kos-ey]-to       iss-ess-ta  
       other       place-in-even    exist-PAST-DEC  
       Lit. 'There was [gold in that town], and [in that other place] too.'

Freeze argued that the PP in his proposed structure (12) is predicative, unlike a canonical PP. However, if we perform the substitution test, substituting the locative (or possessor) and the theme together with a predicate does not yield a grammatical result, as illustrated in (14a). In (14a), the locative and the theme are replaced by the predicate 'to be', but the sentence is ungrammatical.

(14) a. \* [ku    maul-ey       kum-i]       iss-ess-ta,  
       DEM   town-   DAT    gold-NOM    exist-PAST-DEC  
       kuliko       [kulay]       iss-ess-ta  
       and       to be       exist-PAST-DEC  
       'There was [gold in that town], and there [was so], too.'

b. ku    maul-ey       [kum-i       iss]-ess-ta,  
       DEM   town-DAT    gold-NOM    exist-PAST-DEC  
       kuliko   ce       kenmul-to       [kulay]-ss-ta  
       and       DEM    building-even    be-PAST-DEC  
       'There was [gold in that town], and that building [was so], too.'

c. \* [ku    maul-ey]       kum-i       [iss]-ess-ta,    kuliko ton-to       [kulay]-ss-ta  
       DEM   town-DAT    gold-NOM    exist-PAST-DEC    and    money-even    be-PAST-DEC  
       '[There was] gold [in that town], and money [was so], too.'

On the other hand, the theme and the existential verb can be substituted with the predicate 'to be', as in (14b), which suggests that they form a constituent - in particular, a predicate. As shown in (14c), the locative and the verb do not form a constituent. A possessive existential yields the same grammaticality results with respect to the substitution test (see

examples in (19) below). The results of the substitution test provide evidence against a PP proposal in which a locative (or a possessor) form a constituent as a PP (12).

Second, the word order does not fit the Korean data. In the structure in (12), the underlying word order is theme-locative. However, in neutral sentences, as in answers to the question 'What happened?', as in (15), we observe that the order of locative-theme is more appropriate in Korean. This is illustrated in (16) for locative existentials, and in (17) for possessive existentials (# indicates that the sentence is not appropriate as an answer to the question):

(15) Question

musun	il-i	ilena-ss-ni?
what	accident-NOM	happen-PAST-Q

'What happened?'

(16) Answer with locative existential

a. i        maul-ey        sako-ka        iss-ess-e.  
DEM    town-DAT        accident-NOM    exist-PASS-DEC  
'There was an accident in this town.'

b. # sako-ka        i        maul-ey        iss-ess-e.  
accident-NOM        DEM    town-DAT        exist-PASS-DEC  
'The accident was in this town.'

(17) Answer with possessive existential

a. Swuni-eykey    panci-ka        iss-ess-e.  
Suni-DAT        ring-NOM        exist-PASS-DEC  
'Suni had the ring.'

b. # panci-ka        Swuni-eykey    iss-ess-e.  
ring-NOM        Suni-DAT        exist-PASS-DEC  
'(As for) the ring, Suni had it.'

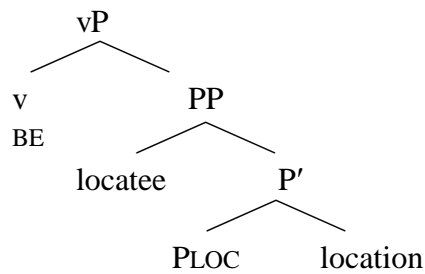
The order of theme-locative (or possessor) as in the (b) examples are unnatural answers to the question (15). The contrast between the (a) and (b) sentences shows that the underlying order of Korean existential clauses is in the order of locative (or possessor)-theme as in the (a) examples, contra the predictions of Freeze.



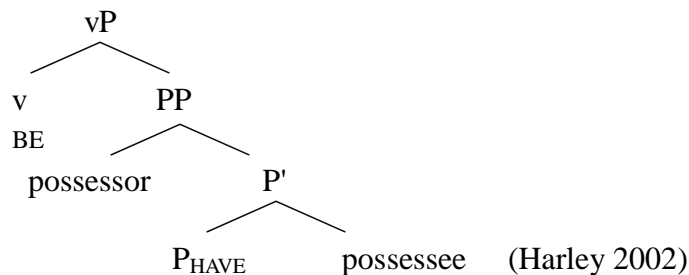
Third, the proposed structure in (12) suggests that the theme appears higher than the locative or possessor argument; thus, the former c-commands the latter. However, this turns out not to be true in Korean. Relevant evidence will be presented in section 4; for instance, scope relations between quantified datives and nominative arguments in existential clauses suggest that the locative or possessor argument appears higher than the theme, contrary to the structure in (12).

An analysis similar to Freeze's PP analysis for existential constructions is proposed by Harley (1995, 2002). Following the spirit of Freeze (1992), existentials involve a PP, as illustrated in (18). The structure in (18a) illustrates a locative existential (PLOC), while the structure in (18b) illustrates a possessive existential (PHAVE):

(18) a.



b.



The structure of the locative existential in (18a) is similar to that of Freeze (1992) discussed earlier (12): the theme (i.e., a locatee) appears above the locative argument, and together they form a constituent: a PP. Thus, the same problems raised for the structure proposed by Freeze also apply to Harley's structure regarding locative existentials (18a).

Moreover, for Harley (2002), the highest argument becomes the subject of the clause, which makes the wrong prediction for Korean locative existentials. In Harley's locative existential (18a), the locatee is positioned higher than the location; as a result, it would move to the specifier of TP. As will be shown in section 4, in Korean, it is the location, not the locatee, that moves to the specifier of TP. For these reasons, the structure in (18a) cannot be maintained for Korean.

Unlike the structure proposed by Freeze (1992), however, in Harley's structure for possessive existentials (18b), the possessor occupies the specifier of  $P_{HAVE}$  and the possessee occupies the complement of  $P_{HAVE}$ . She argues that a possessor always c-commands the possessee; i.e., a possessor is always positioned higher than a possessee. Thus, the c-command problem pointed out earlier with respect to Freeze's structure (12) may not be an issue for Harley's PP-predicate analysis.

However, there is a problem with (18b) for Korean. Like the locative existentials discussed earlier, the possessor and possessee do not form a constituent (19b), contrary to the predictions of the structure proposed by Harley (18b). Rather, the existential verb and the possessee form a constituent in Korean (19c).

(19) a. Swuni-eykey kum-i iss-ess-ta  
           Suni-DAT gold-NOM exist-PAST-DEC  
           'Suni had gold.'

b. \* [Swuni-eykey kum-i] iss-ess-ta, kuliko [kukestul]-to iss-ess-ta  
       Suni-DAT gold-NOM exist-PAST-DEC and they-even exist-PAST-DEC  
       'Suni had gold, and [they] did too.'

c. Swuni-eykey [kum-i iss]-ess-ta, kuliko Yenghi-to  
       Suni-DAT gold-NOM exist-PAST-DEC and Younghee-even  
       [kulay]-ess-ta  
       to be-PAST-DEC  
       'Suni had gold, and Younghee did too.'

Moreover, Harley argues that  $P_{HAVE}$  is also present in the double object construction. That is, she shows that there is a correlation between possessive existentials and double object constructions. If a language has  $P_{HAVE}$ , as in (18b), where a possessor c-commands a possessee, then the language is expected to also have a double object construction that bears the same  $P_{HAVE}$  in its complement. In the Korean double object construction in (20), unlike the double object construction in Japanese (see Harley 2002), the indirect object is marked with accusative case, as is the object.<sup>14</sup>

(20) Swuni-ka            Inho-lul            chayk-ul            cwu-ess-ta  
       Suni-NOM           Inho-ACC           book-ACC          give-PAST-DEC  
       ‘Suni gave Inho the book.’

If  $P_{HAVE}$  is present in possessive existentials in Korean, it is predicted that the double object construction in Korean will also involve  $P_{HAVE}$ , with the indirect object ('Inho') c-commanding the theme ('book'). The c-commanding relationship between the two objects does not seem to cause a problem, since such relationship has been shown to exist in Korean double object constructions (e.g., Kim, L. 2012). Importantly, however, the crucial problem is whether the indirect object and the theme form a constituent as the  $P_{HAVE}$  approach suggests. For instance, the facts from idiom formation suggest that the indirect object does not form a constituent with the theme, if we assume that the parts of an idiom form a constituent (Larson 1988). It has been reported that the indirect object is

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<sup>14</sup> Although an indirect object in DOC is not marked with dative in Korean, dative still can be used for a recipient role in Postpositional Datives (PD), as illustrated in (i), which is consistent with cross-linguistic generalization. In Korean, the difference between the DOC and the PD is expressed by differential marking on the indirect object, unlike English, where the difference is indicated by word order and the preposition 'to' (Jung and Miyagawa 2004). The dative can also mark an experiencer, as shown in this paper, or a beneficiary, which is consistent with a cross-linguistic generalization.

(i) Swuni-ka            Inho-eykey/hakkyo-ey            chayk-ul            cwu-ess-ta  
       Suni-NOM           Inho-DAT/school-DAT           book-ACC          give-PAST-DEC  
       ‘Suni gave the book to Inho/school.’

Moreover, dative in Korean, like other languages, can mark an inanimate goal argument. Jung and Miyagawa (2004) showed that an indirect object in DOC cannot be inanimate, while a goal in PD such as (i) can be inanimate marked with -ey, a dative for inanimate as noted earlier.

always excluded in idiom formation in Korean (Hong 1998; Kim, L. 2012; Kim, K to appear). The idiom in (21) illustrates this point:

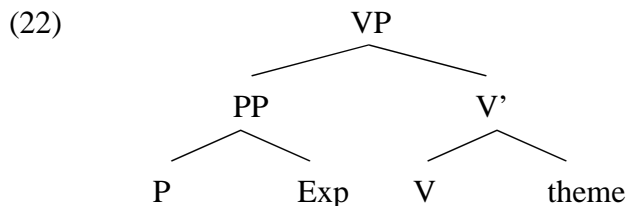
- (21) nwuna-un (sopung kacako maku) tongsayng-lul  
 elder sister-TOPIC picnic go a bt brother-ACC  
 [VP palam-ul neh]]-ess-ta  
 wind-ACC put.into-PAST-DEC  
 'The elder sister instigated her brother to go on a picnic.' (Kim, K to appear)

In (21), the theme *palam* 'wind' and the verb *neh* 'put' form an idiomatic interpretation, which suggests that they form a constituent. However, the indirect object 'brother' does not belong to the idiom. If  $P_{HAVE}$  is the structure of the complement of the double object construction in (21), it is predicted that the indirect object 'brother' would be part of the idiom, contrary to the facts.

I conclude that  $P_{HAVE}$  is not present in Korean possessive existentials, given the evidence from constituency and idiom formation in Korean possessive existentials and the double object construction.<sup>15</sup>

### 3.2 An experiencer PP in psych-constructions

Although the details differ from the PP analysis of Freeze (1992) or Harley (2002), a PP analysis has also been suggested for experiencers. Landau (2010) proposes that an experiencer is semantically locative and syntactically a PP, as illustrated in (22).



<sup>15</sup> The conclusion that Korean does not have  $P_{HAVE}$  does not mean that possessive existentials in Korean should be expressed as  $P_{LOC}$ , argued for by Harley (2002). In the  $P_{LOC}$  structure illustrated in (18a), the theme c-commands the location, which is not true of Korean, as is revealed by several tests, e.g., ECM (28).

In (22), the experiencer is the complement of P, and P is the locus of dative case.

However, dative experiencers in Korean behave differently from canonical PPs. For

example, dative experiencers allow case stacking (23a) and case alternation (23b).

(Gerds & Youn 1988, Youn 1989) (see footnote 21 for an account of case stacking or alternation).<sup>16</sup>

(23) a. Swuni-eykey-ka      Inho-ka      miw-ess-ta  
           Suni-DAT-NOM      Inho-NOM      hate-PAST-DEC  
           ‘Suni hated Inho.

          b. Swuni-ka      Inho-ka      miw-ess-ta  
               Suni-NOM      Inho-NOM      hate-PAST-DEC  
               ‘Suni hated Inho.

Neither case stacking (24) nor case alternation (25) is allowed with a canonical PP.

(24) sensayngnim-uy    meli-ey-*\*ka*/*\*lul*      napi-ka      anc-ass-ta  
       Teacher-GEN      head- P-NOM/-ACC      butterfly-NOM      sit-PAST-DEC  
       ‘A butterfly sat on teacher’s head.’

(25) sensayngnim-uy    meli-*\*ka*/*\*lul*      napi-ka      anc-ass-ta  
       Teacher-GEN      head-NOM/-ACC      butterfly-NOM      sit-PAST-DEC  
       ‘A butterfly sat on teacher’s head.’

Evidence from subject honorification and hierarchical relations, which will be discussed in section 4, also suggest a similar conclusion: dative experiencers in Korean cannot be PPs.

Compelling evidence against the PP analysis comes from idiom formation. A dative experiencer cannot participate in idiom formation, as in (26), where only the verb and the theme form an idiomatic interpretation.

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<sup>16</sup> The stacked dative argument (23a) may carry discourse related meaning, such as focus, unlike the non-stacked one (Yoon 1986). In Korean, there are discourse markers that are homophonous to nominative or accusative case. The issue of whether the stacked nominative is a discourse marker or a grammatical subject marker is debatable (see some reviews in Yoon 2009). I do not pursue this question in this paper, and assume that it is a grammatical subject marker.

- (26) Swuni-eykey [kam-i o]-ass-ta  
 Suni-DAT feeling-NOM come-PAST-DEC  
 'Suni figured it out.' (Lit. To Suni, the feeling came.) (Kim, K to appear)

Since the parts of an idiom form a constituent, (26) indicates that the theme and the verb form a constituent to the exclusion of the experiencer. However, in the PP analysis in (22), the experiencer is expected to be able to belong to the idiom, contrary to the facts.

### 3.3 Existentials and psych-constructions as applicatives

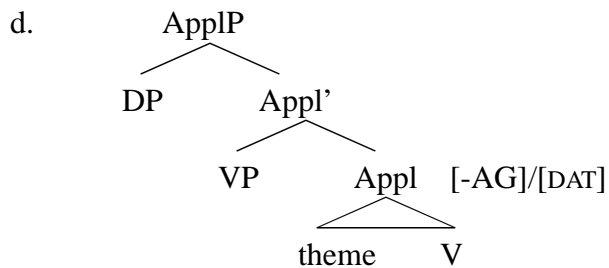
The previous sections show that a PP-type analysis cannot account for existential clauses and psych-constructions in Korean. I propose a different structure which can structurally unify both of these constructions, as well as account for the noted facts in the previous section (e.g., constituency and idioms).

I argue that the locative or possessor in existential clauses and dative experiencers are introduced by an applicative head (Appl) (see (27d)).

- (27) a. ku maul-ey kum-i iss-ess-ta  
 DEM town-DAT gold-NOM exist-PAST-DEC  
 'There was gold in that town.'

- b. Swuni-eykey kum-i iss-ess-ta  
 Suni-DAT gold-NOM exist-PAST-DEC  
 'Suni had gold.'

- c. Swuni-eykey Inho-ka miw-ess-ta  
 Suni-DAT Inho-NOM hate-PAST-DEC  
 'Suni hated Inho.'



Appl in (27d) appears external to an event, VP, like a Voice head, and introduces an argument in its specifier (Pylkkänen 2008); this type of an argument is called an applied argument. Further studies showed that Appl can assign dative case to its argument (e.g., Cuervo 2003), and its semantics is non-agentive, unlike Voice, which introduces an agent (Kim, K. 2011, Schäfer 2012), as indicated with the notation [-AG] in (27d). The theme argument appears below VP, which is the complement of Appl.

As illustrated in (27d), the theme and V form a constituent, while the dative DP does not form a constituent with either element, which accounts for the observed facts with respect to constituency in the previous section. Moreover, the applicative structure (27d) can account for the facts regarding idioms discussed previously, since the dative argument in the specifier of ApplP does not form a constituent with the theme or the verb. The dative argument appears outside the VP, and is thus expected to be excluded from the idiom.

As the semantics of Appl is non-agentive, unlike agent-introducing Voice, Appl is compatible with locatives, possessives, and experiencers, since they are all non-agentive. The particular meaning of each clause can be derived from the semantics of the syntactic structure as a whole. For instance, a locative existential meaning will result when an inanimate argument appears in the specifier of ApplP and it is interpreted together with the VP. On the other hand, a possessive existential meaning will hold when an animate argument appears in the specifier of ApplP and is interpreted with the VP. The distinction between a possessive and an experiencer reading will depend on the semantics of the VP that appears as the complement of Appl. With a possessive reading, an existential verb

and the theme constitute the VP. With an experiencer reading, however, the VP consists of a psych verb and a theme.

In the sections to follow, I show additional evidence for the proposed ApplP structure (other than the evidence from constituency and idioms discussed earlier), and discuss how the structure in (27d) differs from the structure of transitives, unergatives, and unaccusatives, with respect to the properties discussed in Table 1.

#### **4. More evidence for an applicative structure**

This section discusses evidence for the Appl structure for both existentials and psych-constructions. The discussion includes how the dative-marked arguments in both constructions are different from canonical PPs.

First, evidence comes from the hierarchical relationship between the dative-marked argument and the theme. It is a well known property of applicatives that an applied argument (i.e., the argument in the specifier of ApplP) appears structurally higher than the argument in its complement (i.e., an asymmetric c-commanding relationship) (Barss & Lasnik 1986, Marantz 1993). The dative arguments in both existentials and psych-constructions show exactly this structural relationship with the theme. Convincing evidence comes from Exceptional Case Marking (ECM), scope relations, subject honorification, and plural copying.

As illustrated in the existential examples in (28), it is the dative argument that is ECMed (28a), and not the theme (28b) (Gerds & Youn 1988, 1989, Youn 1989). ECM arguments are the objects of matrix verbs like *believe* or *think*. In (28a), the dative arguments are the objects of the verb *mit-* 'believe' and the sentence is grammatical (the fact that these arguments get dative case rather than accusative case will be accounted for



later in the section). In the ungrammatical (28b), on the other hand, the theme 'gold' is the object of the verb 'believe' and is marked with accusative case. Thus, a dative can be the object of higher matrix verb 'believe', but a theme cannot.<sup>17</sup> This contrast suggests that the dative argument is positioned structurally higher than the theme: it can be an object of the higher matrix verb.

- (28) a. ku namca-ka ku maul-ey/Swuni-eykey kum-i iss-ess-ta-ko  
 DEM man-NOM DEM town-DAT/Suni-DAT gold-NOM exist-past-DEC-COMP  
 mit-ess-ta  
 believe-PAST-DEC  
 'That man believed that there was gold in that town/Suni had gold.'
- b. \*ku namca-ka ku maul-ey/Swuni-eykey kum-ul iss-ess-ta-ko  
 DEM man-NOM DEM town-DAT/Suni-DAT gold-ACC exist-past-DEC-COMP  
 mit-ess-ta  
 believe-PAST-DEC  
 'That man believed gold [to be in that town]/ [to be owned by Suni].'

Psych-constructions show a similar pattern with respect to ECM. It is the dative experiencer that is the object of the matrix verb, and not the theme (Youn 1989).

- (29) a. ku namca-ka kunye-eykey Inho-ka mip-ta-ko  
 DEM man-NOM she-DAT Inho-NOM hate-DEC-COMP  
 mit-ess-ta  
 believe-PAST-DEC  
 'That man believed her to hate Inho.'
- b. \*ku namca-ka kunye-eykey Inho-lul mip-ta-ko mit-ess-ta  
 DEM man-NOM she-DAT Inho-ACC hate-DEC-COMP believe-PAST-DEC  
 'That man believed Inho to be hated by her.'

As mentioned earlier, applicatives show an asymmetric c-commanding relationship between the arguments in the specifier of ApplP and in the VP. Korean existentials (30a) and psych-constructions (30b) show an exactly this asymmetric relationship. In (30), it is shown that the dative arguments take scope over the nominative

<sup>17</sup> As a reviewer points out, the accusative-marked argument in (28b) and (29b) can be scrambled in front of the dative arguments. In other words, the fronted arguments appear to have a focus marker rather than an accusative marker (as mentioned in footnote 16). I leave an analysis of this for future research.

objects, and not vice versa, as the non-ambiguity shows. Moreover, as in (31), scrambling of the nominative objects in front of the dative arguments do not change the asymmetric scope relation observed in (30), which is exactly the same pattern with DOC and the opposite pattern to PD in Korean (Kim, L 2012) as well as in other languages (Marantz 1993, Pylkkänen 2008, Bruening 2010). DOC is shown to have the same asymmetric scope relation, as in (30) and (31); importantly ApplP is proposed to account for the scope. In contrast, PD does not show an asymmetric relation, i.e., there is an ambiguity when there is scrambling of a lower object.

- (30) a. etten    maul-ey        motun   chayk-i        iss-ess-ta  
           some town-DAT       every    book-NOM    exist-PAST-DEC  
           'There is a particular town that has all the books.'  
           \*'For every book, there is a possibly different town that has it.'
- b. etten   haksayng-eykey    motun   chayk-i        silh-ess-ta  
           some student-DAT        every    book-NOM    hate-PAST-DEC  
           'There is a particular student who hated all the books.'  
           \*'For every book, there is a possibly different student who hated it.'

- (31) a. motun   chayk<sub>1</sub>-i    [etten   maul-ey        t<sub>1</sub>    iss-ess-ta]  
           every   book-NOM   some   town-DAT        exist-PAST-DEC  
           'There is a particular town that has all books.'  
           \*'For every book, there is a possibly different town which has it.'
- b. motun   chayk<sub>1</sub>-i    [etten   haksayng-eykey    t<sub>1</sub>        silh-ess-ta]  
           every   book-NOM   some   student-DAT        hate-PAST-DEC  
           'There is a particular student who hated all books.'  
           \*'For every book, there is a possibly different student who hated it.'

Subject honorification and plural copying also suggest the same structural relationship between the dative and theme arguments, but they also indicate that the dative argument, rather than the theme, is the subject of the clause. With subject honorification, in Korean, only the subject DP can show honorific agreement on the verb, as discussed in section 2. The example with a transitive clause (3a) is repeated below as

(32a). The subject 'mother' in (32a) shows honorific agreement with the verb, as the honorific morpheme *-usi* indicates. In contrast, the theme 'mother' in (32b) cannot show honorific agreement, as the ungrammaticality of the sentence indicates.

- (32) a. emeni-ka      chayksang-ul   takk-usi-ess-ta  
          mother-NOM   table-ACC      wipe-HON-PAST-DEC  
          'Mother wiped the table.'
- b. \*atul-i          emeni-lul        ep-usi-ess-ta  
          son-NOM        mother-ACC    carry.on the back-HON-PAST-DEC  
          'Her son carried his mother on the back.'

The contrast between (32a) and (32b) suggests that the external argument in transitives is positioned higher than the object, which is consistent with the scope relation shown in (30)-(31), and it is the argument that raises into the specifier of T triggering honorific agreement.

The same pattern is found with existentials (33-35) and psych-constructions

(36).

- (33) a. emeni-uy      mom-ey      pyeng-i      iss-usi-ess-ta  
          mother-GEN   body-DAT    disease-NOM   exist-HON-PAST-DEC  
          'There was disease on mother's body.'
- b. \*ai-uy          mom-ey      pyeng-i      iss-usi-ess-ta  
          child-GEN      body-DAT    disease-NOM   exist-HON-PAST-DEC  
          'There was disease on child's body.'
- (34) a. sensayngnim-eykey   kum-i      iss-usi-ess-ta  
          teacher-DAT            gold-NOM    exist-HON-PAST-DEC  
          'The teacher had gold.'
- b. \*ai-eykey      kum-i      iss-usi-ess-ta  
          child-DAT        gold-NOM    exist-HON-PAST-DEC  
          'The child had gold.'
- (35) a. sensayngnim-eykey   Inho-ka      miw-usi-ess-ta  
          teacher-DAT            Inho-NOM    hate-HON-PAST-DEC  
          'The teacher hated Inho.'

- b. \*Swuni-eykey   sensayngnim-i       miw-usi-ess-ta  
       Suni-DAT     teacher- NOM       hate- HON-PAST-DEC  
       ‘Suni hated the teacher.’

As proposed in this paper, the dative arguments are positioned higher than the themes, and thus they are the closest arguments to T. If they are positioned lower than the theme, the theme would show honorific agreement, contrary to the facts. It should also be noted that evidence of honorification agreement further indicates that Freeze's PP-predicate analysis (12) cannot be maintained for Korean: in (12), the theme appears higher than the dative argument. In fact, Freeze argues that the theme always shows agreement with T, regardless of word order, which is not true for Korean. Another important fact is that a canonical PP does not show honorific agreement, unlike dative-marked arguments, which was also pointed out in Youn (1989). Consider the following example with canonical PPs:

- (36) a. i            uyca-ey            Chelswu-ka      anc-ass-ta  
this     chair-on            Chelsu-NOM     sit-PAST-DEC  
'Chulsoo sat on this chair.'  
  
b. Swuni-eykey   phyenci-ka      tochakhay-ess-ta  
Suni-to          letter-NOM      arrive-PAST-DEC  
'The letter arrived to Suni.'
- (Youn 1989)

(36a) is an unergative clause with a PP, while (36b) is an unaccusative clause with a PP. The PPs in both types of clauses cannot show honorific agreement, as shown in (37a) and (37b), respectively. This type of evidence gives more weight to the proposal advocated for in this paper: the dative argument in existentials and psych-constructions is not a PP. Furthermore, note that the postposition *-eykey* 'to' in (36b) is morphologically the same as the dative case marker on experiencers (35) and possessors (34). Importantly, the experiencers/possessors and PPs do not behave in the same way with respect to honorification. It is the experiencer or possessor that shows honorific agreement. This

contrast suggests that mere homophony between the dative case marker and the postposition does not indicate that they belong to the same element.

- (37) a. \*sensayngnim-uy      meli-ey      camcali-ka      anc-usi-ess-ta  
teacher-GEN      head-on      dragonfly-NOM      sit-HON-PAST-DEC  
'A dragonfly sat on the teacher's head.'
- b. \*sensayngnim-eykey      phyenci-ka      tochakha-si-ess-ta  
teacher-to      letter-NOM      arrive-HON-PAST-DEC  
'The letter arrived to the teacher.'

Evidence from plural copying also suggests that the dative arguments are positioned higher than the themes and that they are the arguments that are raised into subject position. Plural copying is when the plural marker on a subject is copied onto other constituents (e.g., an object, adverb, or preposition, etc.), but not vice versa (Kuh 1987). If a non-subject constituent is a count noun and it has a plural marker, the plural marker can only indicate plurality of the count noun. Thus, examples are presented with non-subject elements which are mass nouns. Consider the examples in (38).

- (38) a. ai-tul-i      mul-tul-ul      masi-ess-ta  
child-PL-NOM      water-PL-ACC      drink-PAST-DEC  
'Children drank water.'
- b. \*ai-ka      mul-tul-ul      masi-ess-ta  
child-NOM      water-PL-ACC      drink PAST-DEC  
'A child drank water.'

In (38a), the plural marker on the subject 'children' is copied onto the object 'water'. However, the plural marker cannot be used with the object when the subject is singular (38b). The same pattern is observed with psych-constructions, as illustrated in (39). Locative existential (40) and possessive existential clauses (41) also show the same pattern of plural copying.

- (39) a. ku ai-tul-eykey mul-tul-i silh-ess-ta  
 DEM child-PL-DAT water-PL-NOM hate- PAST-DEC  
 'The children hated water.'
- b. \*ku ai-eykey mul-tul-i silh-ess-ta  
 DEM child-DAT water-PL-NOM hate- PAST-DEC  
 'Child hated water.'
- (40) a. san-tul-ey hwacay-tul-i iss-ess-ta  
 mountain-PL-DAT fire-PL-NOM exist- PAST-DEC  
 'There was fires in the mountains.'
- b. \*san-ey hwacay-tul-i iss-ess-ta  
 mountain-DAT fire-PL-NOM exist-PAST-DEC  
 'There were fires in the mountain.'
- (41) a. ai-tul-eykey mul-tul-i iss-ess-ta  
 child-PL-DAT water-PL-NOM exist-PAST-DEC  
 'Children had water.'
- b. \*ai-eykey mul-tul-i iss-ess-ta  
 child-DAT water-PL-NOM exist-PAST-DEC  
 'A child had water.'

In the (a) examples in (39-41), the dative arguments are plural, as the plural marker *-tul* indicates, thus the plural marker can be copied onto the theme arguments 'fire' and 'water', respectively. However, as with canonical transitive clauses (38b), the plural marker cannot be used with the themes if the dative arguments are singular, as in the (b) examples in (39-41).

In contrast, PPs cannot trigger plural copying. In unaccusative (42), the PP is plural, as the plural marker *-tul* on the DP 'chair' suggests. However, the plural marker on the PPs cannot license the plural morpheme on the DP 'ice' in (42) in the same clause: (42) is ungrammatical.<sup>18</sup>

- (42) \*i uyca-tul-wiey elum-tul-i nok-ass-ta  
 this chair-PL-on ice-PL-NOM melt- PAST-DEC  
 'On this chair, ice melted.'

<sup>18</sup> A similar type of sentence with an unergative verb is not possible, as unergatives are agentive.

The difference between the dative arguments and the PP with respect to plural copying can be accounted for in terms of agreement with T. Abstracting away from the technical details of agreement, the copied *-tul* on non-subject constituents is the realization of subject agreement. Unlike regular agreement with T which is usually realized on the verb (e.g., honorification agreement), with the plural copying in (39)-(41), the agreement morphology occurs on the theme, and not on the verb. Thus, the dative arguments in existentials and psych-constructions can agree with T, but PPs cannot, as the contrast in the availability of plural copying shows. This further corroborates the argument that the dative arguments in existentials and psych-constructions are not PPs.

Further support for the Appl structure comes from the semantics of the dative arguments in existentials and psych-constructions. It has been argued that although the applied arguments are external arguments similar to the argument of Voice, they are semantically non-agentive, unlike those of Voice (Kim, K. 2011). This can be confirmed by several tests of agentivity. For example, in contrast to agentive arguments, these dative-marked arguments cannot be used in imperatives (43) and propositives (44).

(43) a. \*(ku    maul-ey/Swuni-eykey)       kum-i       iss-ela  
           DEM   town-DAT/Suni-DAT       gold-NOM    exist-IMP  
           'Be there gold (in that town).'/ 'Have gold.'

b. \*Inho-ka       miwe-la  
    Inho-NOM     hate-IMP  
    'Hate Inho.'

(44) a. \*kum-i       iss-ca  
          gold-NOM    exist-PROPOSITIVE  
          'Let's be there gold.'/ 'Let's have gold.'

b. \*Inho-ka       mip-ca  
    Inho-NOM     hate-PROPOSITIVE  
    'Let's hate Inho.'

Moreover, they are not compatible with agent-oriented adverbs such as ‘on purpose’.

- (45) a. \*ku      maul-ey/Swuni-eykey kum-i      ilpule      iss-ess-ta  
          DEM town-DAT/Suni-DAT gold-NOM      on purpose      exist-PAST-DEC  
          'In this town, there is gold on purpose.'/ 'Suni on purpose has gold.'
- b. \*Swuni-eykey      Inho-ka      ilpule      miw-ess-ta  
          Suni-DAT      Inho-NOM      on purpose      hate-PAST-DEC  
          'Suni hated Inho on purpose.'

Importantly, note that the agentivity of the dative arguments in existential clauses (45a) and psych-constructions (45b) contrast with nominative-marked subject arguments of canonical transitive clauses (see (3a)), which are agentive.

One might raise an objection to the proposed account in that the transitive structure in which a Voice head introduces a subject (see (8a)) might explain the number of arguments of pseudo-transitives. In this case, it could be argued that Voice may have non-agentive semantics like Appl, and thus introduce a dative experiencer or dative argument in existential clauses, given the proposal that the Voice head could be enhanced with various semantic features (e.g., Harley 1995, Folli & Harley 2005). This suggestion is not favoured, as shown by morphological and semantic differences between different types of experiencer constructions in Korean. In addition to the dative experiencers, the focus of this paper, Korean has a nominative experiencer, as illustrated in (46). With the nominative experiencer, a theme is accusative-marked. Unlike the dative experiencer construction, the nominative experiencer construction in Korean is marked with *ha-* 'do' on the verb (46).

- (46) Swuni-ka      Inho-lul      (ilpule)      miwe-hay-ss-ta  
          Suni-NOM      Inho-ACC      on purpose      hate-DO-PAST-DEC  
          'Suni hated Inho (on purpose).'



Nominative experiencer constructions show similar properties to canonical transitives in that the experiencer subject is marked with nominative case, and the theme is marked with accusative case. The semantics of the experiencer is also similar to that of the subject of transitives. The experiencer is agentive, as its compatibility with agent-oriented adverbs indicates. Moreover, nominative experiencer constructions allow passivization, as illustrated in (47).

- (47) Inho-ka                Swuni-ey.uyhay                miwum-pat-ass-ta  
       Inho-NOM            Suni-BY                    hate-PASS-PAST-DEC  
       'Inho was hated by Suni.'

In (47), the theme undergoes passivization, and the passive auxiliary *pat* appears.<sup>19</sup> The nominative experiencer is also similar to the subject of transitives in that it does not allow case alternation and case stacking.

- (48) a. \*Swuni-eykey                Inho-ka                miwe-hay-ss-ta  
       Suni-DAT                    Inho-NOM            hate-DO-PAST-DEC  
       'Suni hated Inho.'
- b. \*Swuni-eykey-ka            Inho-ka                miwe-hay-ss-ta  
       Suni-DAT-NOM                Inho-NOM            hate-DO-PAST-DEC  
       'Suni hated Inho.'

These morphosyntactic and semantic properties of nominative experiencer constructions are similar to those of transitive clauses, which suggests that agentive Voice is introducing the nominative experiencer, like in transitives (see (8a)). Importantly, all these properties of nominative experiencer constructions are exactly opposite to those of dative experiencer constructions. More importantly, the fact that nominative and dative experiencers show contrasting properties is exactly the reason why the Voice head that introduces the nominative experiencer cannot also be postulated to introduce dative experiencers in Korean. For instance, the different verbal morphology of dative

<sup>19</sup> *pat* is another passive auxiliary in Korean, and it appears as counterpart of *ha* verbs in active clauses.

experiencer predicates from the nominative experiencer predicates suggests that the dative experiencers are not introduced by the same head that introduces nominative-marked experiencers. If that were the case, then it remains unexplained why nominative and dative experiencers show different ranges of morphosyntactic and semantic properties as discussed above. For example, it remains questionable why the Voice head shows different case marking patterns. I conclude that the semantic and syntactic contrasts between nominative- and dative-marked experiencers indicate Appl over Voice.<sup>20</sup> In addition, the contrasts indicate that existentials and experiencers are different from transitives and intransitives, i.e., pseudo-transitives. Cross-linguistic facts also provide support to this claim (e.g., Kim, K. 2011, Schäfer 2012). For instance, Schäfer (2012) argues that a causer that is agentive is introduced by Voice, but a non-agentive dative-marked causer is introduced by Appl, based on the different semantic and syntactic properties of agentive and non-agentive causers in German. Importantly, some of the distinction between the two heads in Schäfer also lie in agentivity (and dative case marking), as argued for in this paper.

The last piece of evidence in the support of the applicative analysis comes from the case-marking patterns of existentials and psych-constructions. As noted in the previous section, the two arguments in these clauses are dative- and nominative-marked, respectively, unlike in transitives, where the two arguments are nominative- and accusative-marked respectively. In transitive clauses, both nominative and accusative case are structural cases (Chomsky 1986), which are assigned by T and Voice head

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<sup>20</sup> This does not mean that every language is expected to have the Voice-Appl distinction argued for in this paper. For instance, in English, there is no dative experiencer, but nominative experiencers may be interpreted as agentive or non-agentive. Thus, it may be the case that in English either Voice [+AG] or Voice [-AG] would suffice to account for this contrast. It seems to be a language-specific choice which heads are chosen from the available functional heads provided by UG, e.g., Voice or Appl.

respectively, as discussed in section 2. In other words, these are cases that are not related to theta roles. The datives in existentials and psych-constructions are not structural, but inherent, as their case is preserved in certain types of clauses such as ECM clauses discussed earlier. In canonical ECM clauses, an ECM argument appears with accusative case in Korean as it is an object of the matrix verb 'believe', as shown in (28b) and (29b). However, the subjects of existentials and psych-constructions take dative case, as shown in (28a) and (29a). That is, in positions where a structural case is otherwise expected to occur, the dative case appears, which is an indication that the dative case marking here is inherent and not structural. The question is where this inherent dative case comes from. Inherent case is closely related to particular theta roles, and is thus assumed to be licensed by the theta role of the case assigner (Chomsky 1986). Thus, it is not logical to assume that Voice in transitive configurations (see (8a)) assigns inherent case. If inherent case were available from Voice, the nominative argument in canonical transitives (e.g., (3a)) could show up with the inherent case instead, which is not possible, as shown in (49):

- (49) \*Swuni-eykey chayksang-i takk-ass-ta  
       Suni-DAT table-NOM wipe-PAST-DEC  
       'Suni wiped the table.'

Following Cuervo (2003) and McFadden (2004), I propose that Appl is the best available head for inherent dative case marking within the current theory of argument structure, which is also supported by the recent proposal on inherent case by Woolford (2006). It is argued that inherent case is assigned by a functional head outside of VP, like Appl in the current proposal. In some languages such as Spanish or German, Appl assigns inherent case, and the dative case is the most frequent inherent case.<sup>21,22</sup>

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<sup>21</sup> As shown earlier, the dative case in existentials and psych-constructions can be stacked or alternated with nominative case. I assume that nominative case is assigned by T just as it is in the other types of

In sum, the syntax and semantics of existentials and psych-constructions and their contrasts to transitives and nominative psych-constructions provide support for the applicative analysis.

### **5. Consequences: Pseudo-transitives and transitivity as continuum**

This paper argues that existentials and psych-constructions can be unified in terms of applicative structures. In particular, dative arguments are introduced by Appl, and ApplP appears outside of the VP where the theme and the verb appear. This section discusses the consequences of this analysis: specifically, applicative clauses are pseudo-transitives that can be situated between transitives and intransitives.

Section 2 discussed several tests that distinguish transitives from intransitives in Korean. It also presented how unergatives and unaccusatives can be differentiated amongst intransitives. The same tests are used here to find out the transitivity of the proposed applicative structure. As will be made clear shortly, the applicative structure represents another class; namely pseudo-transitives.

In Table 2, the transitive properties of different clauses presented in Table 1 of section 2 are compared with those of the applicative structures discussed in this section. In addition to these properties, I also discuss the availability of case-alternation and case-stacking with the relevant clauses, which appears to be possible only with existential clauses and psych-constructions.

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clauses discussed in section 2. For instance, dative arguments raise to the specifier of TP; from there they can be stacked with nominative case assigned by T. The experiencer agrees with T in terms of its relevant phi-features, which can result in honorific agreement and plural copying.

<sup>22</sup> In prototypical applicatives, such as Bantu applicatives, the applied argument usually takes typical object marking and shows a full range of object like properties such as agreement or passivization. This is the case for DOC in Korean as well.

Table 2. Transitive properties of applicatives, transitives, and intransitives

	Transitive	Intransitive		Pseudo-transitive (i.e., applicative structure)
		Unergative	Unaccusative	
a. Number of arguments	2	1	1	2
b. Agentivity/volitionality of the subject	✓	✓	✗	✗
c. Passivization	✓	✗	✗	✗
d. Compatibility with resultative phrase	✓	✗	✓	✗
e. The presence of accusative case	✓	✗	✗	✗
f. Case-alternation/-stacking	✗	✗	✗	✓

As shown in the table above, applicatives have two arguments, similar to transitives (property a). However, they differ from transitives in not having an accusative case-marked argument (property e). In fact, the nominative-marked object cannot be marked with accusative case, as shown in (50). The absence of accusative marking may indicate that the theme object in existential clauses and psych-constructions is not a full-fledged patient, unlike those in transitives, assuming that accusative case indicates patient-hood (de Hoop and Malchukov 2008). However, it is not an easy task to differentiate a theme and a patient, as we cannot come up with a definite definition to distinguish the two. More importantly, syntax treats them in the same way, at least in Korean, i.e., both are marked with accusative case. Thus, I refer to both as themes.

- (50) a. \*ku        maul-i/Swuni-ka        kum-ul        iss-ess-ta  
           DEM    town-NOM/Suni-NOM    gold-ACC    exist-PAST-DEC  
           'There is gold in this town.'/ 'Suni had gold.'
- b. \*Swuni-ka    Inho-lul        miwe-ess-ta  
           Suni-NOM    Inho-ACC        hate-PAST-DEC  
           'Suni hated Inho.'

Regarding the agentivity/volitionality of the subject (property b), it was shown in section 4 that the dative arguments of existentials and psych-constructions are non-agentive.

Although the clauses in question have two arguments like transitives, their subjects are

semantically similar to those of unaccusatives. Thus, three properties (a, b, and e) in Table 2 already suggest that applicative clauses are neither transitive nor intransitives.

In the rest of this section, I show that properties (c),(d), and (f) of Table 2 also suggest that applicatives are neither transitive nor intransitive. With respect to the availability of passivization (c), transitive clauses can undergo passivization in Korean, as was shown in section 2 (see (3d)). Cross-linguistically, an important requirement for passivization is the presence of an agent (Permutter 1989, de Hoop and Malchukov 2008), and this is the case for transitives. However, existentials and psych-constructions cannot undergo passivization, as illustrated in (51):

- (51) a. \*kum-i            (i maul-ey.uyhay/Swuni-ey.uyhay)    iss-eci-ess-ta  
          gold-NOM        (this town-BY/Suni-BY)                    exist-PASS-PAST-DEC  
          Lit. 'Gold came into existence because of this town/Suni.'  
                               (Gold was made available because of this town/Suni.)'
- b. \*Inho-ka        Swuni-ey.uyhay            miwe-ci-ess-ta  
          Inho-NOM        Suni-BY                    hate-PASS-PAST-DEC  
          'Inho was hated because of Suni.'

Crucially, the unavailability of passivization (51) also supports that applicative structures are not agentive, as shown in the previous section.

Moving on to property (d), compatibility with resultatives, transitive clauses and unaccusative clauses are compatible with resultative phrases, as was shown in section 2. In contrast, unergative clauses do not allow resultative phrases, as they do not have a theme. The prediction with respect to existentials and psych-constructions is that they would allow resultative phrases, as they bear themes. However, this is not the case, as shown in (52).

(52) a. \*ku      maul-ey/Swuni-eykey kum-i      nemchi-key      iss-ess-ta  
          DEM town-DAT/Suni-DAT gold-NOM      overflow-KEY      exist-PAST-DEC  
          Existential: 'In this town, there was gold, which results in overflowing of the  
                                  gold.

Possessor: 'Suni had gold, and as a result gold overflowed.

b. \*Swuni-eykey      Inho-ka      aphu-key      silh-ess-ta  
      Suni-DAT      Inho-NOM      sick-KEY      hate-PAST-DEC  
      'Suni hated Inho, and as a result Inho was sick.

As indicated in the glosses, the resultatives cannot be predicated of the nominative-marked themes. For instance, in (52b), the sentence cannot mean that Suni hated Inho, resulting in the sickness of Inho. This is a rather unexpected result. Although existentials and psych-constructions are known to have a theme just like transitives and unaccusatives, they do not allow resultative phrases. As already pointed out earlier with respect to accusative case marking, incompatibility with resultative phrases also indicates that the theme in existentials and psych-constructions is not a canonical type of theme as the accusative-marked ones in transitives which can undergo passivization and are compatible with resultative phrases.

The properties discussed so far suggest that existentials and psych-constructions are neither transitives nor intransitives. Another indication that the clauses do not belong to any of the typical type of clauses is found in the fact that the subject of these two-place predicates can undergo case-alternation and case-stacking. As mentioned earlier, dative arguments in psych-constructions allow case alternation and case stacking (see section 3.2). Existential constructions also allow both, as illustrated in (53).

(53) a. [ku    maul-ey/-i]/      [Swuni-eykey/-ka]      kum-i      iss-ess-ta  
          [DEM town-DAT/-NOM] [Suni-DAT/-NOM]      gold-NOM      exist-PAST-DEC  
          'There is gold in this town.'/ 'Suni had gold.'

- b. [ku    maul-ey-ka]/                      [Swuni-eykey-ka]                      kum-i                      iss-ess-ta  
       [DEM   town-DAT-NOM]                      [Suni-DAT-NOM]                      gold-NOM                      exist-PAST-DEC  
       'There is gold in this town.'/ 'Suni had gold.'

In (53a), the dative-marked arguments can alternate with nominative case marking. In (53b), the dative case marker can be stacked with the nominative case marker. Strikingly, both transitive (54) and intransitive (55)/(56) do not allow either case stacking or alternation. Both case alternation and case stacking result in ungrammaticality.

- (54) a. \*Swuni-eykey                      chayksang-i                      takk-ass-ta  
               Suni-DAT                      table-NOM                      wipe-PAST-DEC  
               'Suni wiped the table.'
- b. \*Swuni-eykey-ka                      chayksang-i/-lul                      takk-ass-ta  
               Suni-DAT-NOM                      table-NOM/-ACC                      wipe-PAST-DEC  
               'Suni wiped the table.'
- (55) a. \*Swuni-eykey                      tally-ess-ta  
               Suni-DAT                      run-PAST-DEC  
               'Suni ran.'
- b. \*Swuni-eykey-ka                      tally-ess-ta  
               Suni-DAT-NOM                      run-PAST-DEC  
               'Suni ran.'
- (56) a. \*Swuni-eykey                      yawi-ess-ta  
               Suni-DAT                      lose.weight-PAST-DEC  
               'Suni lost weight.'
- b. \*Swuni-eykey-ka                      yawi-ess-ta  
               Suni-DAT-NOM                      lose.weight-PAST-DEC  
               'Suni lost weight.'

Also, as shown earlier, canonical PPs do not allow case alternation and case stacking, as exemplified in (24) and (25) in section 3.2. Thus, the availability of case-alternation and case-stacking is unique to existentials and psych-constructions, which also constitutes evidence for Appl over Voice, as argued in the previous section.



Given the results discussed in this section, I conclude that applicatives are neither transitives nor intransitive. I argue that they are pseudo-transitives that lie between transitives and intransitives. Pseudo-transitives support Hopper & Thompson's (1980) proposal that transitivity can be viewed as a continuum. In Hopper & Thompson, transitivity is shown to be identified by certain properties, some of which are adopted in this paper; for instance, the number of arguments and agentivity or volitionality of the subject. According to Hopper & Thompson, these properties allow a clause to be viewed as more or less transitive than another clause. For instance, a clause is more transitive than another if it displays a greater number of transitive properties. Canonical transitive clauses are more transitive than unergatives, as they display more transitive properties, having two participants and being agentive/volitional. In other words, unergatives are less transitive than canonical transitives as they have fewer transitive properties. Thus, transitivity is not categorically identified, but rather a continuum. Under this view, the existence of pseudo-transitives that are between transitives and intransitives is not surprising. Pseudo-transitives are less transitive than canonical transitives in that they are not agentive or volitional in spite of bearing two arguments, but more transitive than intransitives in that they have two participants. A pseudo-transitive is expected to show properties that neither transitives nor intransitives display. This is borne out by the data. As presented earlier, the themes of pseudo-transitives do not behave like canonical themes of transitives or intransitives: they do not allow resultative phrases (52) and accusative case (50). Moreover, the subjects of pseudo-transitives allow case stacking or alternation, which is unique to those clausal types. As mentioned above, in Hopper & Thompson (1980), the continuum of transitivity has been stated in non-structural terms.

Thus, a novel contribution of this paper is that it enables the structural representation of a pseudo-transitive identified in the continuum of transitivity, namely as an applicative structure.

## **6. Conclusion**

This paper shows that the current theory of argument structure should include another class of clausal structures: pseudo-transitives, which are different from transitives, unergatives, and unaccusatives in terms of its transitivity. Pseudo-transitives are different from those clauses in terms of several properties of transitivity. For example, they do not allow passivization unlike transitives. The differences between pseudo-transitives and other clauses are argued to lie in the head that introduces the dative argument, namely Appl. In particular, Appl can capture the constituency, the semantics and case of the argument, and hierarchical relation between arguments.

Interestingly, the proposed analysis is in accordance with the claims of Hopper & Thompson (1980), in which transitivity is described as a continuum, rather than being categorical. The properties of pseudo-transitives indicate that these clauses are in between transitives and intransitives. Importantly, the present analysis is meaningful as it shows that the continuum, which has been noted in non-structural terms, is able to be realized syntactically. Moreover, the current analysis provides further support for the postulation of Appl, a head which is different from Voice, and for the hypothesis that Appl is significantly different from Voice in its agentivity as well as case-assigning abilities (e.g., Kim, K. 2011, Schäfer 2012).

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