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A NOTE ON PPS IN UNERGATIVE-BASED TRANSITIVES IN ENGLISH[*]

1   INTRODUCTION

This paper aims at the proper description of the apparent alternation presented in (1):

(1)   a.   John walked Mary to her house.
       b.   John walked (to her house).

The hallmark of the alternation in (1) is that the intransitive variant is headed by an unergative verb. We will call the transitive sentence of this type *the unergative-based transitives* throughout this paper.[1]

   In this paper, we will focus on the issue of the (non-)obligatoriness of a PP for licensing this type of transitives. The status of PPs has been the locus of controversy in the literature, and the aim of the present paper is to elucidate the condition underlying the variable grammatical judgments often reported. Since whether PPs are obligatory or not and what type of PPs are allowed have been crucial for analyses of the 'alternation' and theories of argument realization, the clarification of the condition for PPs will contribute to the further understanding of this area.

   The organization of this paper is as follows: Section 2 will make a preliminary observation of the distribution of PPs in the unergative-based transitives in English. In Section 3, we will introduce the notion of sociative causation (Shibatani and Pardeshi 2002) to give a proper generalization for the distribution of PPs. We also compare our generalization with the analysis given by Maruta (1998) in section 3.3. Section 4 concludes the paper.

[1] Levin (1993: 31) calls the alternation Induced Action Alternation, and Brousseau and Ritter (1991) name it the Compelled Movement Alternation.

2   THE DISTRIBUTION OF PPS

2.1 PPs: Obligatory or not?

The complication of the unergative-based transitives stems, as we noted above, from the variable judgments among speakers with regard to the status of PPs. Some studies (Levin 1993; Levin and Rappaport Hovav 1995; Maruta 1998) claim the necessity of PPs for licensing the transitive sentences in (2). Others, on the other hand, maintain that they do not need to be present. The former position is further divided into two subgroups, one of which observes that only a certain type of PPs is allowed, and the other does not pose such a restriction. Thus, three judgment patterns have been acknowledged in the literature, as illustrated in Table 1:

(2)   a.   The general marched the soldiers to the tents.
       b.   The general marched the soldiers along the river.
       c.   The general marched the soldiers.

literature	*judgments*		
	(2a)	(2b)	(2c)
(i) Levin (1993), Levin and Rappaport Hovav (1995), Maruta (1998)	OK	*	*
(ii) Folli and Harley (2006)	OK	OK	*
(iii) Davidse and Geyskens (1998), Kageyama (2000), Erteschik-Shir and Rapoport (2005)	OK	OK	OK

<Table 1> Judgment Patterns

The first group of people claims that only (2)a should be acceptable, where the PP is a bounded one, and if there is no bounded PP, the construction is judged to be ungrammatical. The second position is that (2)b, as well as (2)a, is allowed, claiming that the boundedness is not a crucial factor. The third group reports that all of the three can be judged to be grammatical, and thus claims that PPs, whether bounded or unbounded, do not serve as a determinant of the transitive construction.

     Among the three, we would like to agree with the third party, as we will see in the next section. At least to our knowledge, however, no research has elucidated how and when the patterns of judgment vary. This paper tackles this issue, and claims that the patterns are closely related to types of causation described.

2.2 Types of PPs

Let us first observe what kind of PPs are allowed in the unergative-based transitives.

Locative PPs can be divided into two subcategories, depending on whether they are directional or not. The [+direction] category is further divided into two groups, [+bounded] and [-bounded] (e.g. Wunderlich 1991; Jackendoff 1990), resulting in a three-way classification. Representative PPs of each category are given in (3) and (4):

(3)   [+direction]
        a. [+bounded]
            to, into, across,…etc.
        b. [-bounded]
            along, through, *toward*…etc.
(4)   [-direction]
            on, *in*, *around*, …etc.

It is well known that the PPs with the [+direction][+bounded] features yield telic events when they are combined with unergative activity verbs, which are atelic otherwise:

(5)   a.   John walked {for/*in} ten minutes.
        b.   John walked to the station {*for/in} ten minutes.

As the distribution of durational and frame adverbials shows in (5), *walk*, when it stands alone, describes an atelic event, while when it is accompanied by *to the station*, it denotes a telic event. The studies that espouse the restriction of PPs to bounded ones relate the telicity to the obligatoriness of bounded PPs.

Folli and Harley (2006), however, argue that the telicity is not relevant, presenting the data in (6)a–c:

(6)   a.   John waltzed Matilda around and around the room {for/#in} three hours.
        b.   John walked Mary towards her car {for/#in} three hours.
        c.   John ran his dog along the canal {for/#in} three hours.
                                                    (Folli and Harley 2006: 137)

In (6), the sentences are headed by an unergative activity verb, with an unbounded PP, resulting in atelic events. We also can add examples that have [-direction] PPs to the list:

(7)   a.   The mother walked her daughter in the park.
        b.   John walked his dog around the park.

c.   The general marched the soldiers around the park.

From the data in (6) and (7), we conclude that neither the type of PP nor the telicity is relevant to the grammaticality of the unergative-based transitives.

2.3 PPs may not be obligatory

Davidese and Geyskens (1998) observe that PPs may be omitted in some cases: [2]

(8)   a.   …you do not gallop a horse when approaching settlements
       b.   No American commander then in uniform had ever marched an entire division, much less a corps. (Davidese and Geyskens 1998: 169–170)

Levin (1993: 31), who claims that the verb must be accompanied by a directional phrase to license this construction, notes that "even if such a phrase is not overtly expressed, it is understood". Davidese and Geyskens (1998: 175), on the other hand, observe that examples like (8)a are possible without inherent direction, noting that they are more focused on "the instigation of a specific manner of motion". The observation based on our informants also confirms this statement. The sentences in (9) all lack PPs, and nonetheless, all the informants we consulted judged them to be acceptable:

(9)   a.   The general marched the soldiers.
       b.   I walked my dog.[3]
       c.   The jockey jumped the horse.

The informants observed that (9)c, for example, becomes acceptable under the situation where the horse was practicing jumping, because it hadn't done it well. This interpretation focuses on the manner of motion of the causee (i.e. *the horse*). The other examples share the same kind of interpretation, and we name it *exercise interpretation.*
    That PP-less unergative-based transitives are felicitous under the exercise interpretation is confirmed by the following examples:

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[2] Kageyama (2000) also observes that [+direction][+bounded] PPs (goal PPs, in his terms) may not be obligatory, providing the following example:
  (i) "I'll walk you a little ways," he said. We started walking.   (Kageyama 2000:47)
    It is true that there is no PP in (i), but it can be argued that an adverbial phrase that strongly implicates a direction (i.e. *a little ways*) serves to license the transitive sentence. Thus, we take the example as a counterexample to the "telicity"/ "goal" requirement, not to the "obligatoriness of PPs".
[3] The sentence is often said to be too "fixed" to argue for the non-obligatoriness of PPs. We do not have a solid answer to this reaction at this moment, but we conjecture that the dog-walking case is an instance of the exercise interpretation (see also Maruta 1998).

(10) a. #John walked Mary.
      b. #The mother walked her three year old daughter.
      c. #I ran my sister.

The sentences in (10) are judged to be unacceptable under normal situations (this is why we put '#', instead of '*' here). In (10)a, for instance, in a normal situation, John does not have an overwhelming power over Mary, and does not have her practice walking. If a context allows this kind of situation, the sentence should be acceptable.

Thus, the acceptability of transitive sentences is not related to the presence or absence of a PP, although the lack of PPs in the unergative-based transitives leads to an unconventional interpretation.
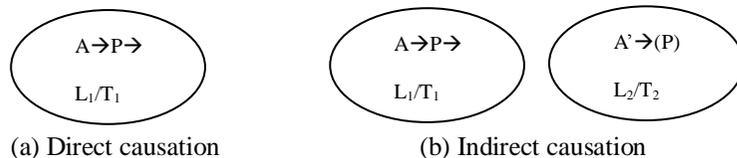
The next section is devoted to the elucidation of the relationship between the presence/lack of PPs and the interpretation of unergative-based transtives.

3   CAUSATIVE SEMANTICS AND PPS

3.1 Sociative Causation

To capture the distributional behavior of PPs in the unergative-based transitives in section 2, we adopt the semantic category of 'sociative causation' proposed by Shibatani and Pardeshi (2002).

Sociative causation is added to the traditional classification of direct and indirect causations as the intermediate category between them. Direct and indirect causations are defined by two features; the semantic roles and spatiotemporal overlapping of the causing and caused events. As for the semantic roles, direct causation has an agentive causer and a patientive causee, while in indirect causation, both of the causer and the causee are agentive. From a spatiotemporal viewpoint, direct causation denotes a situation where two events (i.e. causing and caused events) are overlapped, and can be viewed as a single event. Indirect causation, on the other hand, describes the situation which involves spatiotemporally separated causing and caused events. The difference between these two types of causation is diagrammed in Figure 1.

(a) Direct causation   (b) Indirect causation
<Figure 1> Direct vs. Indirect Causations (Shibatani and Pardeshi 2002: 90)

This semantic opposition of direct/indirect causation tends to be iconically aligned with what types of causative forms are employed. In general, direct causation is

associated with synthetic causative forms whereas indirect causation with analytic ones (e.g. *–sase* causative in Japanese). A significant split of distribution can also be found in the causativization of intransitive verbs. Cross-linguistically, unaccusative verbs tend to undergo lexical causativization and resist the analytic (syntactic) causativization. In contrast, unergative verbs tend to undergo analytic causativization and usually do not have lexical causative counterparts. This picture is illustrated in Table 2 with the Japanese examples.

		lexical causative	*analytic causative (-*sase*)*
transitive (e.g. *waru* 'break')		--	*war-ase-ru* 'make someone break something'
intransitive	unaccusative (e.g. *ware-ru* 'break')	*waru* 'break'	*ware-sase-ru 'make something break'
	unergative (e.g. *hashi-ru* 'run')	*	*hashir-ase-ru* 'make someone run'

<Table 2> *Lexical and analytic causatives*

Sociative causation lies in the middle of these two categories. It is similar to direct causation in that it describes a spatiotemporally overlapped single event, with a situation where the causer and the causee perform the same action. At the same time, it is close to indirect causation in that the causee bears an agentive role, not a patientive role.

Marathi, a New Indo-Aryan language, provides a good example of sociative causation. In (11)a and (11)b, this language allows unaccusative as well as unergative intransitives to undergo synthetic causativization by means of the suffix *–aw*. However, the unergative-based causatives in (11)b and the unaccusative-based causatives in (11)a differ in terms of what semantic roles the causer and the causee bear. In (11)a, the causer bears the agentive role and the causee the patientive role. In (11)b, on the other hand, both the causer and causee play the agentive roles.

(11)   a.   aaT-Ne 'get shrunk': aaT-aw-Ne 'to shrink something'
            bhidz-Ne 'to get wet': bhidz-aw-Ne 'to wet something'
            suk-Ne 'to become dry': suk-aw-Ne 'to dry something'
            buD-Ne 'get drowned': buD-aw-Ne 'to drown someone'
            ghaabar-Ne 'to get frightened': ghaabar-aw-Ne 'to frighten someone'
            paT-Ne 'to get convinced': paT-aw-Ne 'to convince someone
       b.   tsaal-Ne 'to walk': tsaal-aw-Ne 'to make someone walk'
            kheL-Ne 'to play': kheL-aw-Ne 'to make someone play'
            mut-Ne 'to urinate': mut-aw-Ne 'to make someone urinate'
            naats-Ne 'to dance': naats-aw-Ne 'to make someone dance'
            paL-Ne 'to run': paL-aw-Ne 'to make someone run'
                                              (Shibatani and Pardeshi 2002: 97)
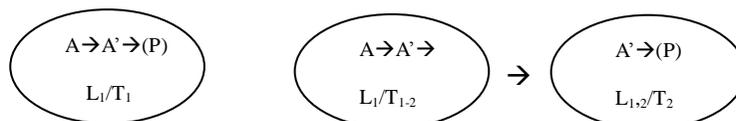
The latter type of causation denoted by unergative-based –*aw* causatives is, however, different from a typical indirect causative situation whereby both the causer and the causee bear the agentive role. In the former, the causing and caused events are spatiotemporally overlapped, while in the latter they are not. This distinction is illustrated by (12)b and (12)c, both of which are causativized versions of a simple intransitive sentence (12)a; in (12)b, the implication that the subject entity (i.e. the causer) accompanies the causee cannot be canceled without anomaly, the cancellation causing no trouble in (12)c.

(12) a.   raam   don   kilomiTar   paL-l-aa
           Ram   two   kilometer   run-PERF-M
           'Ram ran two kilometers.'

      b.   shaam-ne   raam-laa   don kilomiTar   **paL-aw-l-a**
           Sham-ERG   Ram-DAT   two kilometer   run-CAUS-PERF-N
           *paN   shaam   raam-barobar   paL-l-aa   naahi
           but   Sham   Ram-with   run-PERF-M   not
                                                     [Sociative Causation]
           'Sham made Ram run two kilometers but he did not run with Ram.'

      c.   shaam-ne   raam-laa   don kilomiTar   **paL-aaylaa**
           Sham-ERG   Ram-DAT   two kilometer   run-PTCP
             au-l-a
           make-PERF-N
           paN   shaam   raam-barobar   paL-l-aa   naahi
           but   Sham   Ram-with   run-PERF-M   not
                                                     [Indirect Causation]
                                (adapted from Shibatani and Pardeshi 2002:97–98)

Shibatani and Pardeshi (2002) divide sociative causation further into three subcategories: Joint-action, Assistive, and Supervision. A relatively large conceptual chasm lies between the former two and Supervision. Joint-action and Assistive sociatives, just like direct causatives, entail physical involvement of the causer in the caused event, while Supervision sociative is more like indirect causation since the causer and the causee may be physically separated.

The gap between Joint-action and Assistive sociatives is much smaller, but still significant. Joint-action sociative depicts a situation where the causer and the causee are engaged in the same action, whereas the causer in an Assistive sociative situation does not do exactly the same thing with the causee although their actions are closely connected (since the causee's action cannot obtain without the causer's helpful action).

Thus, sociative causatives themselves form a continuum; Joint-action leans toward the direct-causation end and Supervision toward the indirect-causation end. This continuum as a whole, the causative continuum as they call, is seen clearly when the diagrams below are placed between Figure 2(a) and Figure 2(b).

$$\boxed{\begin{array}{c} A{\rightarrow}A'{\rightarrow}(P) \\ L_1/T_1 \end{array}}$$

$$\boxed{\begin{array}{c} A{\rightarrow}A'{\rightarrow} \\ L_1/T_{1\text{-}2} \end{array}} \rightarrow \boxed{\begin{array}{c} A'{\rightarrow}(P) \\ L_{1,2}/T_2 \end{array}}$$

(a) Joint-action/Assistive   (b) Supervision

<Figure 2> Sociative Causations (Shibatani and Pardeshi 2002: 101)

In the following, we claim that the omissibility or obligatoriness of the PPs in unergative-based transitives is correlated with the types of causation depicted.

3.2. Types of Causation and PPs

The three subcategories of sociative causation are observed in the unergative-based transitive sentences in English. Let us first consider (13):

(13) a. #John walked Mary home last night, and/but he didn't walk with her.
     b. John made Mary walk home last night, and/but he didn't walk with her.

In (13), the unergative-based transitive sentence is contrasted with the analytic (syntactic) causative by *make*. Their difference in the joint-action (or accompaniment) implication is clear: in (13)a, the joint-action of John and Mary cannot be cancelled, while in (13)b, such an implication is not associated with the sentence, permitting such a cancellation. This is expected if we assume that the unergative-based transitives in English are associated with the sociative causation. The following examples show the same point:

(14) a. #A female teacher marched a naughty boy to the principal's office, but she didn't go with him.
     b. A female teacher made a naughty boy march to the principal's office, but she didn't go with him.
(15) a. #I ran her to the fence, and I didn't run with her.
     b. I made her run to the fence, and I didn't run with her.

The cases which are considered to fall into the category of Assistive sociative are also acknowledged:

(16) a. #The nurse walked the patient to the geriatric ward, but/and she was not with him.
     b. The nurse made the patient walk to the geriatric ward, but/and she was not with him.

(17) a. #The jockey jumped the horse over the fence, but/and he was not on
          his back then. (=just ordered it to do so.)[4]
      b. The jockey made the horse jump over the fence, but/and he was not
          on his back then. (=just ordered it to do so.)

In the examples in (16) and (17), what is cancelled is not the joint-action of the causer
and the causee, but the assistantship of the causer to the causee. In the (a) variants, the
assistive interpretation is strongly associated with the transitive sentences, whereas
the (b) sentences do not have this implication. The crucial aspect of the assistive
interpretation is, as noted above, the temporal overlapping of the causing and the
caused events: both in (16)a and (17)a, the implication that the causer is with the
causee, assisting him, is crucial.

   Finally, the Supervision-sociative interpretation is also observed.

(18) a. The general marched the soldiers to the tents, but he didn't march
          with them.
      b. The general made the soldiers march to the tents, but he didn't march
          with them.
(19) a. The trainer ran the athletes around the field, while he was just
          watching over them (he didn't run with them).
      b. The trainer made the athletes run around the field, while he was just
          watching over them (he didn't run with them).

Both (18) and (19) clearly designate situations where the causer does not engage in
the same activity as the causee, or the causer does not help him/her do the activity.
Instead, the situations described are the ones where the causer just ordered the
causee(s) to do the activity while s/he is watching over them. In this case, the lack of
accompaniment does not yield anomaly.

   Having established that the unergative-based transitives in English may have all
the three categories of sociative causation, we would like to show that the
interpretations associated with the sentences are correlated with the omissibility of
PPs. Let us consider the following paradigm:

(20) a. John walked Mary home.
      b. #John walked Mary.
(21) a. A female teacher marched the naughty boy to the principal's office.
      b. #A female teacher marched the naughty boy.
(22) a. The nurse walked the patient to the geriatric ward.
      b. ??The nurse walked the patient.
(23) a. The general marched the soldiers to the tents.
      b. The general marched the soldiers.

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[4] Both in (17)a and (17)b, the causee has to be (at least) an animate object in this interpretation. See
below in this section for this point.

(24) a. The trainer ran the athletes around the field.
      b. The trainer ran the athletes.

The examples in (20) and (21) describe the Joint-action situations, which do not license the PP-less unergative-based transitives. In contrast, as regards (22), which describes an Assistive situation, our informants reported that the anomaly of the PP-less transitive would be milder than that of the join-action examples. As to (23) and (24), all the informants consulted said that the PP-less sentences are acceptable. These examples are intended to refer to the supervision situation in which the causing event is not fully overlapped spatiotemporally with the caused event.

    As the paradigm shows, whether PPs are obligatory or not is closely connected with the causative situation the sentence describes: if the sentence is understood to denote a situation of Joint-action or Assistive causation, the PP cannot be omitted, while, if the sentence receives a Supervision interpretation, the PP is optional.

    We would like to note here that we do not regard the 'unacceptability' of (b)-sentences in (20)–(22) as 'ungrammaticality', but just as '(semantic) anomaly' under the normal situation. Take (20)b, for example. Given that John and Mary are in some relationship which requires Mary to obey the order by John (e.g. the general-soldier relationship), the sentence would be acceptable just as (23)b. The situation (20)a describes is usually not of this kind, and that is the source of the anomaly. Thus, if we can somehow force a Supervision interpretation, all these anomalous sentences would become acceptable.

    This is also confirmed by the following examples:

(25) a. John walked his bike through Okaido.
      b. *John walked his bike.
(26) a. The quarterback ran the ball to the goal.
      b. *The quarterback ran the ball.
(27) a. The burglar ran the money up the hill.
      b. *The burglar ran the money.

The examples above have an inanimate object, which cannot be an agent in the caused event. Thus, the only possible interpretation of these cases is the Joint-action, which necessarily involves the action of the causer to complete the caused event. As shown in the unacceptability of (25)b, (26)b and (27)b, these cases strongly resist the omission of PPs.

    The generalization about the omissibility of PPs seems to explain the nature of the 'exercise' interpretation. As noted above, if the unergative-based transitive lacks a PP, the sentence is often interpreted to describe an exercise situation. In (23)b and (24)b, the typically intended situations are the ones where the general/the trainer makes the soldiers/athletes march/run to train them. To account for this tendency, we need to make clear what constitute the causing and caused events in this type of transitives.

    In the previous section, we saw that the sociative causation is defined to constitute the intermediate category between direct and indirect causations, with an agentive causee and a spatiotemporally close relationship between causing and caused events.

However, in light of the data given in (25)–(27), the causee may be non-agentive in the Joint-action causation. In this interpretation, therefore, the one who performs the action denoted by the main predicate is primarily the causer, not the causee. This is also confirmed by the following example:

(28) a. John drove Mary home.
      b. John drove.
      c. Mary drove.

What is entailed in (28)a is (28)b, not (28)c. Mary did not drive the car, but she just sat in the car to be carried to her house. Thus, in the Joint-action interpretation, the causing event is the event denoted by the main predicate (i.e. driving, in this case), and the caused event is the change of location/motion of the causee.

In the Supervision situation, the patientive causee cannot be allowed (see footnote 4): the *causee* is the one who performs the action. In this interpretation, the causing event is the causer's ordering or supervising of the causee, whereas the caused event is the event denoted by the predicates. The above description is summarized as follows:

	Causing event	*Caused event*
joint-action	the causer's V-ing	the causee's motion
assistive	the causer's V-ing	the causee's motion
supervision	the causer's order/supervision	the causee's V-ing(+motion)

<Table 3> Causing and caused events in sociative causation

As shown in Table 3, the Joint-action/Assistive causations, the causee's motion is the necessary condition for the caused event to obtain. The motion event is explicitly marked by a PP. This is why the PP is obligatory in this interpretation. On the other hand, the supervision situation does not require the motion component to establish the caused event: the presence of the motion does not contribute to the licensing of the caused event. Thus, the PP, which is responsible for the motion component, can be optional under this interpretation.

When a unergative-based transitive sentence in the supervision interpretation lacks a PP, as in (29)a, it induces the following meaning, as described in (29)b:

(29) a. The general marched the soldiers.
      b. The general was supervising soldiers, and they were made to march under his supervision.

The denoted situation is naturally understood against our background knowledge about the general-soldier relationship: marching is one of the things that soldiers have to do, and the general is in the position to supervise them by giving orders. In this

interpretation, a focus is on the action performed by the causee, not the motion. This supervised action interpretation naturally leads to the 'exercise' implication. Thus, we claim that the 'exercise' meaning, which is often associated with the PP-less transitives, is a side effect of the supervision interpretation with a focused action component.

3.3 A Comparison with Maruta (1998)

At least to our knowledge, Maruta (1998) presents the most thorough investigation to the unergative-based transitives with respect to the causative semantics. In this section, we would like to review his analysis and make a comparison with the analysis presented here.

    Maruta (1998), following Talmy (1985), maintains that two types of causation pertain to lexical causatives in English: Onset and Extended Causations. Onset causation, represented by INITIATE, describes a causative situation where the causer is only responsible for the initiation of the causing event, and is not involved in the outcome of the caused event. In Extended causation, on the other hand, the causer has an effect over the whole causative event, namely from the causing event to the caused event. The Extended causation is represented by CAUSE.

(30)   a.   Onset Causation
              [x ACT ON y] INITIATE [y....]
        b.   Extended Causation
              [x ACT ON y] CAUSE [y ....]
                                        (Maruta 1998: 100; with a minor modification)

    Maruta (1998) further maintains that the agentive verbs, including manner of motion verbs, involve causative semantics with a slightly elaborated structure. Maruta (1998) first distinguishes the double function that the (traditional) Agent role bears; the Agent could be an intentional instigator as well as a performer (doer) of an action. Maruta (1998) names the first Vol(itional)-Initiator, and the latter Effector. In his theory, *run*, as an agentive verb, has the following lexical semantic structure:

(31)   *run*: [x DO AN ACT OF VOL] INITIATE [x RUN]
              Vol-Initiator   Effector

In (31), the argument of DO AN ACT OF VOL serves as a Vol-Initiator, and that of RUN is an Effector. The two roles are, however, borne by the same individual.
    Maruta (1998) views that in the unergative-based transitives, the two roles (i.e. Vol-Initiator and Efffector) are manifested by two different individuals. To capture this, he proposes the process of 'de-reflexivization', which assigns different individuals to the two roles. To boost this process, we need to augment the structure

with a CAUSE predicate. This is what goal PPs work for.

(32)   *run to the store*: [[x DO AN ACT OF VOL] INITIATE [x RUN]] CAUSE [BECOME [x AT *the store*]]

Note that Maruta's (1998) theory is based on the observation that goal PPs are required to license the unergative-based transitives (see Table 1 in Section 2.1). In the lexical structure in (32), the three 'x's are differentiated by the process of de-reflexivization. There are two options for this: one is that the first and the second arguments are identified as the components of a single individual, and the third argument is realized as another individual; the other is that the second and the third argument are identified, and the first one is realized as a different individual. The first option gives rise to an Extended causation interpretation, since the main predicate is CAUSE in this structure. The second option, on the other hand, induces an Onset causation, which is headed by INITIATE. The results of the two types of de-reflexivization are given below:

(33)   a.   Extended Causation interpretation:
            [x DO AN ACT OF VOL] INITIATE [x RUN] **CAUSE** [BECOME [y AT *the store*]]
       b.   Onset Causation interpretation:
            [x DO AN ACT OF VOL] **INITIATE** [y RUN] CAUSE [BECOME [y AT *the store*]]

As noted above, the Extended causation induces the interpretation where the causer bears the responsibility for the entire event. Maruta (1998) argues that the following examples fall into the category of the Extended causation, because in these examples, the causer (i.e. the subject) is understood to accompany the cause throughout the caused event:

(34)   a.   John walked Mary home.   [with an animate causee]
       b.   The quarterback ran the ball to the goal.   [with an inanimate causee]

(34)b supports his point: the causee in this example is an inanimate entity, which entails that the object itself does not run or move, and the causer should have the responsibility both for the causing and caused events. In this case, the causer bears both of Vol-Initiator and Effector roles, and the causee bears only the Theme role specified by BECOME predicate.

In an Onset-causation situation, on the other hand, the causer is just an instigator of the event: it does not have an effect over the caused event. Maruta (1998) claims that the following examples show this pattern of interpretation:

(35)   a.   The jockey jumped the horse over the fence.

     b.   The psychologist ran the rat through the maze.

In these cases, it is clear that the causer does not carry out the action described by the main predicate, and the causee is the one that jumps or runs. The causer just gives an order to undertake the action.

    It is clear that Maruta's (1998) analysis is similar to our analysis presented above in that the unergative-based transitives are associated with more than one types of causation: The Extended causation seems to correspond to the Joint-action sociative causation/direct causation, and the Onset causation to the Supervision sociative causation/indirect causation. However, there are several differences between his analysis and ours. We would like to point them out below.

    First, Maruta (1998) bases his argument on the observation that PPs are obligatory in this type of transitives. As we showed above, this is not always the case. Since the de-reflexivization process works only when the lexical structure has three identical arguments, the augmented structure by a PP has to be present. Furthermore, a PP-less lexical structure would not yield two types of causative semantics. Thus, in his analysis, the presence of PPs should be crucial, although the fact is opposite.[5]

    The second difference lies in the causative semantics acknowledged. We identified three types of sociative causation, as discussed above, while Maruta (1998) posits two types of causatives. As noted above, the Extended causation can be equated with the Joint-action sociative causation (and direct causation), and the Onset causation with the Supervision sociative causation (and indirect causation). In this alignment, the Assistive sociative causation cannot be included. The Assistive causation lies in the middle of the Joint-action and the Supervision. This is observed, as we argued above, in the cancellation of the accompaniment entailment. Let us look at the examples again:

(36) a. #John walked Mary home, but he didn't walk with her.
       b. #The mother walked her three year old daughter to the preschool, but she [=the mother] didn't walk with her.
(37) a. The jockey jumped the horse over the fence, but he didn't jump with it.
       b. #The jockey jumped the horse over the fence, but he wasn't on its back then.
(38) a. The general marched the soldiers to the tents, but he didn't walk with them.
       b. The general marched the soldiers to the tent, while he was watching over them.

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[5] We might rescue his analysis by positing that the de-reflexivization process may operate if there are at least two identical arguments (see Kageyama (2000), for a similar proposal). In that modified analysis, a PP-less lexical structure would have the structure in (i), which should have the only interpretation: the Onset causation.

  (i) [x DO AN ACT OF VOL] INITIATE [y RUN]

  (i) predicts that the causee (=y) cannot be an inanimate, because the argument itself is the performer of the action described by the verb.

The examples in (37)a–b are intended to denote the Assistive causations. If the Assistive causation were a subcategory of the Extended causation, it would have an accompaniment implication, just as (36)a–b. If, on the other hand, the Assistive causation were a subcategory of the Onset causation, it would induce no accompaniment connotation (Maruta 1998: 101–102). The examples in (37) show that the sentence does not have accompaniment, but have a weaker notion of 'assistance'. This is sharply contrasted with a syntactic causative formed by *make*, which clearly marks the independence of the causer of the caused event:

(39) a. The jockey made the horse jump over the fence, but he didn't jump with it.
      b. The jockey made the horse jump over the fence, but he wasn't on its back then.

Thus, as we claimed, three categories of sociative causation are observed in the unergative-based transitves in English, rather than just two.

The final difference is concerned with the 'exercise' interpretation. We proposed that the exercise interpretation is the motion-less variant of the Supervision causation, while Maruta (1998) posits that it constitutes a totally different predicate. In Maruta (1998), the exercise interpretation arises from the lexical transitive frame 'x EXERCISE y', which is independent of the unergative-based transitive sentences, since his analysis is based on the observation that PPs are obligatory to license the transitives. Our analysis, on the other hand, which clarified the relationship between the PP omissibility and the causative semantics, can deal with the exercise interpretation as a natural pragmatic extension/accommodation from the supervision causation.

4   CONCLUSION

In this paper, we dealt with the problem associated with the status of PPs in the unergative-based transitives in English, and tried to give a thorough description of their controversial distribution. To accomplish this, we proposed to entertain the notion of the sociative causation, and showed that the three categories of the sociative causation (Joint-action, Assistive, and Supervision) are observed in English. We claimed that the omissibility of PPs is closely related to which causative interpretation the sentence might have: when the sentence may have the supervision interpretation, a PP can be optional. We also suggested that the so-called 'exercise' interpretation, which is available when the PP is missing, can be captured as a pragmatic accommodation from the Supervision-causative interpretation.

REFERENCES

Brousseau, Anne-Marine and Elizabeth Ritter (1991) "A Non-Unified Analysis of Agentive Verbs," *WCCFL* 10, 53–64.

Davidse, Kristin and Sara Geyskens (1998) "Have You Walked the Dog Yet? The Ergative Causativization of Intransitives," *Word* 49, 155–180.

Erteschik-Shir, Nomi and Tova Rapoport (2005) "Path Predicates,' In Nomi Erteschik-Shir and Tova Rapoport (eds.), *The Syntax of Aspect*, 65–86, Oxford University Press, Oxford.

Folli, Raffella and Heidi Harly (2006) "On the Licensing of Causatives of Directed Motion: Waltzing Matilda All Over," *Studia Linguistica* 60-2, 122–155.

Jackendoff, Ray (1990) *Semantic Structures*, MIT Press, Cambridge/Massachusetts.

Kageyama, Taro (2000) "Jitakotai no Imitekimekanizumu (The Semantic Mechanism behind Intransitive-Transitive Alternations), Maruta Tadao and Suga Kazuyoshi (eds.) *Nichieigo no Jita no Kotai (Intransitive-transitive Alternations in English and Japanese)*, 33–70, Hitsuji Shobo, Tokyo.

Levin, Beth (1993) *English Verb Classes and Alternations: A Preliminary Investigation*, The University of Chicago Press, Chicago and London.

Levin, Beth and Malka Rappaport Hovav (1995) *Unaccusativity: At the Syntax-Lexical Semantic Interface*, MIT Press, Cambridge/Massachusetts.

Maruta, Tadao (1998) *Shiekidoshi no Anatomi: Goitekishiekidosi no Goigainenkozo (An Anatomy of Causative Verbs: Lexical Conceptual Structures of Lexical Causative Verbs)*, Shohakusha, Tokyo.

Shibatani, Masayoshi and Prashant Pardeshi (2002) "The Causative Continuum," in Shibatani Masayoshi (ed.), *The Grammar of Causation and Interpersonal Manipulation*, 85–126, John Benjamins, Amsterdam/Philadelphia.

Talmy, Leonard (1985) "Lexicalization Patterns: Semantic structure in Lexical Forms," in Timothy Shopen (ed.), *Language Typology and Syntactic Description (vol.III): Grammatical Categories and the Lexicon*, 57–149, Cambridge University Press, Cambridge.

Wunderlich, Dieter (1991) "How do Prepositional Phrases Fit into Compositional Syntax and Semantics?" *Linguistics* 29, 591–621.

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