

Enumeration of Things and Events*

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1. Introduction

Various researchers have noted that the count/mass distinction in the nominal system strongly parallels the perfective/imperfective distinction in the verbal (aspectual) system (e.g. Allen (1966), Fiengo (1974), Langacker (1987), Talmy (1988), Ikegami (1989, 1993), and Jackendoff (1991)). In this paper, I present further examples which manifest this parallelism between things and events.

2. Things

Suppose there are two fountain pens and three ballpoint pens on a desk. When we want to express the total number of items on the desk, how do we describe this situation? Interestingly enough, the following sentence is ungrammatical, and thus it cannot refer to such a situation:

- (1) *There are five fountain pens and ballpoint pens on the desk.¹

The number of pens in question is five, so we can felicitously say:

- (2) There are five pens on the desk.

For some reason, however, we cannot say sentence (1). This contrast in grammaticality shows that the plural noun *pens* can be modified by the cardinal numeral *five*, while the conjoined plural noun *fountain pens and ballpoint pens* cannot be modified by it. Notice also that adding *all told*, *altogether*, *in all*, or *in total* to (1) does not alleviate the ungrammaticality of the sentence, as is shown in (3):

- (3) *There are five fountain pens and ballpoint pens {all told/altogether/
in all/in total} on the desk.

What makes (1) and (3) ungrammatical?

Before we proceed to an explanation of why (1) and (3) are ungrammatical, let us turn to cases in Japanese, where a similar phenomenon can be observed. Consider the following examples:

- (4) a. Tukue no ue ni go-hon no pen ga ar-u.
desk GEN top LOC 5-CL GEN pen NOM be-PRES
b. Tukue no ue ni pen go-hon ga ar-u.
desk GEN top LOC pen 5-CL NOM be-PRES
c. Tukue no ue ni pen ga go-hon ar-u.
desk GEN top LOC pen NOM 5-CL be-PRES
- (5) a. Tukue no ue ni go-hon no *mannerhitsu to boorupen* ga
desk GEN top LOC 5-CL GEN fountain pen and ballpoint pen NOM
ar-u.
be-PRES
b. Tukue no ue ni *mannerhitsu to boorupen* go-hon ga
desk GEN top LOC fountain pen and ballpoint pen 5-CL NOM
ar-u.
be-PRES
c. Tukue no ue ni *mannerhitsu to boorupen* ga go-hon
desk GEN top LOC fountain pen and ballpoint pen NOM 5-CL
ar-u.
be-PRES

The sentences in (4) mean that there are five pens on the desk, so they can refer to a situation in which there are two fountain pens and three ballpoint pens on the desk; in other words, each of the sentences in (4) can be taken as expressing the total number of fountain pens and ballpoint pens, just as was the case for the English sentence (2). The sentences in (5), on the other hand, do not allow an interpretation in which *go-hon* '5-CL' modifies *mannerhitsu to boorupen* 'fountain pen and ballpoint pen'; hence they cannot be used to refer to such a situation. That is to say, the sentences in (5) cannot be given an

interpretation in which the total number of fountain pens and ballpoint pens is five.² A possible interpretation of sentence (5a) is that there are five fountain pens and one (or more than one) ballpoint pen on the desk, and a possible interpretation of sentences (5b, c) is that there are five ballpoint pens and one (or more than one) fountain pen on the desk.

Given examples such as (1)-(5), one might make the generalization that conjoined nouns cannot be modified by cardinal numerals; however this generalization is objectionable on empirical and theoretical grounds. A careful observation of relevant data reveals that a certain type of conjoined noun can be modified by cardinal numerals, as in:

- (6) There are five {boys and girls/fathers and mothers/??mothers and children} in the room.
- (7) a. Heya ni go-nin no {otokonoko to onnanoko/titioya to hahaoya/
room LOC 5-CL GEN boy and girl father and mother
hahaoya to kodomo} ga i-ru.
mother and child NOM be-PRES
- b. Heya ni {otokonoko to onnanoko/titioya to hahaoya/hahaoya to
room LOC boy and girl father and mother mother and
kodomo} go-nin ga i-ru.
child 5-CL NOM be-PRES
- c. Heya ni {otokonoko to onnanoko/titioya to hahaoya/hahaoya to
room LOC boy and girl father and mother mother and
kodomo} ga go-nin i-ru.
child NOM 5-CL be-PRES

In (6), five can modify *boys and girls*, *fathers and mothers*, or *mothers and children*; hence we can get an interpretation in which the total number of people in the room is five. That is to say, the sentence *There are five boys and girls in the room* can refer to a situation in which two boys and three girls are in the room. A similar observation applies to the Japanese sentences in (7).³

The data reviewed thus far suggest that we are dealing with a phenomenon which cannot properly be accounted for exclusively in syntactic terms. Although (1) and (6) have the same syntactic structure, they are different in grammaticality. Similarly, (5a) and (7a) have the same syntactic structure, but

their semantic interpretations are different. On the other hand, the sentences in (5) have distinct syntactic structures from each other (see, for example, Takano (1984, 1986)), but they are similar in one important respect: none of them allow an interpretation in which *go-hon* '5-CL' modifies *mannerhitsu to boorupen* 'fountain pen and ballpoint pen'. In short, it appears that the differences between (1, 5) and (6, 7) should be explicated in terms of semantics.

I put forward the following generalization:

- (8) Nouns which encode things of the same kind can be modified by cardinal numerals; while those which encode things of different kinds cannot be modified by them.⁴

Certain matters require clarification before the intended import of this generalization can be evaluated. A set of things is construed as consisting of either things of the same kind or things of different kinds depending upon the context. By way of example, imagine a situation in which a fountain pen and a ballpoint pen are on a desk. When they are conceptualized as things of the same kind, they are subsumed under the category 'pen'; hence they are referred to as *two pens*. On the other hand, when they are conceived of as pens of different kinds, they are likely to be referred to as *a fountain pen and a ballpoint pen*. That is to say, the presence of things construed as comprising things of different kinds is usually expressed by NP conjunction.

Both of the conjoined nouns *fountain pens and ballpoint pens* in (1) and *mannerhitsu to boorupen* 'fountain pen and ballpoint pen' in (5) are construed as referring to pens of different kinds, so they cannot be modified by cardinal numerals. The plural noun *pens* is used when pens of the same kind or those of different kinds are conceptualized as belonging to the same category (i.e. 'pen'); hence we can say, for example, *There are five pens on the desk*. The same analysis applies to the Japanese sentences in (4).

Let us turn now to the examples in (6) and (7). Why are they acceptable? I maintain that each of the conjoined nouns in (6) and (7) refers to things of the same kind, unlike *fountain pens and ballpoint pens* in (1). Boys and girls, for example, are always (or at least often) subsumed under the category 'young person'; accordingly both *boys* and *girls* encode things which are conceived of as

belonging to the same kind (i.e. 'young person'). Consequently the conjoined noun *boys and girls* refers to things of the same kind. Since it refers to things of the same kind, it can naturally be modified by cardinal numerals. A similar analysis applies to *fathers and mothers*, *mothers and children*, *otokonoko to onnanoko* 'boy and girl', etc.

The postulated difference between *boys and girls* and *fountain pens and ballpoint pens* can be given some empirical support by the following pair of sentences:

- (9) a. ?There are different kinds of young persons in the room: a boy and a girl.
 b. There are different kinds of pens on the desk: a fountain pen and a ballpoint pen.

Under this approach, sentence (9a) is odd because the phrase *different kinds of young persons* is semantically incompatible with the conjoined NPs *a boy and a girl*, both of which refer to young persons of the same kind; while (9b) is acceptable because *a fountain pen* and *a ballpoint pen* refer to pens of different kinds.

In addition, generalization (8) also straightforwardly accommodates examples such as the following:

- (10) a. I ate five {fish and chips/ham and eggs}.
 b. I drank five gin and tonics.

The words *fish* and *chips* in *fish and chips* are not thought of as independently referring to things of different kinds; on the contrary, they are conceived of as jointly referring to the single concept FISH AND CHIPS. In other words, fish and chips together constitute a single conceptual unit, so *fish and chips* can be modified by cardinal numerals. Note that the sentence *I ate five fish and chips* cannot refer to a situation in which I ate two fish and three chips. This fact clearly shows that *fish and chips* makes up a fixed phrase. Noun phrases such as *ham and eggs* and *gin and tonics* are analyzed in the same way.

A question might arise at this point as to why nouns which encode things of different kinds cannot be modified by cardinal numerals. What motivates the

generalization in (8)? Generalization (8) arguably follows from the nature of counting. Frege (1950:62), quoting Spinoza, remarks:⁵

- (11) . . . we only think of things in terms of number after they have first been reduced to a common genus. For example, a man who holds in his hand a sesterce and a dollar will not think of the number two unless he can cover his sesterce and his dollar with one and the same name, viz., piece of silver, or coin; then he can affirm that he has two pieces of silver, or two coins; since he designates by the name piece of silver or coin not only the sesterce but also the dollar.

In short, things which are construed as belonging to different kinds cannot be counted together because a conceptualization of things as belonging to the same category or kind is a prerequisite for counting them. Hence we can say that (8) is a direct reflection of the property of numerical cognition.⁶

3. Events

Since things of different kinds cannot be counted together, nouns which encode things of different kinds cannot be jointly modified by cardinal numerals. A similar phenomenon can be observed with events; that is to say, events of different kinds cannot be jointly quantified by the adverbials of frequency which specify the number of events. We proceed in a manner analogous to the previous section. Compare the following pair of sentences:

- (12) a. Suddenly, John hit Bill.
b. Suddenly, John punched and slapped Bill.

Both of the sentences in (12) can be used interchangeably to describe the same objective situation, but they nevertheless differ semantically in that they reflect, for the speaker, alternate construals of the situation. *Punch* and *slap* are both used when someone is hit with a hand, but they encode different kinds of events from each other. *Punch* encodes an event in which someone hits someone (or something) with a closed hand; while *slap* encodes an event in which someone

hits someone with an open hand. When the event of John's punching Bill and that of John's slapping Bill are both construed as events of the same kind (i.e. 'John's hitting Bill'), these events are expressed by sentence (12a). By contrast, when these events are conceived of as events of different kinds, they are encoded by sentence (12b).⁷

The number of events is indicated by adverbials of frequency, such as *twice*, *three times*, and *four times*, just like the number of things is expressed by cardinal numerals, such as *two*, *three*, and *four*.⁸ Interestingly, a similar constraint is observed when one expresses the total number of events. That is to say, just as nouns which encode things of different kinds cannot be modified by cardinal numerals, sentences which designate events of different kinds cannot be modified by the adverbials of frequency which express the total number of events, as can be seen from the following contrast in grammaticality between (13a) and (13b):

- (13) a. Suddenly, John hit Bill five times.
 b. *Suddenly, John punched and slapped Bill five times.⁹

As we have observed, (12a) designates events conceptualized as being of the same kind; whereas (12b) encodes events construed as events of different kinds. Thus, the adverbial *five times* can co-occur with (12a), as (13a) shows, but it cannot co-occur with (12b), as the ungrammaticality of (13b) shows. In other words, (13a) can refer to a situation in which John suddenly punched Bill twice and slapped him three times, but (13b) cannot refer to such a situation. Note again that the addition of *all told*, *altogether*, *in all*, or *in total* to (13b) does not alleviate the ungrammaticality of the sentence, as is shown in (14):

- (14) *Suddenly, John punched and slapped Bill five times {all told/
 altogether/in all/in total}.

Let us observe further examples to see if our generalization holds. Consider first the following pair of sentences:

- (15) a. Suddenly, John hit his friends.
 b. Suddenly, John hit Bill and Mary.

Both of the sentences in (15) can refer to a situation in which John hit his friends Bill and Mary, but they reflect, for the speaker, alternate construals of the situation, just like (12a) and (12b) above. Clearly, the event of John's hitting Bill is different in kind from the event of John's hitting Mary because the person John hit is different in each event. These events, however, can be conceptualized as being of the same kind if Bill and Mary are subsumed under the same category (e.g. 'John's friends'). Thus, (15a) encodes events of the same kind, and (15b) events of different kinds.

The postulated difference in conceptualization between (15a) and (15b) is confirmed by the contrast in the following pair of sentences:

- (16) a. *John did two different kinds of things: he hit his friends.
 b. John did two different kinds of things: he hit Bill and he hit Mary.

Sentence (16a) is ungrammatical because *John did two different kinds of things* is semantically incompatible with *he hit his friends*, which designates events of the same kind. If John's hitting his friends were thought of as events of different kinds, (16a) would be grammatical. On the other hand, the grammaticality of (16b) shows that John's hitting Bill and John's hitting Mary are thought of as events of different kinds. If these events were referring to events of the same kind, (16b) would be semantically anomalous.

Now, given the semantic difference between (15a) and (15b), we might expect to find that (15a) can be modified by adverbials such as *five times* and that (15b) cannot be modified by them. This is indeed the case, as the sentences in (17) below show:

- (17) a. Suddenly, John hit his friends five times.
 b. *Suddenly, John hit Bill and Mary five times.¹⁰
 c. *Suddenly, John hit Bill and Mary five times {all told/altogether/in all/in total}.

(17a) is grammatical, and it can refer to a situation in which John hit Bill twice and Mary three times; while (17b) is ungrammatical, and thus it cannot refer to such a situation. Moreover, the addition of *all told*, *altogether*, *in*

all, or in total to (17b) does not improve the grammaticality of the sentence, as in (17c).

Let us discuss an additional set of sentences which manifests the distinction between events of the same kind and those of different kinds. Consider the following pair of sentences:

- (18) a. Suddenly, John's friends hit him.
b. Suddenly, Bill and Mary hit John.

Both of the sentences in (18) can refer to a situation in which John was hit by his friends Bill and Mary; however they are semantically distinct in that they reflect, for the speaker, alternate construals of the situation. Obviously, Bill's hitting John and Mary's hitting John are events of different kinds because the person who hit John is different in each event; hence (18b) designates events of different kinds. If the hitter in each event (i.e. Bill and Mary) is conceptualized as belonging to the same category (e.g. 'John's friends'), the event of Bill's hitting John and that of Mary's hitting John are construed as events of the same kind. (18a) reflects such a construal.

The difference between (18a) and (18b) can be illustrated with the following pair of sentences:

- (19) a. *Two different kinds of things happened to John: John's friends hit him.
b. Two different kinds of things happened to John: Bill hit him and Mary hit him, too.

The ungrammaticality of (19a) can be taken to indicate that (18a) encodes events of the same kind; whereas the grammaticality of (19b) shows that (18b) designates events of different kinds.

As we expect, we observe the following patterns of grammaticality:

- (20) a. Suddenly, John's friends hit him five times.
b. *Suddenly, Bill and Mary hit John five times.¹¹
c. *Suddenly, Bill and Mary hit John five times {all told/altogether/ in all/in total}.

Since (18a) designates events conceptualized as comprising events of the same kind, it can be modified by *five times*, as in (20a). By contrast, because (18b) designates events construed as comprising events of different kinds, it cannot be modified by *five times*, as in (20b). In other words, (20a) can refer to a situation in which Bill hit John twice, and Mary hit John three times, but (20b) cannot refer to such a situation. Moreover, adding *all told*, *altogether*, *in all*, or *in total* to (20b) does not improve the grammaticality of the sentence, as in (20c).

4. Conclusion

A set of things can be construed as consisting of either things of the same kind or things of different kinds depending upon the context; likewise a set of events can be construed as comprising either events of the same kind or events of different kinds. Things of the same kind and events of the same kind go together as both being countable; while things of different kinds and events of different kinds go together as both being uncountable. These parallels between the domains of things and events leave room for a variety of interpretations. I leave open whether or not the concepts THING and EVENT are to be correlated with each other.

Notes

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¹ (1) is fairly acceptable if *five* is taken to modify *fountain pens* and

ballpoint pens each, although the sentence *There are five fountain pens and ballpoint pens each on the desk* is ungrammatical. Notice also that the following sentences are perfectly grammatical:

- (i) There are {lots of/many/several} fountain pens and ballpoint pens on the desk.

² Several people have remarked that (5c) perhaps receives the intended interpretation in colloquial Japanese.

³ Some conjoined nonhuman nouns can also be modified by cardinal numerals, as in:

- (i) a. Niwa ni go-hiki no inu to neko ga i-ru.
garden LOC 5-CL GEN dog and cat NOM be-PRES
'There are five cats and dogs in the garden.'
- b. Niwa ni inu to neko go-hiki ga i-ru.
garden LOC dog and cat 5-CL NOM be-PRES
'There are five cats and dogs in the garden.'
- c. Niwa ni inu to neko ga go-hiki i-ru.
garden LOC dog and cat NOM 5-CL be-PRES
'There are five cats and dogs in the garden.'
- (ii) a. Syokutaku no ue ni go-hon no naihu to hwooku ga ar-u.
dining table GEN top LOC 5-CL GEN knife and fork NOM be-PRES
'There are five knives and forks on the dining table.'
- b. Syokutaku no ue ni naihu to hwooku go-hon ga ar-u.
dining table GEN top LOC knife and fork 5-CL NOM be-PRES
'There are five knives and forks on the dining table.'
- c. Syokutaku no ue ni naihu to hwooku ga go-hon ar-u.
dining table GEN top LOC knife and fork NOM 5-CL be-PRES
'There are five knives and forks on the dining table.'

⁴ In her analysis of mass nouns in English, Wierzbicka (1984, 1985a, 1985b) convincingly argues that some mass nouns, such as *cutlery*, *furniture*, and *footwear*, refer to things of different kinds, and that this is why they are uncountable.

⁵ (11) is also quoted in Wierzbicka (1985b:320-321). Cf. also Croft (1994:162).

⁶ At present, I know of no way of accounting for the grammaticality of the following sentences:

- (i) There are five pens of {these/those} kinds on the desk.
- (ii) There are five pens of different kinds on the desk.

⁷ Pulman (1983:107-136) discusses the hierarchical organization of verbal categories. Cf. also Langacker (1988:63-90) and Taylor (1989:46-51).

⁸ Jackendoff (1991:16) states that "the semantic value of repetition is identical to that of the plural, that is, it encodes the multiplicity of a number of entities belonging to the same category." Cf. also Langacker (1987) and Talmy (1988).

⁹ (13b) is fairly acceptable if John's punching Bill and John's slapping Bill are thought of as conceptually unitary events. Cf. the sentences in (10). Notice also that the following sentences are perfectly grammatical:

- (i) Suddenly, John punched and slapped Bill {lots of/~~many~~/several} times.

¹⁰ The sentence *Suddenly, John hit Bill and Mary five times each* is grammatical. Thus, (17b) can be fairly acceptable under the interpretation in which John hit Bill five times and hit Mary five times. Notice also that the following sentences are perfectly grammatical:

- (i) Suddenly, John hit Bill and Mary {lots of/~~many~~/several} times.

¹¹ The sentence *Suddenly, Bill and Mary hit John five times each* is grammatical. Thus, (20b) can be fairly acceptable under the interpretation in which Bill hit John five times and Mary hit John five times. Notice also that the following sentences are perfectly grammatical:

- (i) Suddenly, Bill and Mary hit John {lots of/~~many~~/several} times.

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