Cross-linguistic investigation from the viewpoints of motion types

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● The Unique Path Constraint and two types of motion

Goldberg (1991) argues that a single clause may not include more than one change:

(1) a. * Sam kicked Bill black and blue out of the room.

b. * Sam kicked Bill out of the room black and blue.

In (1), *black and blue* and *out of the room* denote a change of state and a change of location, respectively, and their co-occurrence is shown to be impossible. Goldberg calls this co-occurrence restriction the Unique Path Constraint (UPC). However, there are cases where more than one change seems to be included in a single clause, as in:

(2) John stood up straight. (cf. Goldberg (1991:375))

The result phrase *straight* and the path phrase *up* co-occur in a single clause, both denoting a change of *John*. Nevertheless, (2) is acceptable, posing a problem to the UPC.

Yasuhara (2012) explains the difference between (1) and (2), based on the notion of the further specification, which is frequently evoked in work on lexical semantics. More specifically, he argues that the motions involved in the sentences in (1) and (2) are different in nature. While the movement involved in (1) is the translational motion (i.e., movement that changes the position of an object) (cf. Talmy (2000)), that involved in (2) is anchored at a fixed position. The path phrase *up* defines the motion of a part of *John*'s body, with his legs anchored at a fixed location. Yasuhara's (2010) definition of the anchored motion is as follows:

(3) Anchored motion is motion in which an object undergoing the movement remains anchored at a fixed location, while rearranging parts of its extension in space.

The UPC thus prohibits a co-occurrence of a change of state expression and a change of location expression when the latter refers to translational motion. On the other hand, co-occurrences of path phrases denoting anchored motion and result phrases referring to spatial extension are licit within the UPC. *Up* and *straight* both refer to the unique change of *John*'s position in (2), with no violation of the UPC.

In fact, all of the following sentences, which include change of state verbs and path phrases in a single clause, are acceptable because the path phrases denote anchored motion (not translational motion):

(4) I cut down a big tree, and then … (BNC)

(5) The roof burned off the Catholic church … (M. R. Doyle, *Events of This Day*)

(6) The rear window shattered into the backseat. (R. Trebilcock, *The Genesis Signature*)

(7) John broke the egg into the bowl.

In these sentences, the verbs *cut*, *burn*, *shatter* and *break* denote change of state, and the path phrases *down*, *off the Catholic church*, *into the backseat* and *into the bowl* express change of location. In all of these sentences, the path phrases do not refer to translational motion; only parts of objects move along the paths, with other parts anchored at the original locations. In (4), for example, only the trunk of the tree falls down as a result of cutting it, with its root anchored to the ground.

In the rest of this paper, it is shown that the semantic approach based on the types of motion is applicable to other than English. Specifically, it is proved that the Japanese V-V compounds are successfully explained in this framework. This strongly suggests that this analysis captures some universal characteristic of human language.

● Cross-linguistic consideration: The Unique Path Constraint in Japanese

Although the UPC was originally proposed to explain the co-occurrence restriction in English, several researchers point out that the UPC is also applicable to Japanese (Kageyama (1999) and Ho (2010), among others):

(8) a. * Tokei-o yuka-ni otosi-kowasu
the clock-Acc the floor-Dat drop-break.
b. * Koppu-o wari-suteru
the cup-Acc break-throw (Ho (2010:136))

The V-V compounds *otosi-kowasu* (drop-break) and *wari-suteru* (break-throw) in these sentences are not acceptable because they are composed of a change of state verb and a change of location verb, and hence violating the UPC. Interestingly enough, the same problem observed with the contrast between (1) and (2) occurs in the case of Japanese V-V compounds, though Japanese V-V compounds are rather different in structure from the English sentences discussed in the preceding section:

(9) a. Taro-ga ki-o kiri-taosita.
Taro-Nom the tree- Acc cut-felled
b. Juutaku-no 2kaibubun-ga yake-otita.
the house-Gen 2nd floor-Nom burn-fall.past (Ho (2010:136))

As Ho (2010) points out, these examples are apparently problematic to the UPC, since both of the compound verbs *kiri-taosu* (cut-fell) and *yake-otiru* (burn-fall) are composed of a change of state verb and a change of location verb. The same is true of the following examples (cf. Kageyama (1999)):

(10) Madogarasu-ga ware-otita.
the window-Nom break-fall.past
(11) Taro-ga tamago-o wari-ireta
Taro-Nom the egg-Acc break-drop. past

As we have observed with the contrast between (1) and (2) and the grammaticality of the sentences in (4) to (7), change of state verbs are compatible with path phrases when the path phrases denote anchored motion in English, while they cannot co-occur with a change of location expression when the latter refers to translational motion. It should be noted here that all of the change of location verbs *taosu* 'fell', *otiru* 'fall' and *ireru* 'drop', which are included in the compound verbs in (9) to (11), refer to anchored motion (not translational motion), while translational motion is involved in (8), resulting in the UPC violation. As the sentences in (4) to (7) do, the sentences in (9) to (11) depict situations in which only a part of an object moves along a path, and the rest of the object remains at a fixed location. Although the Japanese grammatical system is different from the English system given that Japanese uses compound verbs, (9a), (9b), (10) and (11) are semantically taken as Japanese counterparts of (4), (5), (6) and (7), respectively.

The semantic mechanism based on the distinction between translational motion and anchored motion is thus proved to be relevant both cross-linguistically and cross-structurally. We are led to conclude that human language is universally devised as sensitive to this semantic property.

References

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