

On the *Joint* Sense of the English Preposition *by*

Shinya Hirasawa
hiralingual1026@gmail.com

Keywords: English, preposition, polysemy, body part, means

Abstract

The present paper is part of an attempt to capture a complete picture of the polysemous network of the English preposition *by*. The main objects of analysis are two constructions exemplified in *Susan grabbed John by the arm* and *Susan bound John to a chair by a rope* respectively. In the first construction, *by* serves to introduce an entity that is part of the patient. The agent can physically control the patient by handling the part, which functions as a joint between the two entities. In the second construction, *by* serves to introduce a bridging entity such as a rope, string or actual bridge that functions as a joint between two entities. Through investigation of these constructions emerges the *joint* sense of the preposition. I argue that the two *bys* found in the constructions represent two distinct uses of the preposition, which carries the same meaning in both contexts. I also suggest that since the second construction is closely associated with such common usages as *go by road* and *go by bus*, the view taken here is likely to open up further avenues for exploring the polysemous network of *by*.

1. Introduction

In this paper two particular constructions involving the preposition *by* will be examined. I term one the effect-through-part construction (see Chapter 2) and the other the linking construction (see Chapter 3). In both constructions, investigation reveals that *by* marks the entity denoted by the noun that follows it as a joint or bridge linking two entities appearing in the sentence in one way or another. The important role that the *joint* sense plays in the polysemous network of *by* is discussed in Chapter 3. Finally, the concluding chapter offers a brief summary of the model proposed in the present study.

The example sentences used herein are generally taken from the Corpus of Contemporary American English (COCA), the Corpus of Historical American English (COHA), Time Magazine Corpus (TMC), and British National Corpus (BNC). Some are quoted from literary works and other publications, as indicated at the end of each example throughout. Where no such source is cited, examples are of my own making with the assistance of informants.

2. Effect-through-part Construction

2.1. Definition of Effect-through-part Construction

I call the boldfaced constructions in (1)-(6) instances of the effect-through-part construction.

- (1) "Come," he whispered as he **grabbed me by the arm** and led me to the very edge of the cave.
(Eric Walters, *The Bully Boys*)
- (2) **Jim caught the knife by the handle.** (COCA)
- (3) ... what you *really* wanted to do was be a terrific lawyer, with everybody **slapping you on the back** and congratulating you in court when the goddam trial was over ... (J. D. Salinger, *The Catcher in the Rye*)
- (4) After this Stokowski examined my cello and talked about its sound, **tapping it on the back** to point out the resonance. (COCA)
- (5) And if that ball **hadn't slammed his father in the eye**, who is to say he wouldn't have been killed in the war — before his marriage, before the birth of his children? (Paul Auster, *Sunset Park*)
- (6) The best way to describe it is to imagine jumping on a trampoline and not **hitting it in the middle.** (COCA)

In each of the examples above, the agent makes contact with a part of the patient (as denoted by the complement of the preposition), and the act of making contact affects the whole patient. This defines the syntax and semantics of the effect-through-part construction in general.

2.2. Meaning of Preposition in Effect-through-part Construction

In this section it is shown that the particular meaning of a preposition in the effect-through-part construction is closely associated with other meanings of the preposition.

Transitive verbs that can enter into the effect-through-part construction can be sorted by the prepositions they collocate with.

- (7) **Transitive Verbs that Collocate with *on* in Effect-through-part Construction**
beat, bite, catch, clap, cuff, get, hit, kiss, knock, pat, peck, poke, pound, punch, slap, smack, strike, swat, tap, touch, whack
- (8) **Transitive Verbs that Collocate with *in* in Effect-through-part Construction**
beat, bite, catch, elbow, get, hit, jab, kick, knock, nudge, peck, poke, punch, shoot, shove, slam, slap, slug, smack, smash, stab, strike, take, whack
- (9) **Transitive Verbs that Collocate with *by* in Effect-through-part Construction**
carry, catch, drag, get, grab, grasp, grip, guide, handle, have, haul, hold, jerk, lead, lift, pluck, pull, push, seize, shake, snatch, squeeze, swing, take, throttle, tow, trap, tug, yank¹

¹ *Catch* refers to the process of hitting in (7) and (8), but in (9) the act of grabbing or taking hold.

Roughly speaking, the verbs in (7) and (8) denote the act of hitting, pushing or touching, while those in (9) signify that of grabbing or pulling. We thus see a sharp dividing line between (7) and (8) on the one hand and (9) on the other.

There is also a notable difference between (7) and (8). Some verbs are included in one but not the other. For example, *touch* and *kiss* can occur with *on* but not with *in*.

(10a) And in lieu of a sword I **touch him once, gently, on the shoulder.** (Daniel Wallace, *Big Fish*)

(10b) * And in lieu of a sword I **touch him once, gently, in the shoulder.**

(11a) *Stands up, walks over to Miles, kisses him on the forehead, and then goes off to let in the deliveryman from the restaurant.* (Paul Auster, *Sunset Park*)

(11b) **Stands up, walks over to Miles, kisses him in the forehead, and then goes off to let in the deliveryman from the restaurant.*

The verbs *shoot* and *stab* can collocate with *in* but not with *on*.

(12a) *She shot him **on the forehead.**

(12b) She shot him **in the forehead.**

(13a) *He would rather **stab himself on the heart** than listen to Ellen talk to his father.

(13b) He would rather **stab himself in the heart** than listen to Ellen talk to his father. (Paul Auster, *Sunset Park*)

These examples suggest that, in the effect-through-part construction, when the verb denotes superficial contact, *on* is chosen to fill the preposition slot. On the other hand, when the contact meant by the verb carries the sense of creating a hollow in the patient, *in* is selected.

In the examples presented thus far, either *on* or *in* is incompatible with the meaning of the sentence and is therefore rejected. When both prepositions are readily compatible with the sentence's meaning, however, neither is excluded. For example:

(14a) Jane bit Sam **on the arm.**

(14b) Jane bit Sam **in the arm.**

The verb *bite* can collocate with either *on* or *in* as in (14a) and (14b) but the two sentences invoke two different scenarios. In (14a), when *on* is selected, the contact of interest is a surface-to-surface one, between the surface of Jane's teeth and that of Sam. There is no suggestion that her teeth penetrated into his skin. So the biting action feels soft and gentle, rather than violent or aggressive. On the other hand, (14b) suggests that Jane bit Sam so strongly that she could have, exaggeratedly

speaking, made some dent in or penetrated his body.² Here is a similar pair:

(15a) John hit Michael **on the side of the head**.

(15b) John hit Michael **in the side of the head**.

(15a) suggests that John hit Michael with the palm of his hand, while (15b) connotes use of the fist. There is no doubt that this semantic difference is closely tied to the choice of the preposition. *On* means surface-to-surface contact and so is readily associated with the image of a palm. *In*, on the other hand, is compatible with the image of a fist, because it is the most efficient form of a hand to achieve the relationship of spatial enclosure or inclusion, which is what the preposition is all about.

We have seen that, in the construction in question, *on* is selected when the semantic focus is on surface-to-surface contact, while *in* is chosen when spatial enclosure or inclusion is to be implied. These semantic features clearly have much to do with other meanings of *on* and *in* respectively. In fact, one of the most basic meanings of *on* is surface-to-surface contact, as in *The books are on the table*, whereas the prototypical function of the preposition *in* is to mark the relationship of spatial enclosure or inclusion, as in *The books are in the drawer*.

This sort of association can be expected to be found in the *by*-type of the effect-through-part construction. So we are now in a position to ask in what cases *by* is preferred over the other prepositions. This is the topic of the next section.

2.3. Effect-through-part Construction of the *By*-type

In this section the meaning of the effect-through-part construction of the *by*-type is investigated. My main observation here is that the agent achieves physical control over the patient by manipulating the part of the patient that is denoted by the *by*-complement³.

If we analyze the instances of the construction on a verb-by-verb basis, on the premise that the verbs listed in (9) are all semantically divergent, it is extremely difficult to generalize the meaning of the construction. A more realistic approach is to sort the verbs by their semantic nature.

Firstly, verbs such as *carry*, *drag*, and *pull* are categorized under the same heading in that, because of the actions they designate, the patient changes location. If one drags a table, then the table necessarily moves from one place to another. These kinds of verbs can be called *pulling*-type verbs.

Secondly, verbs such as *catch*, *grab*, and *hold* fall under the same category, in the sense that it

² It is not far-fetched to think that the following example supports the view taken here.

Hard to believe a snake that size could kill you, but it could. A snake that size killed Calvin Bryant. It bit him on the ankle, and seconds later he was dead. (Daniel Wallace, *Big Fish*)

The narrator's intention is to emphasize how strong the poison of the snake was, so it is more convenient for him if he can make the reader think that the snake killed him even though it had bitten him *softly*. Thus *on* probably serves the narrator's purpose better than *in* would do.

³ In this paper I call the complement of a preposition a [preposition]-complement. So the complement of *by* is called a *by*-complement, that of *from* a *from*-complement, and that of *to* a *to*-complement.

does not matter whether the patient experiences any change of location due to the action denoted by the verb. Grabbing a tea cup, for instance, does not necessarily mean the spatial movement of the cup. These sorts of verbs can be termed *grabbing-type* verbs. *Shake* and *swing* can be classified as *grabbing-type* verbs although they conjure up much more dynamic images than *grab* and *hold* do. This is because, after shaking a bottle or swinging a bat, one does not necessarily expect the bottle or the bat to have strayed from their original locations.

Thirdly, the *pushing-type* verb category is comprised of only one member: *push*.

Based on the above categorizations, a revised version of (9) can be formulated:

(9)' **Transitive Verbs that Collocate with *by* in Effect-through-part Construction (Revised)**

pulling-type: carry, drag, guide, haul, jerk, lead, lift, pluck, pull, tow, tug, yank

grabbing-type: catch, get, grab, grasp, grip, handle, have, hold, seize, shake, snatch, squeeze, take, throttle, trap

pushing-type: push

Relevant examples are given below.

pulling-type

(16) "Jay!" mama said desperately, and **dragged him by the elbow**. (COCA)

(17) When the boy obeyed, Socrates **pulled him by the arm** [...] (COCA)

(18) Farley slipped into the neighbors' yard for the body and **carried it by the tail** to the washroom where Olivia labored during the day. (COCA)

grabbing-type

(19) [...] a second enormous cop **holds him by the hair** with one hand [...] (Paul Auster, *Sunset Park*)

(20) "Come," he whispered as he **grabbed me by the arm** and led me to the very edge of the cave. (Eric Walters, *The Bully Boys*)

(21) "I've *heard* about the two-headed lady," I say, **shaking him gently by the shoulder**. (Daniel Wallace, *Big Fish*)

pushing-type

(22) Susan was **pushing the shopping cart by the handle**.

(23) Susan **pushed John along by the shoulder**.

What do these examples have in common across the boundaries of verb class? It seems that they all refer to a situation where an agent achieves physical control over a patient by manipulating a part of the patient. By *physical control* I refer here to one's ability to keep something nearby while remaining stationary or moving from one place to another. In (16), by dragging his elbow, mama kept him nearby while she was moving. In (20), the grabber kept the author nearby by grabbing his

arm. It is obvious that the sustained proximity of the grabber to the author is implied here, because he wanted to take him to another place, suggested by “Come” and “led me to the very edge of the cave.”

Considering that the semantic core of the construction is the physical control defined above, it is surprising that *push* can fit into the construction as in (22) and (23), because pushing an entity is usually an attempt to move that entity farther away. On closer examination, however, *push* cannot be used in the *by*-type effect-through-part construction as freely as *pulling*-type verbs and *grabbing*-type verbs are. Instead, there is a strict semantic constraint on the use of *push* in that the process denoted by the clause must be interpretable as that of the agent physically controlling the patient.

(24) Susan was **pushing the shopping cart by the handle.**

(25) *Jane **pushed the TV forward by the power button**, so it switched on.

The reason why (25) is unacceptable while (24) is perfectly grammatical is that one cannot keep a television set nearby while moving from one place to another just by pushing its power button. Such an action is, however, possible with a shopping cart handle. In fact, making it possible to keep a cart nearby is what its handle is all about. Hence the naturalness of (24).

Here is another interesting pair:

(26) Susan **pushed John along by the shoulder.**

(27) ??Susan **pushed John by the shoulder.**

If one pushes Susan along, then she will be made to move in the direction in which the agent itself is moving, by repeatedly pushing her while going forward. In other words, Susan is kept nearby throughout the course of the movement. This is why (26) sounds quite natural, while (27) sounds awkward because of the nature of the pushing action. Pushing itself, without the modification of *along*, is not an act of keeping something or someone nearby.

The view that physical control has a significant bearing on the construction is confirmed by experiments using fictitious verbs. To illustrate, I have invented the four verbs *balate*, *shrade*, *corrow* and *lert*, the meaning and illustration of each shown below:

balate something: to move it toward yourself horizontally with your palm vertically pressing down on its top surface

shrade something: to move it away from yourself horizontally with your palm vertically pressing down on its top surface

corrow something: to move it toward yourself in a three-dimensional space with your fingers pinching it

lert something: to move it away from yourself in a three-dimensional space with your fingers pinching it

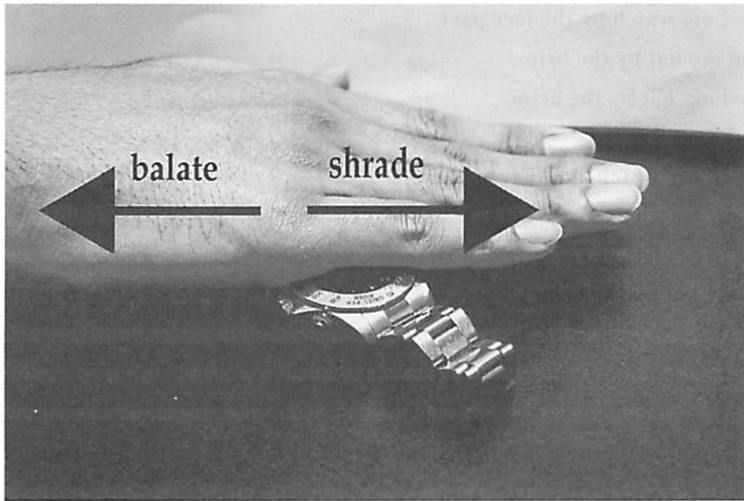


Fig. 1 Illustration of *Balating* and *Shrading*

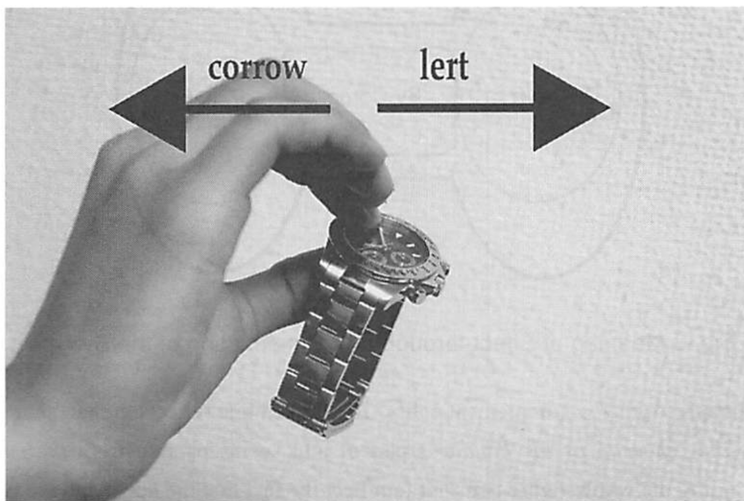


Fig. 2 Illustration of *Corrowing* and *Lerting*

It should be noted that *corrowing* and *lerting* involve exerting more control over the patient than do *balating* and *shrading*. If one *balates* or *shrades* something, then its movement is confined to a horizontal plane. This makes it hard for the agent to keep the patient nearby while moving from one place to another. If one *corrows* or *lerts* something, on the other hand, the patient can move quite freely in a three-dimensional space, corresponding to the spatial movement of the agent's hands. This makes it easy for the agent to keep the patient nearby while moving from one place to another. Thus it can be said that the degree of physical control is higher in *corrowing* and *lerting* than in *balating* and *shrading*. This concept is illustrated in the following example sentences:

- (28) I balated my watch by the face part.
- (29) I shraded my watch by the face part.
- (30) I balated my hat by the brim.
- (31) I shraded my hat by the brim.

- (32) I corrowed my watch by the face part.
- (33) I lerted my watch by the face part.
- (34) I corrowed my hat by the brim.
- (35) I lerted my hat by the brim.

Sentences (32)-(35) are more natural than (28)-(31), which suggests that the more control over the patient the agent has, the more acceptable the use of *by* becomes.

It may be helpful to illustrate the meaning of the effect-through-part construction of the *by*-type with a diagrammatic representation.

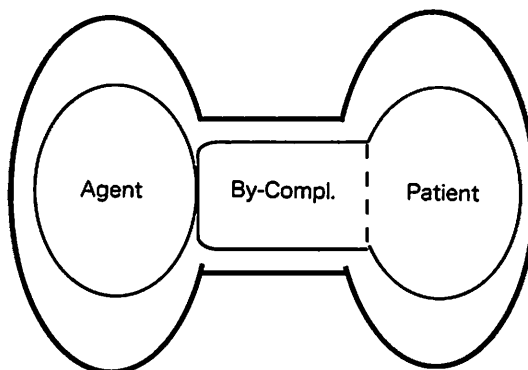


Fig. 3 Meaning of Effect-through-part Construction of the *By*-type

“By-Compl.” stands for the *by*-complement entity. The broken line reflects the fact that *the handle* in *Susan was holding the cup by the handle* is part of and so inseparable from *the cup*. The bold contour surrounding the whole figure is meant to reflect the fact that the agent and the patient form a conceptually (rather than physically) unified whole as a result of being kept in close proximity. By *conceptually (rather than physically)* I mean that John and Susan are, of course, not physically fused into a single person after John catches Susan by the arm.

Before describing the meaning of *by* in this construction, we make a brief observation on an interesting extension that the construction goes through. This is the topic of the next section.

2.4. Extension from Prototype of Effect-through-part Construction of the *By*-type

This section deals with an extension from the *by*-type effect-through-construction, showing that its semantic nature remains almost intact in the extended construction.

It looks, at first sight, as if the examples shown below include instances of the effect-through-part construction. In none of them, however, is the complement entity a part of the patient.

(36) BOSS PAUL: Go git it, Luke.

LUKE: Yes sir, Boss Paul!

Grinning, cheerful, he begins to hobble away through the swamp and grass.

CLOSE ANGLE ON TURTLE IN THE MUCK

Luke's hands COME INTO FRAME AND OFFER the head a stick.

The jaws clamp down on the stick and Luke lifts the turtle up.

FULL SHOT

LUKE grinning, **holding up the turtle by the stick.**

LUKE: Here he is, Boss. (COCA)

(37) We lost the heels to our rubber-bottom boots and walking over slippery rocks with the canoe over our heads was very dangerous. Once, as we were **pulling the canoe along by a rope**, Walt slipped and slid backwards down a 12-foot granite wall. Like a cat, he landed in the center of the boat, and by a miracle he did not tip it. (COCA)

(38) Rachel begins to gather the bones from all the various hiding places, the box under her bed, the sock drawer. She puts them in a pillowcase. When her father calls her for dinner, she shoves the pillowcase under her bed. In the kitchen, a man stands next to the stove with a knife in his head. Rachel screams, and her father tears off the mask. He tells her he's sorry. "See," he **lifts the mask up by the knife.** (COCA)

(39) Who wants to fish, if you're halfway civilized? Dangling some dead meat in front of some poor brainless thing and then **pulling him up by a hook** in the roof of his mouth? Cruellest thing people do is fish. (COCA)

(40) Clad in nothing more than a loincloth, Blackmore quickly became accustomed to **being dragged** to stage center, often by **his guitar neck.** (David Thompson, *Smoke on the Water: The Deep Purple Story*)

(41) [...] he **lifted me by my shirt tail up** and out of the ditch [...] (Daniel Wallace, *Big Fish*)

Sentence (36) is from the script for the movie *Cool Hand Luke*, in which we find a very intriguing line: *LUKE grinning, holding up the turtle by the stick.* Native speakers say it sounds very strange to them without any further context, but with some context added, as in (36), the reaction turns into quite the opposite. This is, I think, because the two lines *Luke's hands COME INTO FRAME AND OFFER the head a stick* and *The jaws clamp down on the stick and Luke lifts the turtle up* make it easier for the reader to conceptualize the stick as if it were a part of the turtle. The same holds for (36)-(39).⁴ But (40) and (41) could be claimed to be slightly different, in that what contributes much

⁴ (37) is a little exceptional, since some of my informants say that it is natural to speak of *pulling somebody or something by a rope* without further context. The logic behind this is perhaps something like this: Pulling a person or thing is the archetypal purpose of a rope in the first place. In order to do that, it is necessary to attach the rope to the person or thing, which makes it easier to conceptualize the rope as part of the person or thing. That is why there is no need to add further information as to why the rope and the person or thing constitute a unified whole.

to the naturalness of the examples is probably not the context of the discourse but encyclopedic knowledge shared by the writer and the reader. Take (40) for instance. If someone is playing a guitar and another person pulls it toward himself, then the guitarist is dragged toward the other person. This is exactly the same as what happens when one is pulled or grabbed by some body part. The writer and the reader share a sense of all these dynamics in the form of encyclopedic knowledge, which helps the reader to interpret the guitar neck as an extension of the guitarist's body part, so to speak. The same holds for (41). What enables the reader to construe a shirt tail as part of the person wearing it is the shared knowledge that if the shirt tail is pulled in one direction then the person is also pulled in that direction.⁵

Therefore, the meaning of the extended version of the *by*-type effect-through-part construction is that the agent physically controls the patient (i.e. keeps it nearby) by manipulating something that is *construed* as part of the patient. As a result, the agent and the patient form a conceptually unified whole.

The meaning of this extended (therefore non-prototypical) construction can be illustrated as below:

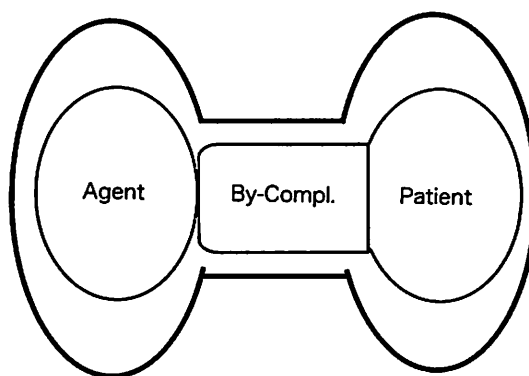


Fig. 4 Meaning of Non-prototypical Effect-through-part Construction of *By*-type

Note the difference between Fig. 3 and Fig. 4. In Fig. 3 the complement entity is part of the patient, so the dividing line between the two is represented by a broken line. In Fig. 4, by contrast, the clear separation of the square from the right-hand ellipse reflects the fact that the two entities are totally separate entities.

In this section we saw that the semantic nature of the prototypical *by*-type effect-through-part construction and that of the non-prototypical construction are almost the same. The only difference lies in whether the entity touched by the agent is *actually* or *conceptually* a part of the patient.

⁵ Despite these examples, one cannot say that this use of the construction has the same status as the prototypical one discussed in the preceding section. Some of my informants remark that they feel some of the examples a little awkward, and Huddleston and Pullum (2002; P.370) attach a “?” symbol to *She grabbed me by the tie*, although they offer *She grabbed me by the arm* as a totally natural example. Thus it is justifiable to regard the construction dealt with in this section as an extension from the one in the previous section.

2.5. Meaning of *by* in Effect-through-part Construction of *By*-type

As we saw in Sections 2.3 and 2.4, the *by*-type effect-through-part construction means that the agent physically controls the patient and keeps it nearby through physical contact with the *by*-complement entity, with the result that the two entities form a conceptually unified whole. Based on this analysis, I take the view that the *by*-complement entity serves as a joint or bridge between the agent and the patient, helping them to form a conceptually unified whole. At first sight, this meaning seems to be the “odd one out” in the polysemous network of *by*, so it is tempting to dismiss this analysis as simply wrong. The *joint* sense, however, is also identified in a rarely discussed construction I call the linking construction, which is the topic of the following chapter.

3. Linking Construction

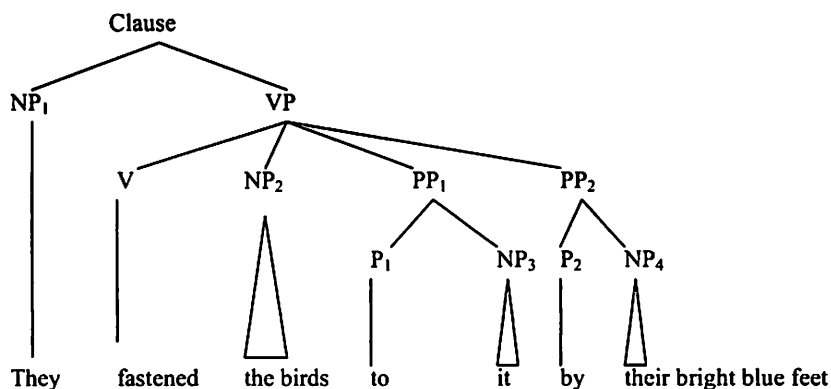
3.1. Definition of Linking Construction

The below examples (42a) and (43a) are instances of what I have termed the linking construction. This construction takes the form of NP₁ + [V_{VP} V + NP₂ + [PP₁ P₁ + NP₃] + [PP₂ P₂ (=by) + NP₄]] as shown in the (b)s and (c)s. It has two prepositional phrases, the order of which is not fixed. In (42) it is the *to*-phrase (PP₁) that comes first, while in (43) the *by*-phrase (PP₂) precedes the *to*-phrase.

(42a) They fastened the birds to it by their bright blue feet [...] (COCA)

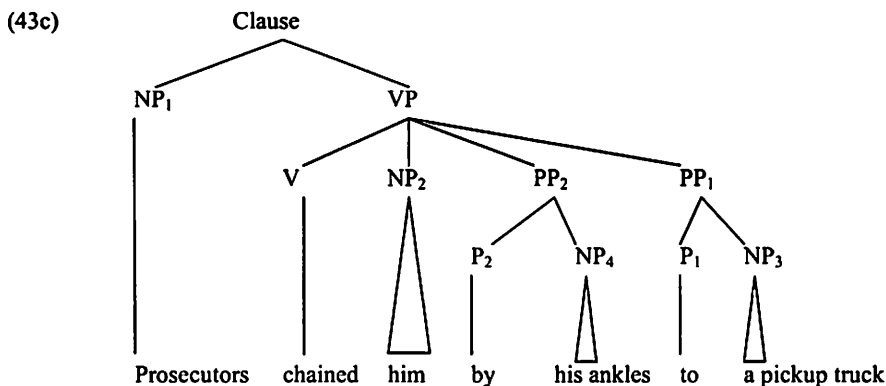
(42b) [NP₁ They] [V_{VP} [v fastened]] [NP₂ the birds] [PP₁ [P₁ to] [NP₃ it]] [PP₂ [P₂ by] [NP₄ their bright blue feet]].

(42c)



(43a) Prosecutors [...] chained him by his ankles to a pickup truck [...]. (COCA)

(43b) [_{NP1} Prosecutors] [_{VP} [_V chained] [_{NP2} him] [_{PP2} [_{P2} by] [_{NP4} his ankles]]] [_{PP1} [_{P1} to] [_{NP3} a pickup truck]].



The prepositional phrase $P_1 + NP_3$ is sometimes omitted as in (44) and sometimes fused with NP_2 as in (45).

(44) His cord trousers are still rolled down round his ankles and get in the way and we have to stop and turn him over and pull the trousers back up, fastening them by one button. (BNC)

(45) [...] he's tying cats together by their tails [...]. (COCA)

In (44) information as to where the trousers were fastened is omitted. As for (45), the semantic value of *he's tying cats together by their tails* is virtually equal to that of *he's tying some cats to others by their tails*. So it can be said that *some cats* and *(to) others* are fused into the much simpler *cats* in this case.

The linking construction describes a situation in which NP_1 connects two entities (i.e. the NP_2 entity and the NP_3 entity⁶) using the complement entity as a joint or bridge between them. The NP_4 entity (which can be called the *by*-complement entity as in the previous chapter) is sometimes part of the NP_2 entity as in (42) and (43) but sometimes may not be as in (46) and (47). *A silken ribbon* and *the ropes* are not parts of *him*.

(46) [...] she tied him to a perch by a silken ribbon. (BNC)

(47) [...] they hang him by the ropes to the central pole [...]. (COHA)

The P_1 slot of this construction is filled by *to* in the examples (42), (43), (46), and (47) but *from* is also possible in some cases as exemplified below:

⁶ In the present paper the entity that NP_x refers to is called the NP_x entity.

- (48) On the screen, a man hangs a girl **from** the ceiling by ropes, then cuts off her clothing with a knife. (TMC)
- (49) I suspended myself by one arm **from** a balcony railing at a campus party. (COCA)

The construction with *from* in (48) and (49) shares with the *to*-version in (42), (43), (46), and (47) the semantic as well as syntactic property of the linking construction defined in the previous paragraphs, so it is appropriate to regard these two seemingly different constructions as two different types of the same construction, the linking construction. I will call one the *to*-type, and the other the *from*-type.

In this section I gave a syntactic and semantic description of the linking construction. The following two sections list verbs that can fit into this construction, along with relevant examples. These are intended to show how prevalent the construction is in the English language, despite its apparent triviality.

3.2. Verbs in Linking Construction of the *To*-type

This section provides a list of the verbs that I found to be commonly used in the linking construction of the *to*-type. Each of the verbs is followed by two relevant examples, the first of which involves the complement entity as part of the NP₂ entity. The second example does not involve the part-whole relationship. “Not Found” means that I failed to find any relevant examples in the corpora.

attach

(50a) Not Found

(50b) [...] and drive around at high speeds with stuff tied to their bumper. They call this Dukcing, after the Dukes of Hazard [sic]. To Dukes is to round up, say, an old sewing machine or a typewriter or a television-tonight, a vacuum cleaner- and **attach it to the bumper by a ten-foot length of chain** and go tearing along the country highways with so many sparks blazing behind them like a comet's tail. (COCA)

bind

(51a) [...] **binding them by the ankles and wrists to their sons**, [...] (COCA)

(51b) Benjamin Jaye touched Christina's hair. She could feel her colors. He was touching the gold. He wound her hair around his wrists, **binding himself to her by golden ropes**. (COCA)

chain

(52a) Prosecutors say he and two friends beat Byrd, **chained him by his ankles to a pickup truck** and dragged him three miles to his death, simply because he was black. (COCA)

(52b) Not Found

connect

(53a) Not Found

(53b) He arranged a row of 80 telephone mouthpieces across the front of the stage at the Grand Opera in Paris, and connected them by wires to 80 earpieces. (BNC)

fasten

(54a) They fastened the birds to it by their bright blue feet and [...] (COCA)

(54b) Not Found

link

(55a) Not Found

(55b) Pennethorne incorporated this building, which had only been completed in 1832, into his scheme by adding another storey and possibly linking it by an arch to the Foreign Office.(BNC)

tie

(56a) [...] he's tying cats together by their tails [...] (COCA)

(56b) [...] so she tied him to a perch by a silken ribbon and put bells on his bird's feet. (BNC)

hang

(57a) They hung him by his ankles to the shower head in the most populated of the girls' bathrooms [...] (COHA)

(57b) [...] they hang him by the ropes to the central pole of [...] (COHA)

3.3. Verbs in Linking Construction of the *From*-type

This section provides a list of the verbs that I found to be commonly used in the linking construction of the *from*-type. Here as well, the part-whole relationship is sometimes recognized but other times not. Below, the examples designated as [Part] include this relationship, while the ones designated as [Non-Part] do not.

Note that *hang* and *dangle* can be used either as transitive or as intransitive verbs (abbreviated below as Vt and Vi respectively). In the intransitive version (e.g. *People have hung from it by their teeth*), the two entities connected are the experiencer (e.g. *people*) and the *from*-complement entity (e.g. *it*), and they are connected by the *by*-complement entity (e.g. *their teeth*). This version should be notated as NP₂ +V + P + NP₃ + *by* + NP₄. This is because this way of using symbols leads to the simple general statement that the two entities connected in the linking construction are the NP₂ entity and the NP₃ entity, whether in the transitive version or in the intransitive version. In addition, according to this system of notation, the two entities that sometimes bear a whole-part relationship are the NP₂ entity and the NP₄ entity in both versions. Thus, symbolizing the transitive version as NP₁ + V + NP₂ + P + NP₃ + *by* + NP₄ and the intransitive version as NP₂ +V + P + NP₃ + *by* + NP₄ leads to a simpler description of the semantics of the linking construction.

hang

[Part]

- (58) Vt: Then over eight more days of torture army personnel **hung him from a ceiling by his wrists** [...] (COCA)
- (59) Vi: People have done acrobatics on the wheel, **hung from it by their teeth** [...] (COCA)

[Non-Part]

- (60) Vt: On the screen, a man **hangs a girl from the ceiling by ropes**, then cuts off her clothing with a knife. (TMC)
- (61) Vi: Above his bed a model of the space shuttle Columbia **hung from the ceiling by a string**. (COCA)

dangle

[Part]

- (62) Vt: [...] Irwin trots the globe to wrestle crocs and **dangle poisonous snakes by the tail**, evading bite after bite [...] (TMC)
- (63) Vi: One day Dobie escaped and tried, with only fleeting success, to **dangle by his tail from a high-voltage line**. (COHA)

[Non-Part]

- (64) Vt: So Solomon proceeded up the last slope of the hill to the ruins of the cathedral, **dangling a foil-wrapped box by the string** that tied it up [...] (COHA)
- (65) Vi: The doll was [...] **dangling from the doorjamb by a bathrobe sash** which was taped to the jamb with adhesive tape. (COHA)

suspend

[Part]

- (66) [...] I **suspended myself by one arm from a balcony railing** at a campus party. (COCA)

[Non-Part]

- (67) [...] he often **suspended it by a loop from one of his waistcoat buttons**. (COHA)

3.4. Meaning of *by* in Linking Construction

In this section the meaning of *by* in the linking construction is discussed. It is concluded that the meaning is exactly the same as in the effect-through-part construction.

The meaning of the linking construction either of the *to*-type and of the *from*-type can be illustrated as below:

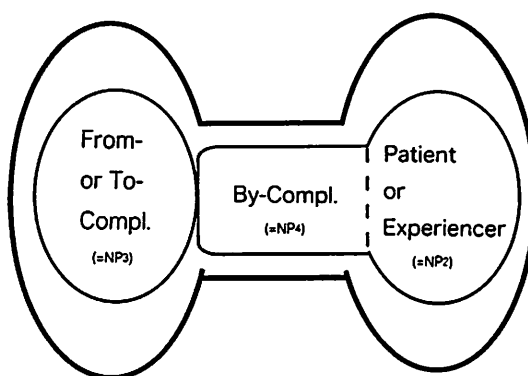


Fig. 5 Meaning of Linking Construction with Part-whole Relationship Involved

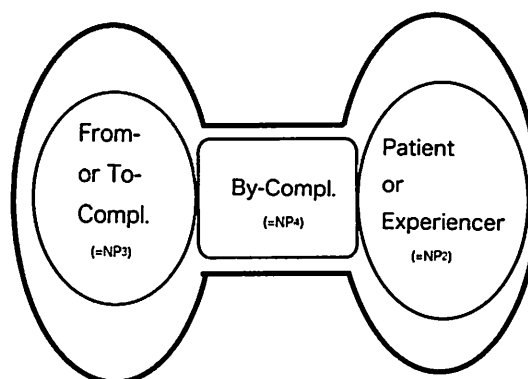


Fig. 6 Meaning of Linking Construction with No Part-whole Relationship Involved

“From- or To- Compl.” stands for the *from-* or *to-*complement entity. Fig. 5 is an illustration of the case where the *by*-complement entity is part of NP₂ (a patient in the transitive, an experiencer in the intransitive). Fig. 6 differs in that the *by*-complement is not part of NP₂. The bold contour surrounding the entire figure is meant to reflect the fact that the entities linked are conjoined into a unified whole because of the process denoted by the construction.

These illustrations appear to be much the same as Fig. 3 and Fig. 4 respectively. In fact there is at least one study that seems to make no distinction between these two constructions (Corston-Oliver (2000)). It is important to note, however, that, while one of the two linked entities is the agent in the effect-through-part construction, in the linking construction the agent is entirely absent. This suggests the necessity for the two constructions to be distinguished from each other.

The preposition *by*, when used in the linking construction has the function of introducing into the discourse an entity that functions as a joint or bridge between a patient or experiencer and a *from-* or *to-*complement entity. It can be said that this meaning of *by* is exactly the same as the one discussed in the previous chapter. The only difference between the two uses of *by* seems to lie in whether the preposition is used in the effect-through-part construction or in the linking construction.

In other words, the difference pointed out in the preceding paragraph is a by-product of the difference in the construction in which the preposition appears. Therefore, it does not seem to be necessary to define two distinct meanings of *by* for the cases investigated so far, provided that it is explicitly stated that there are two different constructions into which this sort of *by* can fit.

In this section we have thus seen that the *by* of the effect-through-part construction and that of the linking construction should be regarded as *two distinct uses* of the preposition in which *by* retains *the same meaning*.

3.5. Relations to Other Uses of *by*

In this section the significance of identifying the linking construction will be substantiated, by showing that it is related to hard-to-explain expressions such as *(go) by bus*, *(go) by ship*, *(go) by car*, etc., by a chain of other related uses.⁷ The overall network of related uses is shown below:

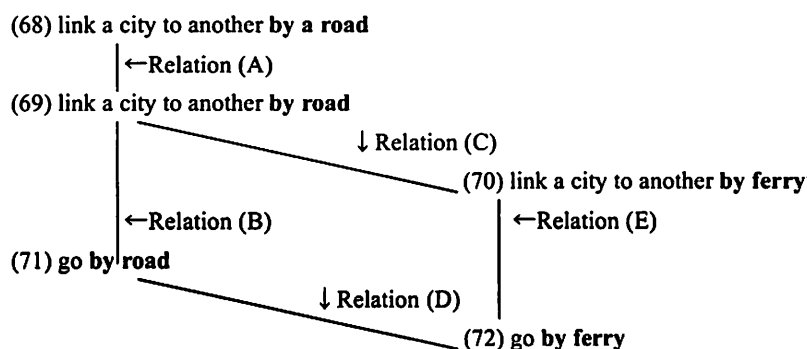


Fig. 7 Network of Some Different Uses of *by*

Case (71) is an example of the construction *[MOTION] by [PATH OF TRANSPORTATION]*. *Come by sea*, *travel by air*, and *go by rail* come under this category. Case (72) differs slightly in that *ferry* is the name of a vehicle⁸, not of a path. So (72) can be said to be an instance of the construction *[MOTION] by [VEHICLE OF TRANSPORTATION]*, under which heading fall *come by ship*, *travel by plane*, and *go by train*.

Now let us take a look at the five relations (Relations (A)-(E)) in turn, starting from Relation (A). In the linking construction the complement entity is sometimes denoted by a bare noun phrase as in (69). Here are similar examples:

⁷ One can grasp the elusive nature of this use of *by*, if only they try to explain why *go by bus* is correct when **run over somebody by bus* is incorrect.

⁸ I admit that *means of transportation* is a more appropriate term for a ferry, since the word *vehicle* is usually used to refer to cars, trucks, buses, etc., not to ships, ferries, planes, etc. However, if we used the term *means of transportation*, then we would have no reason to draw a dividing line between (71) and (72), because *road*, *sea*, *air* and *rail* in *go by road*, *go by sea*, *go by air* and *go by rail* all denote means of transportation in the sense that they make the transportation possible. This is why I selected the term *vehicle* for a ferry at the risk of sounding rough and ready.

(73a) He connected the two pipes **by a hose**.

(73b) He connected the two pipes **by hose**.

(74a) Is it possible to link this faucet to that one **by a rubber hose**?

(74b) Is it possible to link this faucet to that one **by rubber hose**?

In each of these pairs (a) sounds as if the physical existence of the hose is at issue, while (b) suggests that the focus is on the function of the hose (e.g. making it possible for water to go from one place to another). It is not that the meaning of *by* is different between (a) and (b) in either case, but rather that they are different uses of *by* in which *by* retains the same meaning. The semantic difference between the sentences (i.e. whether the joint is a physical one or a functional one) is a by-product of the difference in the grammatical properties of the complement nouns.

Sentence (75) is an analogous example:

(75) And in the final communique, Peru promised to help find international funds to link Bolivia to the sea **by road**. (TIME)

By road, unlike *by a road*, indicates that the speaker is focusing on the function of the road; it conjures for the hearer a situation where cars and trucks are travelling along the road. Thus, it cannot be doubted that *link [...] by road* is associated with *go by road*. This is Relation (B). The implication of motion in (69) comes to the fore in (71) by means of the verb *go*. It might perhaps be the case that there is no semantic difference between the *by* of (69) and that of (71), but firm evidence for this idea has yet to be collected. At least it is arguable that the three *bys* found in (68), (69), and (71) are not totally distinct but associated with each other, forming a semantic continuum.

Case (70) also focuses on the function of the ferries, referring to the act of making people and cargo move to and fro between the two cities, which is the case with (69). I believe that (69) and (70) are, here again, almost the same in terms of the meaning of *by*. The difference in the mobility of the functional joints or bridges secondarily comes from the nature of the objects, not from the divergences of the semantic value of the preposition. This is the explanation for Relation (C). Such a view is supported by the following example:

(76) ... all of the roadbed which in a few months would link Tokyo **by rail and ferry** with Hankow in middle China ... (TIME)

Since rails are static objects fixed in space, *by rail* is on the (69) side, while *by ferry* is on the (70) side. A ferry is a moving object going to and fro between two places. Hence the two nouns coordinated by *and* in (76) seem to be quite divergent. This mystery can be unraveled by assuming that focusing on the functions of the two things blurs the physical or ontological difference between them, enabling the speaker to conceptualize both as a means of making Tokyo and Hankow form a

unified whole in a functional sense (e.g. starting some kind of exchange between them). This supports our view that there is no point in drawing a sharp dividing line between the meaning of *by* in (69) and that in (70).

The following example suggests that the same goes for Relation (D).

(77) This will take place over the May Day holiday weekend, and there is a choice of travel **by air or coach**.

Air is a static entity fixed in space (like a road) while a coach is a moving vehicle (like a ferry), but this difference is blurred by thinking of their functions as means of transportation, so they can be coordinated by *or*. Cases (71) and (72) represent distinct uses of *by*, because what follows differs in terms of mobility. Given (77), however, they should be considered to be different uses of *by* in which *by* retains the same meaning.

Relation (E) is much the same as Relation (B). I speculate that (72) is a result of the implication of motion in (70) becoming visible with the assistance of the verb *go*, but further evidence should be collected on this point.

4. Summary and Conclusion

In the present study two different constructions including *by* were explored. The conclusion reached is that the preposition has a *joint* sense — that is, *by*, if used in the two defined constructions, means that what follows functions as a joint or bridge between two entities, helping them to form a unified whole.

Chapter 1 does not contradict dictionaries (such as CALD³, HEED, and OED) defining the function of a *by*-phrase in the effect-through-part construction as denoting a means or method of achieving the goal described by the sentence. Instead, it is meant to clarify what sort of “means” the “means” means. By saying that a joint or bridge helps two entities to form a unified whole, I am admitting that it functions as a means of achieving the physical control.

The claim that *by* has this *joint* sense is supported by the fact that, as we have seen in Chapter 2, it can also be identified in another construction, the linking construction. There as well the complement entity functions as a joint between two entities, helping them to form a unified whole. The joint can sometimes be a functional rather than physical one. The *functional joint* sense of *by* is also recognized in *go by road [rail, sea, air, etc.]* and *go by bus [train, ship, plane, etc.]*.

All the uses of *by* investigated here can be illustrated as shown below.⁹

⁹ Ueno (1995) states that the *by* in the effect-through-part construction is related to the locative sense of the preposition (i.e. “near”), on the ground that in *Susan caught John by the arm* the arm is near John. This does not, however, strike me as a persuasive line of reasoning, because that description holds true for *Susan hit John in [on] the head*. A fuller exploration is needed to identify a link between the *near* sense and the *joint* sense. This is why I do not extend Fig. 8 any further.

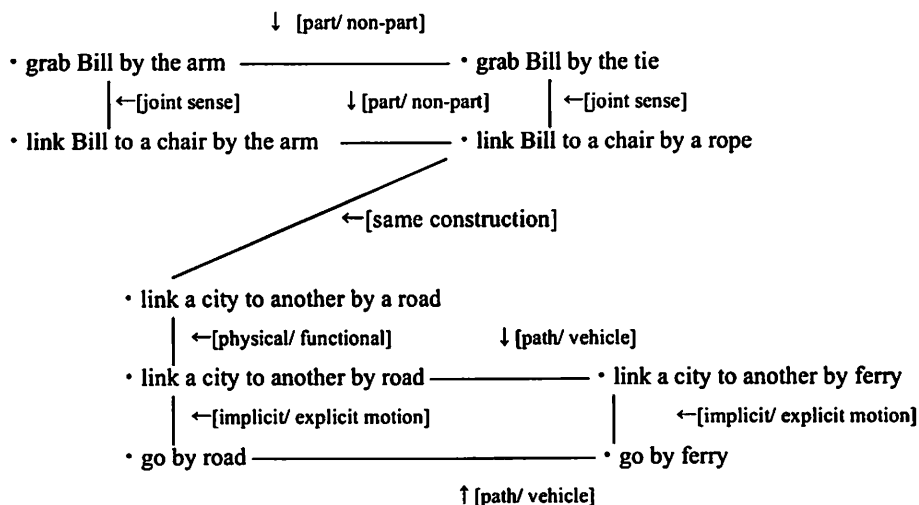


Fig. 8 Network of All Uses of *by* Investigated

Thus I believe that the *joint* sense of *by* should not be dismissed as the trivial ‘tip of the iceberg’. The possibility of its dissolving the mystery of the polysemous network of *by* deserves further exploration, for which the present study is only a starting point.

Dictionaries

CALD³ = Cambridge Advanced Learner’s Dictionary, 2008

HEED = Harrap’s Essential English Dictionary, 1995

OED = Oxford English Dictionary Online (accessed on June 19, 2011)

References

Corston-Oliver, Monica (2000) A Cognitive Account of the English Meronymic *By* Phrase. *Berkeley Linguistics Society* 26: 65-76.

Huddleston, Rodney & Geoffrey K. Pullum (2002) *The Cambridge Grammar of the English Language*. Cambridge: Cambridge University Press.

Ueno, Yoshikazu (1995) *Eigo no Shikumi (How English Works)*. Tokyo: Eichosha.

Cited Books

Daniel Wallace (1998) *Big Fish*

David Thompson (2004) *Smoke on the Water: The Deep Purple Story*

Eric Walters (2000) *The Bully Boys*

J. D. Salinger (1951) *The Catcher in the Rye*

Paul Auster (2010) *Sunset Park*

Corpora

Davies, Mark. (2008-) The Corpus of Contemporary American English (COCA): 410+ million words, 1990-present. Available online at <http://www.americancorpus.org>. (Here one can access the corpora listed below.)

The Corpus of Historical American English (COHA)

BYU-BNC: The British National Corpus (BNC)

Time Magazine Corpus (TMC)

英語前置詞 by の〈つなぎ役〉義について

平沢 慎也

hiralingual1026@gmail.com

キーワード：英語、前置詞、多義、身体部位、手段

要旨

本稿は、未だ未解明の点が多い英語前置詞 by の多義ネットワークの全貌を解明する試みの一部である。主な分析の対象は、Susan grabbed John by the arm. に見られるような、動作主が被動作主を物理的に拘束するために接触する身体部位を導く用法と、Susan bound John to a chair by a rope. に見られるような、動作主が被動作主を別のものに結びつけるために用いるロープや紐などを導く用法である。これらは、用法としては異なる二つの用法だが、by の同一の意味が二つの構文において実現されたことによって異なって見えているだけであるということを示すことが本稿の目的である。また、後者の用法は go by road や go by bus などの交通手段用法とも密接に関連している可能性があることを示唆し、by の広大な多義ネットワークのさらなる解明を今後の展望とする。