

Asymmetry between Form and Meaning:

Focusing on the “In-out Puzzle”

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形式と意味の非対称の謎解き

—Fill inとFill outを中心に—

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Abstract

This paper examines the similarities and differences between “fill in” and “fill out,” a typical case of the “in-out puzzle.” First, the “in-out puzzle” is identified based on the previous studies regarding the form-and-meaning asymmetry. In this research, the “in-out puzzle” is defined as a skewed relation of form and meaning in which two forms with literally opposite spatial meanings (e.g., “fill in” and “fill out”) express a similar meaning (“to write in the required matter”). Next, the “fill in” and “fill out” pair is explored from a syntactic-semantic perspective via the method of Formula. Then, the paper analyzes the puzzle from a corpus-based perspective, spotlighting the top 20 words in COCA that “fill in” and “fill out” respectively collocate with. In conclusion, the study has proved that despite their similarities in semantics, “fill in” and “fill out” differ significantly from each other in their syntactic Formulae and the words they frequently co-occur with.

Key words: the in-out puzzle, the form-and-meaning asymmetry, a syntactic-semantic perspective, a corpus-based perspective, collocation, spatial recognition

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1. Introduction

Bolinger (1977, p. x) points out that “the natural condition of language is to preserve one form for one meaning and one meaning for one form.” This idealized assumption of “one form, one meaning” is based on the concept of a hypothesized symmetry between form and meaning. However, the form-and-meaning symmetry of language has faced many challenges so far, one of which is called “skewed relations” between form and meaning in Chao (1968), “namely, relations

which are regular and symmetrical in some cases but irregular or asymmetrical in others” (Chao, 1968, p. 11).

This paper is a case study of the research regarding the form-and-meaning asymmetry of the English language, examining the similarities and differences between “fill in” and “fill out,” a typical example of the “in-out puzzle”¹ from various viewpoints. The paper starts with Part One identifying the “in-out puzzle” issue with a backdrop of the form-and-meaning asymmetry. Next, Part Two outlines the relevant previous studies and points out unsolved problems concerning “fill in” and

“fill out.” Then, the “in-out puzzle” is explored and analyzed from a syntactic-semantic perspective in Part Three and a corpus-based perspective in Part Four. Finally, Part Five is an interim conclusion of the study.

2. Literature

Besides regular and symmetrical relations, irregular and asymmetrical relations between form and meaning have also attracted much academic attention. One widely-known example of the form-and-meaning asymmetry is polysemy, which is common in many languages. An extreme instance of polysemy is “contronymy” (Karaman, 2008; Fu, 2020; Fu, 2021), which is a puzzle-like linguistic phenomenon of one lexical item (form) having two contradicting or opposite senses (meaning 1 and meaning 2) as shown in Fig. 1 below. For instance, “dust” in “dust the table with a feather” means “to remove dust or dirt from the surface of (the table);” on the other hand, “dust” in “dust the table with flour” means “to cover (the table) with flour or dust-like substance.” In Fu (2020), the former belongs to Remove Type, whereas the latter belongs to Cover Type. “Contronymy” in Fu (2020) is termed the “dust puzzle” in this paper.

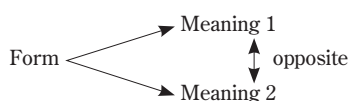


Fig. 1 Asymmetry between Form and Meaning (1): Dust Puzzle

In addition to the “dust puzzle” of “one form, two contradicting meanings” in Fig. 1 above, another puzzle of the form-and-meaning asymmetry is the “in-out puzzle.” The “in-out puzzle” is a skewed relation such that two literally opposite spatial terms (form 1 and form 2) express a similar meaning, as demonstrated in Fig. 2 below. For

example, prepositions “in” and “out” are literally opposite; however, “fill in” and “fill out” are almost the same in meaning and interchangeable with each other (Barnard, 2013, p. 30). Both “fill in” and “fill out” can mean “to write in the required information.” In this study, the puzzle is termed the “in-out puzzle.”

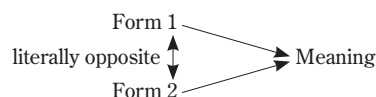


Fig. 2 Asymmetry between Form and Meaning (2): In-out Puzzle

The “in-out” puzzle is described and analyzed in such studies as Barnard (2013) and Lee (2001), even without being duly termed or named. Barnard contends that “fill in” and “fill out” are interchangeable while admitting that a difference between them is that the former is British English and the latter is American English. Barnard further argues that this difference arises from the individual space recognition of each language user, as shown in Fig. 3 below. Lee (2001) elaborates on the space recognition using “salience,” asserting that in “fill in a form,” “we can think of it as a process whereby material is inserted into spaces in the form,” whilst “fill out a form” “can be construed as a process that causes the form to increase in size as material is added” (Lee, 2013, p. 34).



Fig. 3 Difference between “fill in” and “fill out”
(Barnard, 2013, p. 31)

The similarity and differences between “fill in” and “fill out” in the previous studies can be

Table 1 The Similarity and Differences between “Fill in” and “Fill out” (1)

	Similarity (Barnard, 2013)	Difference 1 (Barnard, 2013)	Difference 2 (Lee, 2001)	Difference 3	Difference 4
fill in	meaning (“to write in the required information”)	British English	Process of inserting		
fill out		American English	Process of increasing		

summarized in Table 1 above, and it is the hypothesis of this paper that they need further clarification in their syntactic-semantic characteristics (Difference 3) and collocations (Difference 4). This study agrees with Barnard and Lee that the difference between “fill in” and “fill out” lies in the contrasting spatial concept of language users at a cognitive level. Thus, it is “a particular construal” (a different partial aspect of the same process) that leads to the different linguistic forms, “fill in” and “fill out” (Lee, 2001, p. 36). However, neither Barnard nor Lee reveals any evidence at a formal or syntactical level to support their assertion at the cognitive level. Therefore, the paper probes into the “in-out puzzle” from a formal viewpoint in addition to the cognitive point of view.

3. A Syntactic-semantic Approach

As its name suggests, a syntactic-semantic approach integrates a syntactic point of view with a semantic point of view, thereby better describing and explaining various linguistic issues objectively. In Dixon’s syntactic-semantic approach, for example, “A verb may refer to some activity and there must be a number of participants who have roles in that activity; or a verb may refer to a state, and there must be a participant to experience the state” (Dixon, 2005, pp. 9-10). In (1) below, the SVO construction encodes an activity of “carrying” with two mandatory participants who act the parts of the Agent (Sinbad) and the Patient (the old man); in (2) below, the SV construction depicts a

state of “aching” experienced by one participant (my leg). As shown in (1’) and (2’) below, this paper employs “Formula” to exhibit the syntactic-semantic traits of a verb, such as the usages of the verb and required or optional participants of the event or state encoded by the verb.

- (1) Sinbad carried the old man.
(2) My leg aches.
(Dixon, 2005, pp. 9-10)
- (1’) Formula: Agent + [v.] + Patient (e.g., carry)
(2’) Formula: Agent + [v.] (e.g., ache)

3.1 “Fill”

This section describes the syntactic-semantic traits of the verb “fill” based on the above. In Dixon (2005), the verb “fill” belongs to REST-C, the PUT subtype, which “refers to causing something to be at rest at a Locus” in a transitive context². A representative member of the REST-C group is the verb “put.” Example (3) is a complete exhibition of the action of “putting,” which requires three participants, an Agent, a Patient, and a Locus; the Patient is at the Locus as a result of the action of “putting.” The usages of the verb “put” are summarized in Formula 1 in (4) below. Similarly (but not exactly the same), the usages of “fill” can be exhibited by Formula 2 in (7) below, encoding a Patient (water) and a Locus (in the tank) as in (6). “Fill” is not a typical member of the REST-C group since Formula 2 in (7) differs from Formula 1 in (4) in that a Patient or a Locus in Formula 2 in (7) is not always obligatory, as in (5) below.

- (3) She put the box down / outside / there / on the table. (Dixon, 2005, pp. 106-7)
- (4) Formula 1: Agent + [v.] + Patient + Locus (e.g., put)
- (5) Now you will need to fill the gas tank completely full. (LEXICO)
- (6) Close the orifice with a rubber plug and open the supply valve gradually so as to fill water in the tank up to some height. Note the initial head H1. 3. Remove the rubber plug and simultaneously start the stop watch.
(Google Books, retrieved in Feb, 2022)
- (7) Formula 2: Agent + [v.] + (Patient) + (Locus)³ (e.g., fill)

3.2 “Fill in”

In this section, the syntactic-semantic characteristics of “fill in” are described and analyzed. (8) below follows the pattern of “Agent⁴ + [fill in] + Locus” without a Patient, (9) the pattern of “Agent + [fill in] + Patient + Locus,” and (10) the pattern of “Agent + [fill in] + Patient” without a Locus. Semantically, these three examples imply that the implicit Patient, “required information” in (8) or the explicit Patients, “the information” in (9) and “the rest of the word” in (10), are respectively at the explicit Loci, “the coupon on p. 54” in (8) and “in the Properties dialog box” in (9), or the implicit Locus, “in the box” in (10). In short, as in Formula 2’ in (11) below, “fill in” exhibits a very similar syntactic-semantic feature as “fill.”

- (8) To order, fill in the coupon on p. 54.
(OALD Online)
- (9) In short, if you want people to recognize and find your page easily, fill in the information in the Properties dialog box.
(Google Books, retrieved in Feb, 2022)
- (10) Underneath will be a dictionary definition to a word, which will begin with the letter

in the box. Fill in the rest of the word and be rewarded with points and extra time.
(COCA)

- (11) Formula 2’: Agent + [verb or phrasal verb] + (Patient) + (Locus) (e.g., fill in)

3.3 “Fill out”

This section examines the syntactic-semantic traits of “fill out.” “Fill out,” originally meaning “to write in required matter,” is first recorded around 1880 (see Online Etymology Dictionary). As its original sense suggests, “fill out” matches well with a Locus accommodating the implicit but inferable Patient, “required matter” as in (12) below. Although there are examples such as (13) below corresponding to Formula 2’ of “Agent + [fill out] + Patient,” LEXICO⁵ data manifests that obviously the “Agent + [fill out] + Patient” sentences are less common than the “Agent + [fill out] + Locus” sentences. The usage-based data, though limited in number, agrees with Lee’s theoretical claim that “fill in” focuses on the process of “inserting” while “fill out” emphasizes the process of “increasing.” In other words, the Patient in (14) is backgrounded or less observed than the Locus to which the process of “increasing” is related. This difference is further supported by a corpus-based approach in the following part.

- (12) Each patient fills out a menu card to order their meals. (LEXICO)
- (13) Fill out the required information using what was provided by Fake Name Generator. (COCA)
- (14) Formula 3: Agent + [verb or verbal phrase] + (Patient)⁶ + Locus

3.4 Summary

Based on the above, “fill out” exhibits a slightly different syntactic-semantic feature from “fill

Table 2 The Similarity and Differences between “Fill in” and “Fill out” (2)

	Difference 2 (Lee, 2001)	Difference 3
fill in	Process of inserting	Formula 2: Agent + [fill in] + (Patient) + (Locus)
fill out	Process of increasing	Formula 3: Agent + [fill out] + (Patient) + Locus

in,” as illustrated in Formula 3 in Table 2 above, due to the focus on the “process of increasing” in Difference 2. The conclusion will be further proved in the next part from a corpus-based perspective.

4. A Corpus-based Approach

Part Four investigates another difference (Difference 4) between “fill in” and “fill out” from a corpus-based approach. The study used COCA

to list the top 20 words that collocate with “fill in” and “fill out,” as illustrated in Fig. 4 and Fig. 5 below. The top 20 words (List 1) that co-occur with “fill in” are “blanks, gaps, blank, details, gap, missing, rest, holes, form, picture, spaces, hole, spots, bubble, pieces, forms, imagination, cracks, fields, helps;” on the other hand, the top 20 words (List 2) that co-occur with “fill out” are “form, forms, application, paperwork, questionnaire, asked, applications, survey, please, online, report,

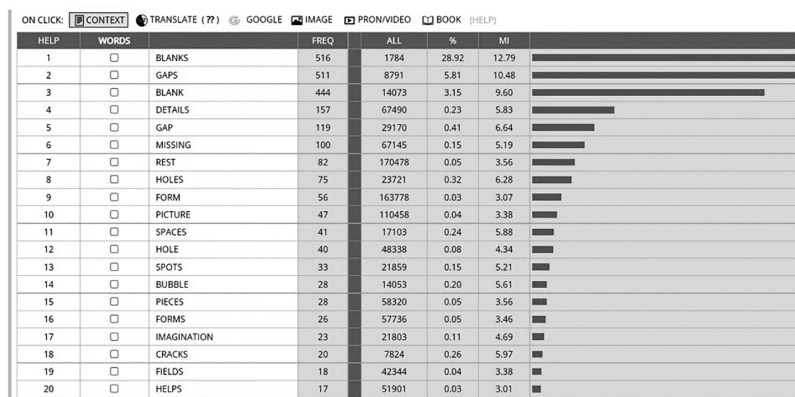


Fig. 4 Top 20 Words that Collocate with “fill in” in COCA

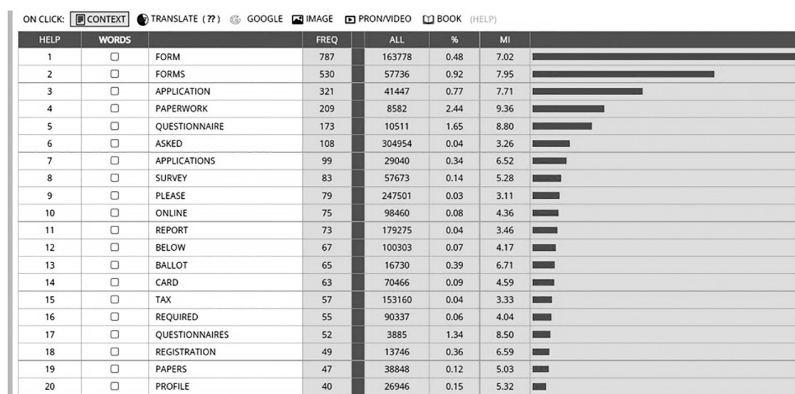


Fig. 5 Top 20 Words that Collocate with “fill out” in COCA

Table 3 The Similarity and Differences between “Fill in” and “Fill out” (3)

	Difference 2 (Lee, 2001)	Difference 4
fill in	Process of inserting	More Locus words with an empty implication
fill out	Process of increasing	More Locus words with both empty and filled implications

below, ballot, card, tax, required, questionnaires, registration, papers, profile.”

4.1 “Fill in” Collocations

List 1 above (Fig. 4) includes words that play or supplement to play the roles of the Patient and the Locus in Formula 2. Words such as “details, missing, and pieces” are Patient-oriented, and words such as “blanks, gap, and holes” are Locus-oriented. Moreover, many Locus-oriented words in List 1, such as “blank(s), gap(s), and holes,” imply an empty space for the action of “filling.” List 1 further backs the claim for the process of “inserting” in “fill in” since semantically, the action “inserting” co-occurs consistently with the Patient (what to insert) and the Locus (where to insert).

4.2 “Fill out” Collocations

List 2 above (Fig. 5), however, displays a contrasting semantic personality of the top 20 words collocating with “fill out” from List 1. In List 2, there are more Locus-oriented words than Patient-oriented words, thereby further supporting the hypothesis in Part Three that the Patient is less common in Formula 3. Moreover, unlike the “empty” Loci in List 1, the Loci in List 2 can be empty (before “filling out”) or filled (after “filling out”). “Blanks” are no longer “blanks” after “filling in,” yet “questionnaires” are “questionnaires” before and after “filling out.” In short, blank-like Loci are more likely to appear in List 1 (“fill in” collocations) and questionnaire-like Loci in List 2 (“fill out” collocations).

4.3 Summary

As in Table 3 above, corpus data in COCA exhibits the difference in the Locus of “fill in” and “fill out” formulae. “Fill in” prefers empty Loci or Loci before writing in required information; “fill out” goes well with Loci with both empty and filled implications. However, corpus data in BNC provides different lists of the top 20 words that co-occur with “fill in,” List 3 in (15) below and the top 20 words that collocate with “fill out,” List 4 in (16) below. The analysis on Lists 3 and 4 will be carried out in the follow-up study due to the space limitation of this paper.

(15) List 3

form, gaps, details, forms, coupon, missing, questionnaire, asked, blanks, application, words, please, simply, below, return, spaces, file, automatically, gap, lifespan

(16) List 4

forms, form, picture, coupon, help, comments, entry, space, soon, order, booklet, appointments, register, sheet, volume, flowers, understanding, application, opportunity, simple

5. Conclusion

In summary, as an interim report of this study, in addition to Similarity, Difference 1, and Difference 2 in Table 4, syntactic-semantic Difference 3 and corpus-based Difference 4 have been substantiated in this study. In Difference 3, the Patient is less observed in Formula 3 (“fill out”) highlighting the process of “increasing” than

Table 4 The Similarity and Differences between “Fill in” and “Fill out” (4)

	Similarity (Barnard, 2013)	Difference 1 (Barnard, 2013)	Difference 2 (Lee, 2001)	Difference 3	Difference 4
fill in	meaning (“to write in the required information”)	British English	Process of inserting	Formula 2	Locus (empty)
fill out		American English	Process of increasing	Formula 3	Locus (empty and filled)

in Formula 2 (“fill in”) highlighting the process of “inserting.” In Difference 4, it has been proved that the empty Loci are preferred in the “fill in” collocations while Loci with both empty and filled implications are observed in the “fill out” collocations. The syntactic-semantic and corpus-based approaches have effectively analyzed the “fill in” and “fill out” puzzles. In the follow-up study, other approaches and more data will be employed to further examine the remaining issues of the “in-out puzzle,” such as proof of difference 1 between British English and American English. Then, these approaches will be applied to the continued research on the “in-out puzzle” and the “dust puzzle” in the field of the form-and-meaning symmetry.

Notes

- 1 Refer to Part Two of this paper for further information about the definition of the “in-out puzzle.”
- 2 Only related usages of “fill,” “fill in,” and “fill out” are discussed in this study.
- 3 In Formula, “(Patient)” indicates that “Patient” is optional.
- 4 In this study, the underlying “agent” in imperatives is explicitly displayed in Formula.
- 5 LEXICO includes ten examples of “fill out” with the meaning of “to write in required matter,” none of which corresponds to the “Agent + [fill out] + Patient” formula.
- 6 “(Patient)” indicates that “Patient” rarely appears in this formula.

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Data, Resources, and Dictionaries

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要旨

本稿は英語における形式と意味の不一致現象、特に In-out パズルの例である fill in と fill out について、実例やコーパスデータに基づき、統語意味論の視点からその本質を探る。dust the table with a feather の動詞 dust は「…のほこりなどを払う」という意味であるが、類似構造を持つ dust the table with flour の動詞 dust はまるで反義となるように「粉末などを振りかける」という意味である (Fu, 2020; Fu, 2021)。この現象を Dust パズルと称する。さらに、In と out は字義的に反義となっているにも関わらず、句動詞 fill in と fill out はほぼ同義で「記入する」という意味である (バーナード, 2013, p.30)。この現象を In-out パズルと称する。本稿は In-out パズルの実例を収集し、実証的な検証を行い、その仕組みを解明し、形式と意味の非対称現象の謎を解き明かす試みである。