



## Some Properties of Vice Versa: A Corpus-based Approach

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## Some Properties of *Vice Versa*: A Corpus-based Approach\*

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The aim of this paper is to explore some syntactic, semantic, and pragmatic properties of *vice versa* in English through the use of corpus-based data. Assuming that *vice versa* is a kind of sentential anaphora, I will maintain that (a) *vice versa* occurs in a simple sentence with a coordinate conjunction followed, (b) there is an antecedent of it in the preceding sentence or clause (or, sometimes, context) and it holds an anaphoric relation to the preceding sentence or clause (or, sometimes, context), and (c) it behaves as the interchange of items in the sentence differently from other sentential anaphors.

### 1. Introduction

This paper explores some syntactic, semantic, and pragmatic properties of *vice versa* in English. It also aims at reinforcing the validity of my proposal in Yamauchi (1994) through the use of corpus-based data.<sup>1</sup>

According to *O.E.D.*, *vice versa* is defined as follows:

- (1) with a reversal or transposition of the main items in the statement just made; contrariwise, conversely

Given this definition, the following expressions can be observed, where *b* sentence (or phrase) in each pair is considered to correspond to *vice versa* in *a* sentence:

- (2) a. In the 1990s, many banks looked like post offices, and *vice versa*. (*BusinessWeek*, Nov. 16, 2005)  
b. Many post offices looked like banks.
- (3) a. I believe that liberals loathe the war because they loathe Bush, rather than *vice versa*. (*Los Angeles Times*, Nov. 20, 2005)

b. Bush loathes them.

- (4) a. The transfer from one hemisphere to another, where a horse is going from winter to summer or *vice versa*, is of great significance. (*Sydney Morning Herald* (subscription), Nov. 18, 2005)  
b. A horse is going from summer to winter.

These examples seem to suggest that “the main items” stated in *O.E.D.* refer to single noun phrases and that the meaning of *vice versa* can be captured by the mere interchange of “the main items.” A closer observation reveals, however, that there are a wide variety of expressions which can be counterexamples to such a simple identification as in *O.E.D.*:

- (5) a. It is possible to have a democratic society without capitalism, and *vice versa*. (*Rochester Democratic and Chronicle*, Nov. 20, 2005)  
b. It is possible to have a capitalistic society without democracy.
- (6) a. New Yorkers like London, and *vice versa*.  
b. Londoners like New York.
- (7) a. Bus-drivers rarely travel in airplanes, and *vice versa*.  
b. Airplanes pilots rarely travel in buses.

<sup>1</sup> The access date to the Internet is November 26, 2005 through the search engine of Google with the exclusive focus on news materials.

I will maintain a position through the discussion that

*vice versa* is a kind of sentential anaphora,<sup>2</sup> which suggests that (a) it occurs in a simple sentence with a coordinate conjunction followed, (b) there is an antecedent of it in the preceding sentence or clause (or, sometimes, context) and it holds an anaphoric relation to the preceding sentence or clause (or, sometimes, context), and (c) it behaves as the interchange of items in the sentence differently from other sentential anaphors.

## 2. Some Problems in the Previous Literature

In this section I will offer brief criticism on the treatment of *vice versa* in the previous literature and propose some points to be discussed later.

To the best of my knowledge, there have been only four articles on *vice versa* (except mine) published so far: Fraser (1970), McCawley (1970), Kay (1989) and Kurokawa (2005). None of them, however, seem to give a linguistically significant analysis of it. Fraser (1970) and McCawley (1970) just present a preliminary description of it and point out some syntactic problems involved in the use of it, though they recognize its idiosyncratic nature. Kay (1989) just spares one page and a half for a pragmatic analysis of it as a “contextual operator.”<sup>3</sup> Kurokawa (2005) proposes another pragmatic analysis of it, which seems to be a more plausible treatment than the other three, in the framework of Relevance Theory.

One of the problems which the previous analyses have in common can be summarized as the inadequate or vague definition and treatment of *vice versa* in each article. Fraser (1970, p. 277) analyzes it as the interchange of “two, only two, noun phrases,” but, as is clear from the examples below, we can provide further evidence that *vice versa* can be applied to more than the mere interchange of two noun phrases.

In comparison with Fraser (1970), however, McCawley (1970, p. 278) seems to be more persuasive in that it claims that *vice versa* can be realized through “interchanging two elements of another clause.” But there still remain crucial problems in it. It leaves unsolved the problems of what the two elements are and, if they are identified, then what elements of a clause can be interchanged and how.

Radically differently from the above two articles, Kay (1989, p. 187) attempts at pragmatic considerations on *vice versa* and proposes that the interchanging items be “a pair of participants in the scene that is evoked by the interpretation of a sentence.” The article maintains that the following example serve as supporting that the ambiguity of interpretation of a sentence including *vice versa* can be resolved if only it is judged on the context of utterance:

- (8) a. The Joneses don't like their next-door neighbors but we do, and *vice versa*.  
 b. Our next-door neighbors like us.  
 c. The Jones' next-door neighbors like us.

To obtain the interpretation of *vice versa* as (8b) rather than (8c), it is implied that some process of pragmatic interpretation must work well.

This position, however, can be challenged, for the interpretation of “we do” in (8a) seems to be less contextually ambiguous than it assumes. The anaphoric expression “we do” refers to “we like *our* next-door neighbors,” not “we like *their* next-door neighbors.” As long as the interpretation of the antecedent “we do” automatically excludes any special pragmatic process to identify the only meaning, *vice versa* can be automatically understood as (8b), not (8c). It follows that the discussion of Kay (1989) cannot escape criticism in that the context-dependency of the interpretation of *vice versa* should not be included in the considerations of any properties of the expression.

Kurokawa (2005) also seeks a solution to the problem in pragmatics, but the standpoint of the analysis is based on the notion of “accessibility” in terms of “processing effort” and “cognitive effect,” as Relevance Theory proposes, to capture the nature and identification of two items in reverse. Kurokawa (2005, pp. 66-67) maintains that the two items in reverse, termed as “binarity” in it, can be subcategorized into “concept-internal (CI) binarity,” “lexical structure-based (LS-based) binarity,” “encyclopedic assumption-based

<sup>2</sup> Imanishi & Asano (1990, pp. 261-263) labels *vice versa* along with *the opposite* and *which* as “a corresponding expression to sentential anaphora,” because the expression behaves idiosyncratically as the interchange of items in the sentence (or clause).

<sup>3</sup> “Contextual operators,” which are irrelevant to the present discussion, are defined in Kay (1989, p. 181), as follows:

lexical items or grammatical constructions whose semantic value consists, at least in part, of instructions to find in, or impute to, the context a certain kind of information structure and to locate the information presented by the sentence within that information structure in a specified way.

(EA-based) binarity,” and “implicature-based (Impl-based) binarity,” respectively, according to the pragmatic dependency of the accessibility of the two items in reverse.

To demonstrate some possibilities of interpretation, Kurokawa (2005, pp. 68-69) presents the following example including *vice versa*, quoted from BNC:

- (9) a. Assume that a rise in interest rates causes a fall in investment and *vice versa*.
- b. A fall in interest rates causes a rise in investment.
- c. A fall in investment causes a rise in interest rates.
- d. A rise in investment causes a fall in interest rates.

With each possible interpretation of *vice versa* in (9a), according to Kurokawa (2005), the reading of (9b) can be introduced from “CI binarity” principle, that of (9c) from “LS-binarity” principle, and that of (9d) from “EA-based binarity” principle, respectively. The analysis so far deserves special mention in that the article explicitly claims that the two items in reverse do not necessarily call for linguistic externalization, i.e., lexical manifestations, in the preceding context. The assertion here, however, seems to be rather unpersuasive because the final identification of interpretation in the expression, as Kurokawa (2005) concedes, depends on a dynamic context and is left undecided, as the three possibilities of the interpretation of (9a) still remain open.

The following four points can be explicitly or implicitly induced from the inadequacies and problems presented in the previous studies:

- a. What is the antecedent of *vice versa* like?
- b. What items in the antecedent can be interchanged?
- c. In what circumstances can the items be interchanged and how many items can be interchanged?
- d. What are semantic and pragmatic restrictions of the occurrence of *vice versa*, if any?

In the next section I will examine syntactic, semantic, and pragmatic properties of *vice versa*.

### 3. Syntactic, Semantic, and Pragmatic Properties

Before discussing the points suggested above, first of all, it is necessary to identify the occurrence position of *vice versa* as a syntactic property. As is clear from the examples so far presented, *vice versa* can occur after the conjoined sentence, which functions as its antecedent in the same single sentence.

In arguing the first point, that is, the status of the antecedent, we can safely state that *vice versa* can take every kind of sentence as its antecedent: simple sentence, complex sentence, and compound sentence. It will suffice here to add another example to (1), (2), and (8), respectively:

- (10) Green enhances yellow, and *vice versa*.
- (11) When she wants to go out, he wants to stay in, and *vice versa*.
- (12) There are many Kansai people and they hesitate to speak the Kanto dialect, and *vice versa*.

The next point to be considered is concerned with the syntactic status of the interchanging items. The traditional viewpoint, as is pointed by Fraser (1970), is that two, and only two, noun phrases in the antecedent can be interchanged. A more careful observation reveals, however, that the noun phrases of different status or other items than noun phrases can contribute to the phenomena of interchange:

- (13) a. The counselor talked to the husband on behalf of his wife, and *vice versa*.
- b. The counselor talked to the wife on behalf of her husband.
- (14) a. Women may bring their husbands with them, and *vice versa*.
- b. Men may bring their wives with them.
- (15) a. When the door is open, I close it, and *vice versa*.
- b. When the door is closed, I open it.
- (16) a. When the room is tidy, I tend to put it in disorder, and *vice versa*.
- b. When the room is untidy, I tend to put it in order.

In (13) the noun phrases “the husband” and “his wife” are interchanged into “the wife” and “her husband,” and in (14) “women” and “their husband,”

into “men” and “their wives,” respectively. These examples demonstrate that the idiosyncratic behavior of *vice versa* cannot be handled in terms of the mere interchange of noun phrases.<sup>4</sup> Furthermore, the same applies to (15) and (16). The target of interchange is an adjective (or adjectival phrase) and a verb (or verbal phrase) in (15), and an adjective (or adjectival phrase) and an adverb (or adverbial phrase) in (16). Since almost all kinds of items can be interchanged in the occurrence of *vice versa*, we can safely conclude that the anaphoric status of *vice versa* can belong to every syntactic category.

The third question is to investigate the condition(s) of the occurrence of *vice versa*, which will of course include the discussion on the number of interchanging items.

In terms of the grammatical relation or the property of verbs in the antecedent, as is demonstrated in (2), it is usually assumed that subject and object can be interchanged with a transitive (or quasi-transitive) verb between. Consider the following:

- (17) a. Not every liberal is a misogynist, or *vice versa*. (*The Rant.us*, Nov. 27, 2005)  
 b. Not every misogynist is a liberal.

In (17) subject and complement are interchanged with an intransitive verb “be” between. Only if the verb “be” is interpreted as “being identified as” or “being equated with,” it can allow subject and complement to be interchanged. Hence, the well-formedness of *vice versa*, which means (17b).<sup>5</sup>

(17), along with (11) and (12), can be viewed as representative examples enough to refute the general assumption of the condition(s) of the occurrence of *vice versa*. That is, it cannot be captured in terms of the grammatical relations such as subject, object, or complement and the property of verbs such as transitive or intransitive as well as the kinds of

<sup>4</sup> Note that the referential meaning of “them” in (14a) is clearly different from that of “them” in (14b).

<sup>5</sup> An example to the contrary in terms of the use of “be” is, however, presented:

- a. \*John is a linguist, and *vice versa*.  
 b. \*A linguist is John.

The “is” here is used as “being characterized as” or “having the attribute of being” and prohibits subject and complement interchanging; therefore, a sentence including *vice versa* is judged as unacceptable.

sentence as an antecedent such as simple, complex, and compound sentences. It follows, therefore, that a more exhaustive treatment will be necessary to attach the proper estimation to *vice versa*.

A strong candidate for the solution seems to take into consideration the relationship of items in the antecedent. This functional approach will motivate me to propose the following condition to explain the peculiarities of *vice versa*:

(18) A Condition of Arguments in Contrast:

When there is more than one argument in the antecedent and the two (or more) arguments, in principle, are in a functionally equivalent anaphoric relationship, *vice versa* can be used as an anaphoric expression.

In what follows I will examine the validity of this condition.

Based on the observation in Fraser (1970), the number of interchanging arguments is restricted to two, and only two, and the interchanging phenomenon can be noted only in the verbal phrase when there is more than one argument, as is shown in (19) and (20):

- (19) a. He pointed out John to Mary, and *vice versa*.  
 b. He pointed out Mary to John.  
 (20) a. I expect John to hit Mary, and *vice versa*.  
 b. I expect Mary to hit John.<sup>6</sup>

There are some examples, however, which seem inconsistent with the claim made by Fraser (1970):

- (21) a. Mary will make John a good spouse, and *vice versa*.  
 b. John will make Mary a good spouse.<sup>7</sup>

<sup>6</sup> Fraser (1970, p. 278) cites the following three interpretations of *vice versa* in (20a), but he comments that the last is less frequently acceptable:

- (i) I expect Mary to hit John.  
 (ii) John expects me to hit Mary.  
 (iii) ?Mary expects John to hit me.

My informants, however, judge only the first as acceptable. A plausible reason is that the first preference in contrastive relation is functionally given to “John” and “Mary” in the embedding sentence and only (i) is judged as acceptable.

<sup>7</sup> As a relevant example to (21), the following is worthy of commenting here:

- a. \*Mary will make John a good wife, and *vice versa*.  
 b. John will make Mary a good husband.

- (22) a. He believed that a man should have as many wives as he wants, but not *vice versa*.  
 b. He believed that a woman should have as many husbands as she wants.
- (23) a. When I believed he made a mistake I did not spare him my criticism, and *vice versa*.  
 (*Reuters AlterNet*, Nov. 14, 2005)  
 b. When he believed I made a mistake he did not spare me his criticism.

In (21) the interchange of the two arguments “Mary” and “John” can be seen beyond the domain of the verbal phrase. In (22), furthermore, the three arguments of “a man,” “wives,” and “he” are targets of interchange to obtain the interpretation of *vice versa* as (22b). More interestingly, in (23) every alternation of target arguments, pronouns, can be observed. It can be induced from the above that the claim by Fraser (1970) turns out incorrect; that is, the number of interchanging arguments is not always restricted to two and could be more than two only when the arguments are in a functionally equivalent anaphoric relationship.<sup>8</sup>

Let me adduce another example as supportive evidence in favor of the “Condition of Arguments in Contrast”:

- (24) a. John likes some people better than Harry, and *vice versa*.  
 b. Harry likes some people better than John.

(24a) implies that three patterns of interchange such as “John vs. some people,” “John vs. Harry,” and “some people vs. Harry” are theoretically possible, but why can (24b) be the most plausible candidate as the only interpretation of *vice versa* in (24a)? A key to the solution lies in the difference of anaphoric relations among the three arguments.

In considering the quality of the arguments, “John”

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The unacceptability of *a* sentence might well be imputed to the assumption that “Mary” and “John” share the equivalent contrastive relationship in terms of proper nouns, both of which will functionally disagree with a third argument “wife.” In any case, this is not incompatible with the “Condition of Arguments in Contrast.”

<sup>8</sup> In terms of anaphora, the maximum number of interchanging arguments in a functionally equivalent relationship could be presumably two. The lack of much empirical data, however, obliges me to suggest that two arguments, in principle, can be interchangeable, as is defined in the “Condition of Arguments in Contrast.”

and “Harry,” both of which are proper nouns, are equivalent in the level of reference, but “some people,” which includes an indefinite quantifier “some,” are more opaque than the other two. This suggests that it is “John” and “Harry” that are in a functionally equivalent anaphoric relationship and can be thus preferably interchanged.

Let us look at the antecedent in (24a) once again. The structural ambiguity for it would yield the following two interpretations:

- (25) a. John likes some people better than Harry does.  
 b. John likes some people better than he likes Harry.

However, as long as “Harry” is in a functionally equivalent anaphoric relationship with “John,” and is thought to function as subject, (25a) naturally takes preference over (25b). The referential meaning of *vice versa* in (24a), after all, resolves itself into (24b). Here again functions well the “Condition of Arguments in Contrast.”

The last point concerns semantic and pragmatic restrictions of *vice versa*. The violation of selectional restrictions of verbs or the contradiction in meaning yield ungrammatical sentences, even if two arguments are in a functionally equivalent anaphoric relationship, as in (26), (27), and (28):

- (26) a. \*Nancy smelled the fresh meat, and *vice versa*.  
 b. \*The fresh meat smelled Nancy.
- (27) a. \*He earns more money than she does, and *vice versa*.  
 b. She earns more money than he does.
- (28) a. ??If you liked and laughed at the first 20 minutes of “Team America,” then this movie isn’t for you, and *vice versa*. (*Richmond.com*, Nov. 16, 2005)  
 b. If you didn’t like and laugh at the first 20 minutes of “Team America,” then this movie is for you.

The verb “smell” as it is used in the sense of (26a) requires an animate subject, but (26b) as the referential meaning of *vice versa* violates this restriction; therefore, (26a), as a whole, is judged as ungrammatical. A similar judgment would apply to

(27a), because it presents a logical contradiction between “he earns more money than she does” and “she earns more money than he does.” The logic of (28) also draws the same criticism. A possible interpretation presented in (28b) clearly seems unintelligible and rather ridiculous. All the cases should be, therefore, excluded in semantics.

The following examples, where arguments with different manifestations are interchanged, will serve as considering pragmatic restrictions of *vice versa*:

- (29) a. Many Frenchmen have learned English, and *vice versa*.  
 b. Many Englishmen have learned French.
- (30) a. Murderers are likely to commit rape, and *vice versa*.  
 b. Rapists are likely to commit murder.
- (31) a. Many Frenchmen are Anglophobes, and *vice versa*.  
 b. Many Englishmen are Francophobes.<sup>9</sup>

These can be easily explained in terms of anaphora supported by the linguistic context of derivational words.

The following cannot be recoverable, however, even given some linguistic context:

- (32) a. Bus-drivers rarely travel in airplanes, and *vice versa*. (=7a)  
 b. Airplanes pilots rarely travel in buses. (=7b)
- (33) a. Few Tigers fans live in the Kanto district, but not *vice versa*.  
 b. Few Giants fans live in the Kansai district.<sup>10</sup>

In (32a) we have no linguistically clear clue to introduce “pilots” from the antecedent information. Similarly, in (33a) “the Kanto district” is never an index to directly induce “Giants.” It is because we depend on the recoverability based on the non-linguistic context of analogy that *vice versa* in each case can maintain a well-formed anaphoric

<sup>9</sup> It must be noted that there is a wide variety of grammatical judgment on these examples.

<sup>10</sup> The reason my informants judge (33a) as acceptable might be that they share rich non-linguistic information about Japanese professional baseball and can easily formulate the analogy of the Kansai district and Tigers or that of the Kanto district and Giants.

relationship. The following examples will be supportive evidence to confirm our position:

- (34) a. ?Bus-drivers rarely travel in submarines, and *vice versa*.  
 b. Those who steer submarines [whatever they are called] rarely travel in buses.
- (35) a. \*Air Canada has flights to India, and *vice versa*.  
 b. Air India has flights to Canada.

In (34a), for example, the fact that the term for “those who steer submarines” is not lexicalized in the English lexicon blocks the possibility that the recoverability by analogy works well. Also, in (35b), where an anaphoric relationship seems to be established only by the linguistic context, the association from “Air Canada” through “India” to “Air India” is prevented from flowing smoothly and cohesion cannot be rigidly maintained. The low acceptability or the ungrammaticality in (34a) and (35a) might result from the impossibility of recovering the anaphoric relationship from the linguistic or non-linguistic context conveyed in the antecedent.

Judging from the considerations we have made so far, it may be assumed to restrict the anaphora of *vice versa* to intra-sentential anaphora, which can be observed in the same sentence, but it is also applicable to inter-sentential anaphora, which means that the anaphoric relationship can be realized in level of more than sentence, that is, in discourse. Consider the following example:

- (36) a. Wrestling coach Roman Gutierrez encourages his wrestlers to participate in a fall sport because of the difference he sees when students arrive for the first week of practice. He said that Breslin and junior Trenton Duarte (who also ran cross country) were two of the best-conditioned guys in the room. It takes some time for football players to get into wrestling shape, but Gutierrez thinks the two sports help the athletes. “I think we make good football players and *vice versa*,” Gutierrez said. “Both sports complement each other.” (*Craig Daily Press*, Nov. 16, 2005)  
 b. Football players make us (=good wrestlers).

To identify the anaphora of “we” in the sentence including *vice versa* in (36b), it is inadequate to refer to

the immediate preceding sentence. Only after we can trace back to the beginning of the discourse, do we find it possible to ascertain that Gutierrez is referred to as a wrestling coach and he can be included in “we” as “wrestlers.” This example surely serves as proper evidence that the referential meaning of *vice versa* in question in (36) cannot be recovered from some mechanism such as intra-sentential anaphora, but from the information in the discourse.

#### 4. Conclusion

In this paper I have focused my attention to a linguistically peripheral expression, *vice versa*, whose idiosyncratic behaviors have long eluded systematic analyses, and pointed out some problems presented by the preceding studies. I have also argued that syntactic, semantic, and pragmatic analyses are fundamental to capturing the complex anaphoric relationship between *vice versa* and the antecedent. The originality in the present study should be ascribed to the attempt to inclusively treat the expression from the functional viewpoint, which can be embodied by establishing the “Condition of Arguments in Contrast,” along with the effective use of corpus-based data.

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