

## *The Simple Sentence Puzzle and Ambiguous Co-referential Names*

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### 1. The puzzle about belief and the simple sentence puzzle

#### 1.1. The simple sentence puzzle and the puzzle about belief

Since Frege (1892), it has been well known that the substitution of co-referential singular terms in otherwise identical sentences that ascribe propositional attitudes does not seem to preserve truth conditions. As Kripke (1979) has indicated, this problem remains unresolved, and discussions of this problem continue. Consider the following sentences, which demonstrate a puzzle about belief, with Peter believing that Hesperus and Phosphorus are two different stars.

(1a) Peter believes that Hesperus can be seen in the evening.

(1b) Peter believes that Phosphorus can be seen in the evening.

Under the presupposed condition, (1b) might be false even if (1a) is true. Thus, a substitution of co-referential names in belief contexts does not always preserve truth conditions.

Recently, Saul (1997a) has pointed out that there seems to be a substitution problem even outside of propositional attitude contexts. This new puzzle is related to simple sentences with particular names and is called the *simple sentence puzzle* (cf. Saul 1997b). According to Saul (1997a), simple sentences are sentences that contain no attitude, modal, or quotational constructions.

Suppose that (2a) is a truth description of an event on a Metropolis street :

(2a) Clark Kent went into the phone booth, and Superman came out.

The substitution of "Superman" with "Clark Kent" seems to change the truth value of the original sentence :

(2b) Clark Kent went into the phone booth, and Clark Kent came out.

In these sentences, "Clark Kent" and "Superman" seem to be co-referential names, while (2b) seems to be false when (2a) is true.

#### 1.2 Direct reference and propositional attitudes

Among puzzles in propositional attitude contexts, there is a problem that seems closely related to the simple sentence puzzle. That is a problem of propositional-attitude ascriptions under the assumption of theories of direct reference. The

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problem was originally articulated by Richard (1983) and Soams (1985), and Salmon (1986) has proposed another solution to the problem.

Fregeans usually avoid this problem by accepting modes of presentation as referents of names in propositional attitude contexts. Only Russellians, who accept the principle (3) have serious difficulties with this problem :

- (3) "The contribution made by an ordinary proper name, demonstrative, or other simple singular term to securing the information content of, or the proposition expressed by, declarative sentences (with respect to a given possible context of use) in which the term occurs (outside of the scope of a nonextensional operators, such as quotation marks) is just the referent of the term, or the bearer of the name (with respect to that context of use)." (Salmon (1986) p. 241)

Russellians cannot use the Fregean solution for the substitution problem with direct referential terms in propositional attitude contexts. Thus, Richard (1983), Soams (1985), and Salmon (1986) have proposed Russellian solutions to the problem; these solutions, however, appear to be artificial and counterintuitive.

### 1.3 Saul's diagnosis of the simple sentence puzzle

The simple sentence puzzle can be distinguished from the puzzle about belief through its independence from any particular individual epistemic states. According to Saul (1997a), there are two features of co-referential names that evoke anti-substitution intuition. One is their appearance of anti-substitution, which was demonstrated by examples (2a) and (2b). The following constitute similar examples :

(4a) Superman was more successful with women than Clark Kent.

(4b) Superman was more successful with women than Superman.

Sentence (4a) seems to be true, while (4b) is definitively false. It seems therefore appropriate to give up the co-referentiality of these two names. However, there are examples that go against this approach :

(5) Superman is Clark Kent.

(6) Clark Kent can fly, though he conceals this fact.

In these sentences, "Clark Kent" can be replaced by "Superman" without changing the original truth value<sup>1</sup>. Thus, no simple solution is possible.

According to Saul (1997a), there are two possible ways of dealing with this problem.

- I. The Problem can be solved by accepting a semantics that allows the reference of a name to vary with contexts.
- II. The problem can be solved by maintaining the usual semantics but by giving a pragmatic explanation of our intuitions that disagree with this semantics.

Forbes (1997, 1999) and Moore (1999, 2000) utilize the first strategy and propose solutions based on a neo-Fregean viewpoint, while Barber (2000) utilizes the second strategy<sup>2</sup>. Our proposal here is similar to the first strategy, but we will highlight a particular class of ambiguous singular terms.

## 2. Several proposed solutions to the simple sentence puzzle

### 2.1. Saul's analysis

Saul (1997a) is probably the most insightful regarding this problem. She briefly examines some important strategies that can be utilized. First, she shows that the Fregean approach does not work for the simple sentence puzzle. The Fregean strategy for the puzzle about belief consists of taking singular terms within belief clauses to refer to their customary senses. However, this strategy cannot be applied to simple sentences, as expressions within the sentences denote their customary referents. It is also nonsense to say that Superman's mode of presentation was successful with women.

Saul also examines the idea that temporal phases of individuals are acceptable as referents of names. For example, she considers the following sentences :

(7a) I never made it to Leningrad, but I visited St. Petersburg last week.

(7b) I never made it to Leningrad, but I visited Leningrad last week.

This proposal can explain why (7a) is true while (7b) is false. However, she rejects the proposal, as "Leningrad" and "St. Petersburg" are co-referential in the sentence "Leningrad is St. Petersburg." Thus, she concludes that a context-dependent semantics is necessary when utilizing this strategy.

In addition, for pragmatists, this problem is not easy to solve. Pragmatists accept a usual semantics and usual substitutions. Then, they must accept that (4a) is false because (4b) is obviously false. This approach is counterintuitive, however, and it seems difficult to explain why we usually consider that (4a) and (7a) are true.

### 2.2. Neo-Fregean approaches

Forbes (1997, 1999) and Moore (1999, 2000) choose strategy I, i.e. a solution by using a context-dependent semantics. Forbes (1997) proposes that problematic simple sentences be interpreted as sentences with hidden expressions. For example, he explains (2a) as follows :

(8) Clark, so-attired, went into the phone booth, and Superman, so-attired, came out.

Forbes (1999) accepts, at first, four domains in his semantics ; they are *E* (eventualities), *I* (individuals), *P* (personae), and *A* (ways of dressing). By using a many-sorted logic, he analyzes (8) as follows :

(9) went-into (Clark, *b*) & (the  $\alpha : L(\alpha, \text{so})$ ) [attired ( $\text{he}_{\text{Clark}}, \alpha$ )] & then

(came-out (Superman,  $b$ ) & (the  $\alpha : L(\alpha, \text{so})$ ) [attired ( $\text{he}_{\text{superman}}, \alpha$ )]). Later, in analyzing “I visited St. Petersburg and avoided Leningrad”, Forbes (1999) also accepts aspects of cities. As this example shows, it is not clear how many domains Forbes actually needs. To explain new examples, he would have to extend his domains in an *ad hoc* manner. As such, despite his attempt to clarify his semantics by a formalization, his proposal remains essentially vague.

Moore (1999, 2000) has proposed a solution that is similar to that of Forbes. Moore believes that we can refer not only to individuals but also to their aspects. His aspects are not aspects in a Fregean sense; instead, they are parts of the world that can have many of the same properties as individuals (cf. Moore 1999, p. 102)<sup>3</sup>. Thus, Moore’s position seems to be compatible with mereology; his ontological view, however, remains unclear when he writes:

“Aspects are, I think, primitive, irreducible, and as I shall suggest shortly, somewhat indeterminate entities.” (Moore 1999, p. 103)

The positions of Forbes and Moore are referred to as aspect-sensitive views of simple sentences because they accept aspect-sensitive entities<sup>4</sup>. Moore’s interpretation of (2a) is analogous to Forbes’s solution described in (8), where Clark/Superman denotes an individual who is both Clark and Superman:

(10) Clark/Superman’s Clark-aspect went into the phone booth, and his Superman-aspect came out.

Unfortunately, this proposal, based on an aspect-sensitive viewpoint, involves a serious problem that Saul (1999, 2000) points out. The problem consists in the generality of their semantics. To demonstrate this problem, Saul uses a story about Monica Lewinsky:

“Suppose that Clinton used different names for different aspects of Lewinsky, ‘Miss Lewinsky’ for the hard-working intern aspect, and ‘Monica’ for his co-participant in improper relations.” (Saul 2000, p. 255)

According to theories of Forbes and Moore, when uttered by Clinton, (11a) becomes true, while (11b) is false:

(11a) I did not have sexual relations with that woman, Miss Lewinsky.

(11b) I did not have sexual relations with Monica.

Following their aspect-sensitive view, “Miss Lewinsky” denotes the intern aspect of Monica Lewinsky, while “Monica” denotes her private aspect. Thus, Clinton’s claim (11a) becomes justified in this way, which is an unacceptable consequence.

What, then, is wrong with aspect-sensitive view? Forbes and Moore have never noticed that the pair, “Miss Lewinsky” and “Monica,” behave semantically differently from the pair, “Clark Kent” and “Superman.” The aspect-sensitive view is partially right, but this strategy can be applied properly only to interpretations of a special class of singular terms, which explains why Forbes and Moore went wrong.

### 3. A mereological solution that uses ambiguous co-referential names

Saul (1999, 2000) shows that no proposal for the simple sentence puzzle has been successful. However, there is an important point that previous discussions have nearly overlooked, the possibility of ambiguous reference. In this section, we will propose a solution to this problem by analyzing the ambiguity of a certain type of co-referential name, and we will then show that our proposal can be defended against attacks by Saul (1999, 2000).

#### 3.1. Four-dimensionalism, temporal phases, and ambiguous co-referential names

We postulate here a four-dimensionalism based on four-dimensional mereology that accepts temporal parts of objects and their fusion<sup>5</sup>. An extended investigation will be needed to justify this ontology; however, the aim of this paper is more modest than that. We plan only to propose how to address the problem of substitution failures in simple sentences, if four-dimensionalism is accepted.

Aspect-view theorists refer not only to objects but also to objects under a certain aspect. Similarly, four-dimensionalists refer not only to objects but also to their temporal parts. Saul (1997a) has already examined this strategy and concluded that it does not work, as we mentioned above. However, Saul did not seriously consider the ambiguity of names in her examination, which is why she disapproved of the four-dimensional approach. To elucidate the problem of substitution failure in simple sentences, we need to combine four-dimensional mereology, a treatment of ambiguous names, and some pragmatic principles.

As a first step, let us define what temporal phases are: <sup>6</sup>

- (12)  $A$  is a temporal phase of  $B$  if and only if  
 $A \neq B$  & there is a time  $t$  such that  $t$  is a part of the whole time and  
 $A$  is a temporal part of  $B$  at  $t$ .

The ontology of four-dimensional mereology is rich; for an arbitrary object  $A$ , all of the temporal phases of  $A$  are accepted as objects of this language.

When an individual has two names, the names' referents sometimes become ambiguous. "Leningrad" and "St. Petersburg" are good examples of this ambiguity. After the death of V.I. Lenin, St. Petersburg was named Leningrad. However, the Soviet Union collapsed in 1991 and the city was renamed St. Petersburg. Thus, the name "Leningrad" can be used to refer not only to the temporal phase of the city between 1924 and 1991 but also to the city as an individual:

- (7a) I never made it to Leningrad, but I visited St. Petersburg last week.

- (13) Leningrad is St. Petersburg.

In (7a), "Leningrad" is used as a name that refers to the temporal phase of the city between 1924 and 1991. In contrast, in (13), "Leningrad" and "St. Petersburg" are

used as ordinary co-referential names. Because of this ambiguous use, we would like to call the two names *ambiguous co-referential names*, which can be characterized as follows :

(14) Definition for *ambiguous co-referential names*

- i) A name is a *standard name* if and only if it stands for an individual and not for its temporal phase.
- ii) A name is a *weak name* for an individual object if and only if the name stands not for the object but for one of its temporal phases.
- iii) Names are *co-referential* if and only if they denote the same object.
- iv) Two names are *standard co-referential names* if and only if they are standard names and co-referential.
- v) “*A*” and “*B*” are *ambiguous co-referential names* when there are weak names and standard co-referential names for *A* and *B* such that in some contexts it is appropriate to interpret  $A=A(-)$  or  $B=B(-)$ , and in some contexts it is appropriate to interpret  $A=A(+)$  or  $B=B(+)$ , where “ $A(-)$ ” and “ $B(-)$ ” are weak names and “ $A(+)$ ” and “ $B(+)$ ” are standard names.
- vi)  $A/B=A(-)\cup B(-)$ =(the fusion of and  $A(-)$  and  $B(-)$ ), where “ $A(-)$ ” and “ $B(-)$ ” are weak names for *A* and *B*.

Normally, co-referential names are not ambiguous because they are understood only with the standard reading. However, there are some cases where co-referential names become ambiguous. The following are some examples of ambiguous coreferential names :

- “Superman” and “Clark Kent” ;
- “St. Petersburg” and “Leningrad” ;
- “Norma Jean Baker” and “Marilyn Monroe”.

When an individual is christened twice at different times, people sometimes feel uncertain about whether the names refer to the individual or to their temporal phases. This situation is common for these three pairs of names.

### 3.2. Pragmatic principles and cancellation

When we use ambiguous co-referential names, their interpretations become context-dependent. To choose a proper interpretation, some pragmatic principles are needed. We propose the following four principles :

- (15) Pragmatic principles for communication<sup>7)</sup>
  - i) The speaker should say what he believes to be true.
  - ii) The speaker should try to be informative.
  - iii) The interpreter should try to give an interpretation that verifies sentences.
  - iv) The interpreter should try to give an informative interpretation.

The first two principles are formulated for the speaker. The last two principles for interpretation are derived from the first two principles. This derivation is possible because the interpreter's duty is to try to grasp what the speaker wants to convey.

To sentences (4a), (7a), and (16), we can apply principles (15.iii) and (15.iv). Then, (int-4a), (int-7a), and (int-16) result, as follows:

(int-4a) Superman(-) was more successful with women than Clark-Kent(-).

(int-7a) I never made it to Leningrad(-), but I visited St.-Petersburg(-) last week.

(16) Marilyn Monroe is sexier than Norma Jean Baker.

(int-16) Marilyn-Monroe(-) is sexier than Norma-Jean-Baker(-).

Let us apply (15.iv) to (2a) and (2b):

(int-2a) Clark-Kent(-) went into the phone booth, and Superman(-) came out.

(int-2b) Clark-Kent(-) went into the phone booth, and Clark-Kent(-) came out.

(int-2a) and (int-2b) are the most informative interpretations. However, these two interpretations are not compatible.

Sentence (17) can be interpreted as (int-17) by applying (5.iii):

(17) Superman is Clark Kent, Leningrad is St. Petersburg, and Norma Jean Baker is Marilyn Monroe.

(int-17) Superman(+) is Clark-Kent(+), Leningrad(+) is St.-Petersburg(+), and Norma-Jean-Baker(+) is Marilyn-Monroe(+).

According to (14), Superman(+) = Clark-Kent(+) & Leningrad(+) = St.-Petersburg(+) & Norma-Jean-Baker(+) = Marilyn-Monroe(+). (int-17) is therefore true. Similarly, we obtain (int-6a) as an appropriate interpretation of (6) by applying (15.iii):

(int-6a) Clark-Kent(+) can fly, though he conceals this.

By combining (15.iii) and (15.iv), (int-6b) results as the most proper interpretation:

(int-6b) Clark-Kent(+) can fly, though Clark-Kent(-) conceals this.

Saul (1997a) mentions the possibility of a cancellation of an interpretation. For example, (int-2b) can be cancelled by adding new information, as follows:

(2c) Clark Kent went into the phone booth, and Clark Kent came out, but nobody recognized him.

To make (2c) true, we would prefer (int-2c) or (int-2c+) to (int-2b) according to principle (15.iii):

(int-2c) Clark-Kent(-) went into the phone booth, and Clark-Kent(+) came out, but nobody recognized him.

(int-2c+) Clark-Kent(-) went into the phone booth, and Clark-Kent(+) came out, but nobody recognized Clark-Kent(-).

(15.iii) is a basic principle for interpretation. When there are several interpretations that satisfy principle (15.iii), (15.iv) is used to choose the most informative interpretation. Therefore, a cancellation takes place when the possibility of an informative interpretation is rejected. This cancellation occurs when principle (15.iv) is not acceptable; in such a case, only (15.iii) can be employed. (2c) is an example of this case; the phrase “nobody recognized him” rejects the interpretation  $A=A(-)$  because someone would have recognized Clark-Kent(-) as Clark-Kent(-) if Clark-Kent(-) had come out. As a result of this cancellation, the second Clark-Kent(-) in (int-2b) is replaced by Clark-Kent(+).

Saul (1997a) points out a different problem, that which occurs when Clark/Superman is in the shower; at such a time, there seems to be no indication of whether this individual is Clark Kent or Superman. According to our view, it would be appropriate in such a case to accept that Clark-Kent(-) and Superman(-) may have a common temporal part. It holds, then, that if Clark/Superman is in the shower at  $t$ , then (the temporal part of Clark-Kent(-) at  $t$ ) = (the temporal part of Superman(-) at  $t$ ). Thus, “Clark-Kent(-) is in the shower” as well as “Superman(-) is in the shower” is true, when Clark/Superman is in the shower. It turns out that four-dimensionalism is useful in this case.

### 3.3. A problem of ambiguous co-referential names

Let us reexamine the problem discussed in section 2.2. Forbes (1997, 1999) and Moore (1999, 2000) accept the aspect/mode of presentation. This method has dire consequences because the aspect-sensitive view is applicable to any individual. If the aspect-sensitive view is right, then, by uttering (11a), Clinton might have referred to an aspect of Monica Lewinsky instead of her as an individual. In this case, Clinton made a true statement, even if he and Monica Lewinsky had a sexual relationship.

In the aspect-sensitive view, the mode of presentation plays an essential role. When there are two different modes of an individual, according to their theories, both become accessible through the use of linguistic devices. This generality is the source of some difficulty. In contrast, according to our proposal, the names “Monica” and “Miss Lewinsky” are not ambiguous in the given context. “Monica” is a standard name and “Miss Lewinsky” is also a standard name in this context, because Monica Lewinsky was single at that time. It holds, therefore, that  $\text{Monica} = \text{Miss Lewinsky} = \text{Monica Lewinsky}$ ; and these names simply refer to the same individual<sup>8</sup>. It is crucial for our proposal that it is applicable only to ambiguous co-referential names. Because of this limited applicability, our proposal does not cause the difficulties addressed by Saul (1999)<sup>9</sup>.

We would like to ask again, what is the problem of substitution failures in simple sentences? Saul (1997) presents it as a problem of substitution; however,



our examination has shown that it is a problem of ambiguous co-referential names that can be used not only co-referentially but also non-co-referentially. That is, their uses are context-dependent, which explains the appearance of anti-substitutivity. When at least one of the ambiguous co-referential names is used in a weak reading, their substitution might change the truth-value of the original simple sentence. Substitution of these names is allowed only if they are used as standard coreferential names. In both cases, the substitution principle is not violated. In the first case, names are weak names and not co-referential. In the second case, names are co-referential and can be substituted for each other without changing the truth conditions.

### 3.4. Mereological ontology and ambiguous co-referential names

Moore (1999) gives an example that seems to reject a solution using temporal phases. Suppose that Clark/Superman talks on the phone to Lois in his superhero manner, while sitting at his desk dressed as Clark Kent. In this situation, the following sentence seems to be true :

- (18) While talking on the phone to Superman, Lois looked through the window at Clark Kent.

This situation illuminates that there is a temporal phase of Clark/Superman such that he has a visual appearance of Clark and a vocal appearance of Superman. This is a strange situation. In such a situation, it seems to be appropriate to accept a person composed of a mereological part of Clark-Kent(-) and a mereological part of Superman(-). Then, it is still possible to interpret (18) as (int-18a) :

- (int-18a) While talking on the phone to Superman(-), Lois looked through the window at Clark-Kent(-).

In this situation, it holds that :

- (the temporal part of Superman(-) at  $t$ )  $\neq$  (the temporal part of Clark-Kent(-) at  $t$ ) & (the temporal part of Clark/Superman at  $t$ ) = (the fusion of the temporal part of Superman(-) at  $t$  and the temporal part of Clark-Kent(-) at  $t$ ).

For example, the physical appearance of Clark/Superman at  $t$  belongs to the temporal part of Clark-Kent(-) at  $t$ , and the brain of Clark/Superman at  $t$  belongs to the temporal part of Superman(-) at  $t$ . In this case, Superman(-) should not be substituted with Clark-Kent(-), not only because Superman(-) is different from Clark-Kent(-) but also because they are different at time  $t$ . The mereological ontology can give an appropriate interpretation even for this special case.

## 4. Concluding Remarks

Usually, names are used as standard names, i.e. as names that refer to individ-

uals and not to their parts. This praxis keeps our interpretation of utterances simple. Otherwise, too many interpretations become available. We know that individuals have their parts, and we refer to these parts by expressing explicitly what we want to refer to. Our ontology is mereological in the sense that we can refer to parts of individual objects. For example, we accept that a human being consists of many organs, that these organs are composed of cells, and so on. However, people prefer to use the *ordinary ontology* that is simple but can be supplemented with scientific and other kinds of knowledge.

The weak names that we introduced in this paper are special names that require special stories to be properly interpreted. "St. Petersburg" and "Superman" are such special names; to use these terms as weak names, we need to know the histories of these names. It seems that this is always the case for any weak name. Suppose that "X" is the name of a person who has become a woman by a sex change operation. "Mr. X" and "Miss X" become weak singular terms after this operation. After her acquisition of a doctor's degree, "Dr. X" becomes a weak singular term. Many weak names can be also used as standard names, and in these cases the names become ambiguous.

Some favorite examples of the puzzle about belief can be interpreted as involving ambiguous co-referential names. Let us think about the following examples, where (19a) and (19c) are modifications of (1a) and (1b) :

(19a) Hesperus can be seen in the evening.

(19b) Phosphorus can be seen in the morning.

(19c) Phosphorus can be seen in the evening.

According to (15), it seems appropriate to interpret these sentences as follows :

(int-19a) Hesperus(-) can be seen in the evening.

(int-19b) Phosphorus(-) can be seen in the morning.

(int-19c) Phosphorus(+) can be seen in the evening.

It also seems to hold that :

(20a) Hesperus(+) = Phosphorus(+) = Venus.

(20b) Hesperus(-) and Phosphorus(-) are different temporal phases of Venus.

When the speaker does not know that a singular term is an ambiguous co-referential name, this ignorance might produce false beliefs from right information expressed by sentences that contain this term.

However, it is important to mention that there seem to be many examples of the puzzle about belief that do not allow for this kind of analysis. Examining the relation between the puzzle about belief and the simple sentence puzzle remains as a subject of future study.

It is worth noting that many weak names have not only *denotations* but also *connotations*. Hesperus(-) implies that it can be seen in the evening, Marilyn-

Monroe(—) implies that she is an actress, the former-president-Clinton(—) implies that he was a president, and so on. Thus, it seems that weak names are generally not directly referential, which also presents an interesting problem worthy of further investigation<sup>10</sup>.

### Notes

- 1) In the case of (6), we should be careful with the substitution of “Clark Kent.” (6) can be interpreted as “Clark Kent can fly, though Clark Kent conceals this fact.” It will be appropriate to substitute only the first occurrence of “Clark Kent” with “Superman.”
- 2) Barber (2000) claims that by uttering (4a), a speaker can convey the idea that Superman is more of a woman-magnet when he is Supermanizing than when he is Clark-Kentizing. Barber also claims also that (4a) is false. His solution, however, is quite *ad hoc*, and he uses the artificial phrase “Supermanizing”, the use of which should be justified.
- 3) We might interpret aspects of an individual object as its mereological parts. We are not necessarily against this ontology but instead against ignorance of a particular class of singular terms that we will later identify as ambiguous co-referential names.
- 4) Moore (1999, 2000) distinguishes between enlightened and unenlightened contexts. According to Moore, aspect-sensitive use of names is allowed only in an enlightened context. We do not take this distinction into consideration to keep our problem description simple. This treatment is justified, in fact that this distinction does not help to avoid the difficulties described by Saul (1999, 2000).
- 5) For mereology, see Simons (1987), Link (1998), and Nakayama (1999a). For four-dimensionalism, see Lewis (1988) and Nakayama (1999b).
- 6) In this definition, it is only required that *t* be a part of the whole time. Therefore, *t* might be the sum of some time intervals. This view of the temporal phase is quite liberal, and it accepts temporally detached objects. Later, this liberal ontology becomes useful for describing objects denoted by weak names. The formalization of four-dimensionalism in Nakayama (1999b) is too restrictive and does not allow for temporally detached objects. However, it is possible to weaken the axiom system so that these objects are accepted.
- 7) Principles (15.i) and (15.ii) correspond roughly to the maxim of quality and the maxim of quantity in Grice (1975). The maxim of quality consists of the following specific principles: Do not say what you believe to be false, and do not say that for which you lack adequate evidence. (15.i) is also identical with the sincerity condition in speech act theory. The following two sub-principles belong to the maxim of quantity: Make your contribution as informative as is required, and do not make your contribution more informative than is required.
- 8) Actually, if Monica Lewinsky gets married in the future, ‘Miss Lewinsky’ will become a weak name for her. In such a case, this name can be used to refer to her temporal phase, i.e., to her unmarried temporal phase. However, we need not consider this case, because sentence (11a) was uttered when she was single. When *t* is the time of Clinton’s presidency, it holds that: (the temporal part of Monica Lewinsky at *t*)=(the temporal part of Miss Lewinsky at *t*).
- 9) Suppose that Monica Lewinsky gets married to Mr. Smith. In this situation, “Miss Lewinsky” becomes an ambiguous name. For example, we can say, “Miss Lewinsky is

- Mrs. Smith.” This shows that ambiguous names are quite common. Saul pointed out this fact after reading an earlier version of this paper. As such, this problem of ambiguous co-referential names is an important phenomenon worthy of further investigation. Compared to the aspect-sensitive view, the use of weak names is still restricted, which is why we can solve the problem pointed out by Saul (1999, 2000).
- 10) This paper is based on Koyama (2001), but it presents a new solution to the simple sentence puzzle. An earlier draft of this paper was read at the conference of the Japan Association for Philosophy of Science held in June 2001. We would like to thank Takashi Iida and Youichi Matsusaka for their comments at the conference. Jennifer M. Saul carefully read a short draft of this paper and gave very insightful comments that helped us to very much improve the paper. We are very grateful to her.

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