

Semantics and Pragmatics of Pure Indexical Reference

Yoko Mizuta

International Christian University

mizutay@icu.ac.jp

Abstract

Kaplan (1989) proposed a semantic theory of pure indexicals, arguing that “I,” “here,” and “now” refer respectively to the agent, the place, and the time of the context of utterance. He focused on real-time, face-to-face communication, assuming “proper utterances,” that is, those utterances in which the agent is located in the place and time of the context of utterance. Kaplan claimed that in proper utterances the proposition “I am here now” is logically true, that is, true in every context of utterance.

In the past few decades, the semantics of pure indexicals has been discussed beyond the scope of the work of Kaplan. Recorded and written messages are now a central concern of the literature and the logical truth of “I am here now” needs to be reexamined. In these messages, pure indexical references are to be communicated through the discrepancy between the spatial and temporal locations that the speaker and the hearer are in.

In the literature, factors such as the speaker’s intention and social conventions have been mentioned as playing a key role in the identification of pure indexical references. However, the relation between these factors has been left unclear. Also, it remains to be clarified whether or not Kaplan’s semantic theory needs to be modified in order to accommodate the cases of recorded and written messages.

This paper investigates the identification of pure indexical references from both semantic and pragmatic perspectives. It presents a theory which involves a minimum extension of Kaplan’s theory, introducing the notion of the “salient context of utterance.” Specifically, this paper argues the following: 1) it proposes a semantic theory which claims that “I,” “here,” and “now” refer respectively to the agent, the place, and the time of the pragmatically determined salient context of utterance, 2) it argues that “I am here now” is true in every salient context of utterance and provides a solution to the so-called “answering machine paradox,”

3) it identifies multiple pragmatic factors which contribute to the identification of the salient context of utterance, and 4) it proposes a hierarchy for the ways in which these multiple factors apply.

Keywords: *Pure indexical reference; Recorded and written messages; Semantics; Pragmatic factors; Hierarchy*

1. INTRODUCTION

Kaplan (1989) proposed a semantic theory of pure indexicals, arguing that “I,” “here,” and “now” refer respectively to the agent, the place, and the time of the context of utterance. He focused on real-time, face-to-face communication, assuming “proper utterances,” that is, those utterances in which the agent is located in the place and time of the context of utterance. Kaplan claimed that in proper utterances the proposition “I am here now” is logically true, that is, true in every context of utterance.

In the past few decades, the semantics of pure indexicals has been discussed beyond the scope of the work of Kaplan. Recorded and written messages are now a central concern of the literature (e.g. Bianchi, 2014; Corazza et al., 2002; Predelli, 1998, 2002, 2011; Romdenh-Romluc, 2006; Stevens, 2008) and the logical truth of “I am here now” needs to be reexamined. In these messages, pure indexical references (henceforth, ‘PIRs’) are to be communicated through the discrepancy between the spatial and temporal locations that the speaker and the hearer are in.

In the literature, factors such as the speaker’s intention (Predelli, 1998, 2002, 2011), cultural/social setting and conventions (Corazza et al., 2002), and the “competent and attentive audience” (Romdenh-Romluc, 2006) have been mentioned as playing a key role in the identification of PIRs. However, the relation between these factors has been left unclear. Also, it remains to be clarified whether or not Kaplan’s semantic theory needs to be modified

in order to accommodate the cases of recorded and written messages.

This paper investigates the identification of PIRs from both semantic and pragmatic perspectives. It presents a theory which involves a minimum extension of Kaplan's theory, introducing the notion of the "salient context of utterance" (SCU). Specifically, this paper argues the following: 1) it proposes a semantic theory which claims that "I," "here," and "now" refer respectively to the agent, the place, and the time of the pragmatically determined SCU, 2) it argues that "I am here now" is true in every SCU and provides a solution to the so-called "answering machine paradox," 3) it identifies multiple pragmatic factors which contribute to the identification of the SCU, and 4) it proposes a hierarchy for the ways in which these multiple factors apply.

In what follows, I first provide an overview of previous work (Section 2) and propose the semantics of PIR (Section 3). I then identify the pragmatic factors which determine the SCU (Section 4) and discuss the hierarchical relations among these factors (Section 5). I then conclude the paper (Section 6).

2. OVERVIEW OF PREVIOUS WORK

2.1 The Answering Machine Paradox and the Deferred Utterance Intuition²

In Kaplan's (1989) view, in proper utterances the proposition "I am here now" (P) is logically true, that is, true in every context of utterance. The negation of P would then be logically false. Vision (1985) as well as Kaplan himself (Kaplan, 1989, p.41, fn12), however, argued that the negation of P (i.e. "I am not here now") uttered in a voice message apparently stands for a true proposition. In the literature, this apparent puzzle is called the "answering machine paradox" (AMP) and has been received the continuous attention.

1 The first part of this section refers to Mizuta (2015).

Sidelle (1991) analyzes a recorded message case as "arranging to make an utterance at a later time, or, if one likes, deferring an utterance" (p.535). This intuition is called the "deferred utterance intuition" (DUI). Sidelle considers that the utterance made in the recording context becomes a "genuine utterance" in the playback context.

Stevens (2008, p.217) argues against DUI, claiming that there is an utterance in the recording context and there is no utterance in the playback context. Stevens seems to focus on the phonetic aspect of an utterance. Sidelle, in contrast, considers the communicative aspect of an utterance: His point is that the utterance made in the recording context is reserved for a future use and comes into effect later in the playback context.

Cohen (2013) supports DUI:

Sidelle's ingenious proposal is that answering machine, notes, and the like are utterance-deferral technologies – technologies that permit one to produce in a context c^i an indexical-containing string that will be interpreted not with respect to c^i (as usual), but with respect to some distinct context c^t , in which that string will eventually be tokened (p.7, original italics).

He calls Sidelle's view "the context of tokening view" and supports it.

I support Sidelle's view that the utterance in the playback context is a genuine utterance in terms of its communicative force. Sidelle correctly argues that the reference of here and now in the recorded message are determined with respect to the playback context. He, however, controversially argues that the reference of "I" is determined with respect to the recording context and attributes the truth of "I am not here now" to the discrepancy between the playback context and the recording context. In essence, Sidelle reduces the case of an answering machine to an improper utterance.

While acknowledging DUI, Mizuta (2015) mentions a crucial problem with Sidelle's (1991) analysis of AMP regarding the reference of "I." She argues that the message "I am not here now" means that the individual who was supposed to answer the phone is not available in the playback context because, for example, he is travelling, not because he is recording the message. She argues that the semantic reference of "I" exists in the playback context (as the agent of utterance with the logical identity of the individual at issue) and that it will then be pragmatically mapped onto the individual at issue (with both logical and physical identity), who is for example travelling at the time of playback. In her view, not only "here" and "now" but also "I" have their (semantic) references in the playback context. Thus, the proposition "I am here now" holds in the playback context, while AMP is attributed to the pragmatic mapping which is applied to "I," but not to "here" and "now," in the message. (For details about the agent of utterance with the logical identity of an individual, and a solution to AMP, see Mizuta 2015.)

2.2 Analyses of PIRs

The AMP motivated scholars to explore a theory of PIRs which accommodates the cases of recorded and written messages, besides real-time, face-to-face communication.

Michaelson (2014) proposes a semantic theory, "the character-shifting view." He posits different characters (i.e. the functions from pure indexicals to their references as proposed by Kaplan 1989) for different contexts. He focuses on three contexts, which are face-to-face, answering machine, and postcard contexts. In these contexts, PIRs are determined by the following characters:

Face-to-Face	‘I’ refers to the speaker ‘here’ refers to the location of production ‘now’ refers to the time of production
Answering Machine	‘I’ refers to the owner of the line ‘here’ refers to the location of playback ‘now’ refers to the time of playback
Postcard	‘I’ refers to the author ‘here’ refers to the location of production ‘now’ refers to the time of production

Michaelson (2014, p.528)

Note that there are also other types of utterances such as a note left on the table for some specific addressee and a post-it note attached to the professor’s office door for his students. These other types are beyond the scope of Michaelson’s work. It seems that in Michaelson’s view, the wider variety of types are to be accommodated, the more rules need to be stipulated.

There is another line of analysis, which is mainly pragmatic. Predelli (1996, 1998, 2002, 2011: “the intentionalist view”) argues that “written and recorded messages are to be evaluated with respect to the intended context of interpretation, which need not coincide with the context of utterance” (Predelli, 1998, p.115). Predelli (1998) mentions the following anecdote:

Consider the anecdote of Jones, who expects his wife to come home at six, and writes ‘I am not here now’ at four, with the intention of informing Mrs. Jones that he is away from home at six—or, if you prefer, imagine that he records ‘I am not here now’ on a tape, expecting his wife to activate the tape-recorder upon her arrival. However, Jones’s wife is late, and she only reads the message (or turns on the tape-recorder) at ten. (p.110)

Predelli argues as follows. If Jones's wife is late and reads the message at ten, it is expected that she thinks about Mr. Jones's intention and concludes that "now" refers to six, rather than ten. That is, Mrs. Jones should determine the PIRs in the intended context of interpretation. As for "I" and "here," "I" refers to Mr. Jones, who wrote the note, and "here" refers to the home, where the note was left. Note, however, that in order for Mrs. Jones to determine the PIRs with respect to the intended context of utterance, she should know Mr. Jones's intention in some way or other. For example, if she told Mr. Jones that she would come home at six on that day, then she would think that Mr. Jones expects her to come home at six and that he intends to refer to six by "now." In contrast, if Mr. Jones simply made a guess about when Mrs. Jones comes home, then there is no clue that Mrs. Jones can use to understand Mr. Jones's intention. In this case, Mrs. Jones wouldn't be able to determine the PIRs with respect to the intended context of interpretation. She could only determine the PIRs with respect to the context in which she actually reads the note. To mention in passing, Cohen (2013) ("the context of tokening view") argues against Predelli. In Cohen's view, even if Mrs. Jones understands Mr. Jones's intention, the PIRs should be determined with respect to the context in which Mrs. Jones actually reads the note. Thus, in his view, the reference of "now" should be ten o'clock.

Others focus on the reference of "I," leaving the logical truth of "I am here now" undiscussed. Corazza, Fish & Girvet (2002) propose the "conventionalist view": They argue that convention or a setting plays a key role in determining the PIRs. Specifically, they offer a proposal for how the reference of "I" is determined:

'Our proposal is that, for any use of the personal indexical, the contextual parameter of the agent is *conventionally given* – given by the *social or conventional setting* in which the utterance takes

place.’ (p.11, with original italics)

Corazza et al. explain their key notion of ‘setting’:

[T]he notion of a setting of an utterance allows us to cast our net much more widely and include, among other things, the language being spoken, the physical environment and other factors as relevant to determining our contextual parameters. (p.11)

Romdenh-Romluc (2006) clarifies the notion of convention in terms of establishment:

There is room for disagreement over what exactly counts as a convention, but one thing is clear: a convention is an *established* way of doing things; to do something in a certain way on only one or two occasions does not constitute a convention. Established ways of doing things do not spring up over night. At some point, the conventional way of doing something has to be introduced, and it is not until it becomes established that that way of doing things can be considered conventional. (p.268f.; with original italics).

Corazza et al. argue that in the case of an answering machine message, PIRs are determined by the conventions of answering machines. Romdenh-Romluc (2006) (“the recognized context view”) argues against the view of Corazza et al., mentioning that answering machine messages (including the indexicals used in them) can be correctly interpreted even before the machines are widespread. She argues that the reference of “I” is to be determined instead by the linguistically competent and attentive audience (Ac). She puts it:

[A]n adequate account of indexical reference should allow the speaker the freedom to use indexicals in novel ways, whilst holding that what a speaker can refer to with an indexical utterance is constrained by what an audience can understand. I developed an account with these requirements in mind, according to which the reference of an indexical is determined relative to the context that Ac (the competent and attentive audience it is reasonable to take the utterer to be addressing) would identify using the clues that she will reasonably take U (the utterer) to be exploiting. (p.281)

However, she does not clarify what kind of clues should be available on the part of the audience (i.e. the hearer) for the successful identification of PIRs.

In summary, while previous work investigates PIRs from semantic and pragmatic perspectives, the status of Kaplan's thesis, especially that of the logical truth of "I am here now" in the cases of recorded and written messages, is left open.

3. SEMANTICS OF PIR AND A SOLUTION TO THE AMP

3.1 Semantics of PIR

Kaplan assumed real-time, face-to-face communication and proposed that "I," "here," and "now" refer respectively to the agent, the place, and the time of the context of utterance. If we try to apply Kaplan's thesis to the cases of recorded and written messages, we would need to identify *the* (unique) context of utterance while there are multiple candidates for it (e.g. the encoding context and the decoding context).

I introduce the notion of the "salient context of utterance" (SCU) as the context of utterance that plays the most important role from the communicative perspective. The SCU is pragmatically determined on

the hearer's part. I assume that there is a unique SCU for each message. The SCU may be a fictional context of utterance (Cf. Voltolini, 2006) as well as a real one. In order to accommodate the cases of recorded and written messages, besides real-time, face-to-face communication, I propose making a minimum modification of Kaplan's thesis as follows: "I," "here," and "now" refer respectively to the agent, the place, and the time of the pragmatically determined SCU. I argue that the proposition "I am here now" is true in every SCU, in the case of "proper utterances," where the agent is located in the SCU. (Relevant discussions are provided in section 3.2 below.)

In the case of real-time, face-to-face communication, the SCU is the unique context of utterance at issue.

In the case of an answering machine message, the SCU is the context of playback (i.e. the context of genuine utterance in Sidelle's term), in which the message has a communicative effect, as we observed above.

In the case of written notes, the SCU is by default the fictional context wherein the author of the note utters the written statement each time someone reads it. (Simply put, when someone reads the note, s/he is invited to imagine that the author utters it in the decoding context.) The mechanism is essentially the same as that of the answering machine message.

In Predelli's example of Mr. and Mrs. Jones mentioned above, the SCU is not the context wherein Mrs. Jones actually sees the note. The SCU is instead the intended context of interpretation. Why is this? It is because Mrs. Jones is invited to imagine that she sees the note at six o'clock as intended by Mr. Jones. This context plays the most important role from the communicative perspective. Thus, this context is the SCU with respect to which the PIRs are to be determined. If Mr. Jones had no expectation about when Mrs. Jones would come home, then he would intend that his message will be interpreted with respect to the context wherein Mrs. Jones actually comes home and sees the note.

3.2 A Solution to the AMP

3.2.1 About the logical truth of “I am here now” in SCU

I argue that the proposition “I am here now” is true in every SCU. Why then can a voice message “I am not here now” stand for a true proposition? I provide a solution to the AMP below.

First, we should distinguish between two levels; semantics and pragmatics. At the semantic level, “I am here now” is analyzed as follows, by virtue of the proposed semantics of PIRs:

(1) I (= the agent of the SCU) am here now.

I argue that (1) is true in every SCU. In the voice message case, pragmatics comes into play. The utterance in the playback context involves communication between a fictional context and the real world. While the message is uttered by the agent in a fictional context (as if an individual, say John, were speaking in real time), the hearer interprets it as a message concerning the real world. The voice message “I am not here now” is analyzed as follows:

(2) I (= the individual in question in the real world) am not here now.

Note that proposition (2) is the negation of (3), not (1).

(3) I (= the individual in the real world) am here now.

Since the agent of the SCU (i.e. the fictional representation of John, for example) and the corresponding individual in the real world (i.e. the individual John) are pragmatically linked with each other, the linguistic expression for the former (i.e. “I”) can refer to the latter at the pragmatic

level. Pragmatic reference of this sort can be observed in various cases (Nunberg, 1978). The proposition (3) is true just in case the individual in question is in the playback context. (3) is, of course, not logically true. Thus, proposition (2), which is the negation of (3), is not logically false. (2) is true just in case the individual in question is not available in the playback context because s/he is traveling, for example. In short, (1) and (2) are compatible, when pragmatic comes into play in determining the reference of “I,” while (1) and its negation are not. This provides a solution to the AMP.

I argue that proposition (1) is true in every SCU, given the proposed semantics of PIRs. In other words, proposition “I am here now” is logically true at the semantic level.

3.2.2 *Feedback to Kaplan’s claim about the logical truth of “I am here now”*

The analysis given above suggests feedback to Kaplan’s claim about the logical truth of “I am here now” in the case of real-time, face-to-face communication. First, note that Kaplan’s claim concerns the semantics of PIRs. “I am here now” in Kaplan’s claim is analyzed as follows.

(4) I (= the agent of the context of utterance) am here now.

Pragmatics comes into play in providing various references of “I.” Suppose that Mary, who is a singer, is watching TV in the living room and finds that on TV she is singing in a concert hall. Mary can truthfully say the following:

(5) Look! I (=Mary on TV) am singing in a concert hall.

How can “I” refer to Mary on TV, while in Kaplan’s theory “I” refers to the agent of the context of utterance? This can be explained as follows: “I”

first refers to Mary who is uttering, at the semantic level, and then Mary on TV, by virtue of the pragmatic mapping between Mary as an utterer and Mary on TV. If we focus on Mary who is uttering, (4) above is true (“here” refers to the living room). On the other hand, if we focus on Mary on TV, the following proposition is true:

(6) I (=Mary on TV) am not here (=in the living room) now.

Proposition (6) is not the negation of (4), given the different references of “I.” Thus, (4) and (6) are compatible. That is, the truth of (6) does not affect Kaplan’s claim that (4) is true in every context of utterance, in the case of real-time, face-to-face communication.

The next section is concerned with various pragmatic factors which contribute to determining the SCU.

4. PRAGMATIC FACTORS DETERMINING THE SALIENT CONTEXT OF UTTERANCE

I discuss the pragmatic factors which contribute to the identification of the SCU.

4.1 Linguistic Context

The first factor is the linguistic context in which the pure indexicals are used.

Suppose that Nancy comes home and finds a note below (the italic is for emphasis).

(7) Nancy, *I* will be back around 5 p.m. Bill

It is clear from the linguistic context that the note is addressed to Nancy

from Bill and that it was written sometime before 5 p.m. Also, it is clear that Bill expects that Nancy reads the note some time before 5 p.m. The SCU is the fictional context wherein Bill makes an utterance at home when Nancy reads the note some time before 5 p.m. “I” refers to the agent of the SCU (i.e. Bill). If Nancy comes home later than 5 p.m., there is a mismatch between the linguistic expressions (i.e. the combination of future tense and “5 p.m.”) and the time when Nancy actually reads the note. However, the SCU remains the same: It is the intended context of interpretation in Predelli’s term, which is the fictional context wherein Bill makes an utterance at home some time before 5 p.m. Even if Nancy comes home later than 5 p.m., she is invited to imagine the fictional context wherein Bill utters “I will be back around 5 p.m.” some time before 5 p.m. If Nancy and Bill are the only ones who live there, the agent of the SCU can be understood to be Bill even if it is not specified. This is the reference of “I.” However, if some other person lives together, the specification of the agent is necessary.

Consider next an example of a voice message left on an answering machine (the italics are for emphasis).

(8) Hello. This is John. *I’m not here now.* Please leave a message.

The SCU is the playback context, as discussed earlier. How are PIRs determined in this context? “This is John” introduces the SCU wherein John utters. “I” refers to the agent of SCU, who is John. Note that it does not matter if the message was recorded by someone other than John. That is, the vocal quality of the message is overridden by the linguistic context (“This is John”). What if “This is John” is missing? In this case, “I,” on a pragmatic basis, still refers to the person who was supposed to answer the phone (say, John), who is the agent of the SCU. Note, however, that if the vocal quality is different from that person’s (as in a built-in message), it is confusing: the hearer would want to check if she pressed the right number.

“Here” and “now” refer respectively to the place and time of the SCU.

Next, let us consider messages written on a postcard. The SCU is by default the encoding context. Suppose that the following sentence is written on a postcard.

(9) It is beautiful *here now*. (Michaelson, 2014, p.525)

Pure indexicals “here” and “now” are interpreted with respect to the encoding context, as Michaelson (2014) discusses. (As mentioned earlier, he posits that “here” and “now” refer respectively to “the time of production” and “the place of production.”) The addressee is expected to interpret that the utterance was already made in the encoding time.

The SCU may also be some other context: The linguistic context contributes to selecting the appropriate SCU. Suppose that the following sentence is written on a postcard.

(10) Is it cold *now*?

The addressee is invited to consider that the author is asking about the temperature of the place where the addressee is reading the postcard. It is unlikely that the author asks about the temperature of the place where s/he is. (4) is understood as meaning “Is it cold there now?” The message has a communicative effect in the decoding time and the reference of *now* is the decoding time. The SCU is the fictional context wherein the author makes an utterance as the addressee reads the postcard. In the fiction, the situation is similar to that of a conversation over the phone.

How about (5) below?

(11) I checked the weather forecast this morning. {Perhaps it is raining *now*. / It may be raining *now*.}

The second sentence in (5) can be understood in two ways. The first case is that the author is inside the building and doesn't know the weather outside. She is guessing the weather outside. In this case, the author is making an utterance in the encoding time. The SCU involves the encoding time. The second case is that the author is guessing the weather of the place where the addressee is in the decoding time. The SCU is like the context of a phone conversation and it involves the decoding time. Sentences (4) and (5) indicate that the linguistic context such as an interrogative and a modal context has an effect on the identification of the SCU and therefore on the interpretation of the reference of "now."

4.2 Metonymical Relations

Suppose that Ben attached a note "I am not here now" to Joe's office door.² The note is understood as meaning "Joe is not in his office at the moment when the note is seen." Why could this be? It is because we acknowledge the metonymical relation between Joe and his office door, and between the door and the office. These metonymical relations trigger the fictional context wherein Joe makes a statement about himself at the office door each time someone sees the note.³ The SCU is this fictional context. "I" refers to the agent of SCU, "here" refers to the office, and "now" refers to the time when the note is seen.

Suppose next that the office is shared by Joe and Mike and that Ben attached the same note on the office door. In this case, the SCU is the fictional context wherein either Joe or Mike makes a statement about himself each time the note is seen. "I" in the message refers to the agent of SCU (not specified). As before, "here" refers to the office, and "now"

2 This example was adapted from Romdenh-Romluc (2006).

3 It may seem to be a self-contradiction that Joe makes a statement about his absence at the office door, but it is not. It is in a fictional context that Joe utters, thus the speaker is not Joe himself but his logical identity (Mizuta, 2015). The agent of the fictional context talks about the individual Joe in the real world.

refers to the time when the note is seen. If the note is attached instead to Joe's name plate beside the office door, then the SCU is the fictional context wherein Joe makes an utterance. "I" refers to the agent of the SCU, who is Joe, by virtue of the metonymical relation between Joe and his name plate.

Consider now Predelli's (1998, 2002, 2011) "intentionalist view" (or, the "intended context view," Cohen 2013). Predelli argues that PIRs are to be determined in the context of interpretation intended by the speaker. Suppose that the note falls down and that someone attached it to Fred's office door. This new context is no longer the context of interpretation intended by the speaker. What will happen? If someone sees the note in this new context, a new SCU is triggered wherein Fred fictionally makes an utterance and the hearer will determine the PIRs in this context. The hearer would think that "I" refers to Fred, based on the metonymical relation between the office door and Fred. Thus, the speaker's intention is overridden by the metonymical relation. While Predelli argues that PIRs are to be determined in the intended context of interpretation, the speaker's intention is correctly understood by the hearer only when it is appropriately exemplified using metonymical relations, for example.

4.3 Convention

The next factor is convention.

Convention in Romdenh-Romluc's sense helps the hearer identify the SCU. Let us consider some concrete examples. Suppose that you come upon a sign with the message "We are open" at the entrance of a shop. Given that the use of this kind of sign is common, you, by convention, understand that "we" refers to the group of people who work at the shop and that the shop is open. The SCU, which is a fictional context, is triggered wherein someone who works at the shop (or more plausibly, the manager of the shop) makes a statement about the shop. "We" refers to the group of people including the agent of SCU. Note, however, that if you see this kind of sign

for the first time in your life, it is likely that you can still understand what the message means and who “we” refer to. Why could this be? It is because you identify the SCU based on the metonymical relation between “we” and the shop. This indicates that metonymical relations play a more basic role than convention in the identification of the SCU.

Suppose next that Professor John and his assistant Fred share an office and that there is a convention at the university that the professor uses a blue post-it note when he has a message, whereas his/her assistant uses a yellow post-it note. In this case, if John leaves a message “I am not here now” on a blue post-it, then those who see the note would understand that “I” refers to John, even if the name is not specified on the note or the message was written by someone other than John. The SCU, which is a fictional context, is triggered wherein John makes a statement about himself at the office door. Suppose in this vein that John ran out of post-it note and borrowed a yellow one from Fred. If John writes a message “I am not here now,” then by convention “I” refers to Fred, against John’s intention. The SCU triggered in this case is the one wherein Fred makes a statement about himself. However, if John specifies his name in the message (i.e. the message is “I am not here now. John”), then the SCU is the one wherein John makes a statement about himself: “I” refers to John, even though it is written on a yellow post-it. This indicates that the linguistic context in which pure indexicals appear wins over convention in identifying the SCU.

4.4 Personal Routine

With some relevance to conventions, there are personal routines that help the hearer identify the SCU. Predelli’s anecdote of Jones mentioned earlier illustrates this point. If Mrs. Jones’s usually comes home at six, then it is regarded as a personal routine shared by Mr. and Mrs. Jones. It triggers the SCU wherein Mr. Jones makes an utterance at six, even though Mrs. Jones actually reads the note at ten.

The same mechanism applies when the message is “I will be back two hours from now.” Mr. Jones intends that he will be back at eight o’clock. Mrs. Jones needs to identify “now” with respect to the above-mentioned SCU in order to understand the sentence correctly. If Mrs. Jones identifies “now” with respect to the context wherein she actually read the note (at ten o’clock), without considering Mr. Jones’s assumption, that leads to miscommunication between the two people.

4.5 Analogy

Analogy is another factor at work here. Romdenh-Romluc (2006, p.268) argues that upon hearing a voice message on an answering machine for the first time (before these machines are widespread), the hearer would still have been able to guess what’s going on. She argues against the conventionalist view (Corazza et al., 2002) that attributes the hearer’s understanding of the voice message to convention.

How can the hearer understand a voice message such as “I am not here now” when s/he hears it for the first time? This seems to be because the hearer can use an analogy. The message triggers the situation in which the person who was expected to answer the phone (say, John) utters the message in real time. By applying an analogy to the current situation, the hearer can understand what’s going on with the answering machine message. In particular, s/he understands that “I” in the message refers to the person who was supposed to answer the phone.

It is also likely that the hearer thinks of a pre-recorded message heard at a station such as “A train bound for O’Hare Airport is approaching platform No.4.” The message triggers a SCU, which is a fictional context, wherein a person is making the announcement in real time. If the use of such a pre-recorded message is conventionalized, the hearer could apply this practice to the case of an answering machine. Thus, a voice message works just like a pre-recorded message used at a station.

4.6 Ad Hoc Assumptions

Consider again the anecdote of Jones. Here, suppose that Mrs. Jones had said she would come home at seven on that particular day. When he writes a note “I am not here now” at four o’clock, Mr. Jones has an assumption that his wife will come home at seven and thus he intends that “now” refers to seven. The SCU is thus the fictional context wherein Mr. Jones utters at seven. If Mrs. Jones comes home at ten instead, how would she understand the message? She would consider her husband’s assumption and interpret that he fictionally makes an utterance at seven, rather than ten.

This example demonstrates that the hearer’s understanding of the speaker’s assumption contributes to the identification of the SCU. Note that these kinds of ad hoc assumptions are foregrounded and given a higher priority than the personal routine that Mrs. Jones usually comes home at six.

4.7 Frame

4.7.1 Radio Broadcast

Consider the following example discussed by Romdenh-Romluc (2006):

[...] suppose that Simeon presents a history programme. He is also a newsreader. Simeon is always on television on Thursdays at four o’clock, but his slot alternates between a history programme and the news. One week he is due to present the news, but he gets muddled, and thinks it is the history programme he is due to present. He goes on air, and thinking of the Norman Conquest says,
(5) Now the French are invading England! (p.266)

Romdenh-Romluc argues that “everyone listening to his news programme identifies 2003 as the context of interpretation, thus taking ‘now’ to refer to

2003. They are subsequently horrified as they think that France has declared war on England.” (p.266)

There is room for reconsideration in her analysis. It is true that the audience assumes that the program on that day will be a news program. If sentence (5) in the above quotation is heard in isolation, the result would fit Romdenh-Romluc’s analysis. In this case, the background setting and the hearer’s assumption about the program will trigger the SCU with respect to which the reference of “now” is determined. The reference of “now” is the year of the program, which is 2003.

Consider, however, the case in which Simeon starts with introductory words such as “Hello. This week I will present a history program.” The audience will be confused, because it contrasts with their expectations. But then they will think that Simeon is making a mistake and expect a history program to follow. This indicates that the linguistic context has an important effect on identifying the SCU for the message to follow.

Even if Simeon presents a history program without such introductory words, at some point (e.g. when it is indicated that the current topic is the Norman Conquest,) the audience will understand that Simeon is mistakenly presenting a history program instead of a news program.

In these cases, a frame for presenting a history program is introduced and the SCU is in this frame. What will happen if sentence (5) in the above quotation is uttered in such a frame? The result is that the frame in which “now” appears wins over the convention of the programs and the expectation that the audience had about the program on that day. With the new information regarding the frame in which Simeon speaks, the audience will understand “now” as referring to the year 1066.

4.7.2 Computer-Synthesized Message

Here is another case where a frame comes into play. Suppose that John is going to give a lecture but that he has trouble with his throat. Therefore, he

gives a lecture using a computer-synthesized speech that he prepared. The audience assumes that John will deliver the lecture.

The computer-synthesized speech starts with the following (the italics are for emphasis):

- (12) [Computer-synthesized speech] Hello. Thank you for coming *here*.
I have a problem with my throat *now*, so *I* will give a lecture using a computer-synthesized speech.

The audience will understand that “I” refers to John, even though it is produced by the computer. This is because the speaker and the hearer share a frame in which John will be the speaker. John and the audience implicitly share the understanding that the computer will do the job in place of John. We could think that a kind of fictional setting is introduced in which the computer “speaks” on behalf of John. That setting triggers the SCU wherein John speaks. The audience will also understand, following the semantics of PIRs proposed in terms of the SCU, that “here” refers to the room and “now” refers to the time of the lecture.

5. HIERARCHY OF PRAGMATIC FACTORS

In the preceding section, I discussed pragmatic factors which contribute to the identification of the SCU. (There could be additional factors that I have not discussed.)

I argue that the hearer uses multiple factors, not just one, when identifying the SCU and that these factors operate in a hierarchy.

First, the linguistic context in which pure indexicals are used is given the highest priority. It has the most significant effect on the hearer’s identification of the SCU, given that it is explicitly linked with pure indexicals, as we observed in section 4.1. It overrides the relevant

convention, as mentioned in section 4.3. It can also introduce a frame, as explained in section 4.7 above. Thus, frame is placed below the linguistic context, although its exact status is left open.

Secondly, metonymical relations operate below the linguistic context and above convention in the hierarchy, following the observations in section 4.3.

Thirdly, convention is below metonymical relations and above analogy, since it creates the basis for analogy, as discussed in section 4.5. The relative status of convention and personal routines is left open.

Fourthly, ad hoc assumptions are given a higher priority than personal routines, as mentioned in section 4.6.

The above points provide a partial picture of the hierarchy constituted by the multiple pragmatic factors which contribute to the hearer's identification of the SCU.

6. CONCLUSION

This paper focused on how PIRs are determined in various contexts, including recorded and written messages, from both semantic and pragmatic perspectives. I introduced the notion of the SCU ("salient context of utterance") and proposed the semantics of PIRs in terms of the SCU, making a minimum modification of Kaplan's theory of indexicals. I proposed that "I," "here," and "now" refer respectively to the agent, the place, and the time of the pragmatically determined SCU. I then argued that "I am here now" is true in every SCU at the semantic level and provided a solution to the AMP. The AMP was attributed to the involvement of pragmatics in determining the reference of "I." Furthermore, I discussed the multiple pragmatic factors which contribute to the hearer's identification of the SCU.

In order to identify the SCU, the hearer uses not just one but multiple pragmatic factors available. These factors constitute a hierarchy and the

identification of the SCU is made according to this hierarchy. Clarification of the ways in which multiple factors interact in the assignment of PIRs contributes to a comprehensive theory about PIRs concerning how speakers and hearers make and interpret PIRs.

ACKNOWLEDGEMENTS

I am grateful to Dr. Katie Gruber for proofreading an earlier version of this paper. I am also grateful to two anonymous reviewers for helpful comments. Any remaining shortcomings are, of course, mine.

REFERENCES

- Austin, J. 1975. *How to Do Things with Words (2nd Edition)*. (Cambridge, MA: Harvard University Press)
- Bianchi, C. 2014. How to Do with (Recorded) Words. *Philosophical Studies*, 167, 485-495
- Cohen, J. 2013. Indexicality and The Puzzle of the Answering Machine. *Journal of Philosophy*, 110, 5-32
- Cohen, J. & Michaelson, E. 2013. Indexicality and The Answering Machine Paradox. *Philosophy Compass*, 8, 580-592
- Corazza, E. Fish, W. & Gorvett, J. 2002. Who Is I?. *Philosophical Studies* 107, 1 - 21
- Kaplan, D. 1989[1977]. Demonstratives. In Almog, J. (Ed.) *Themes from Kaplan*, 481-563 (Oxford: Oxford University Press)
- Michaelson, E. 2014. Shifty Characters. *Philosophical Studies*, 167, 519-540
- Mizuta, Y. 2015. A Mental Spaces Analysis of the Answering Machine Paradox: The Agent of the Context of Utterance Revisited”, *Journal of Cognitive Science*, 16(4), 535-564

- Mizuta, Y. 2016. Pragmatic Factors Determining the References of Indexicals I, Here, And Now in Recorded and Written Messages. *Proceedings of The 18th Conference of The Pragmatics Society of Japan*, 163-170
- Mount, A. 2008. The Impurity of “Pure” Indexicals. *Philosophical Studies*,138, 193–209
- Nunberg, G. 1978. *The Pragmatics of Reference*. (Indiana University Linguistic Club)
- Predelli, S. 1998. I Am Not Here Now. *Analysis*,58, 107–115
- Predelli, S. 2002. Intentions, Indexicals, And Communication. *Analysis*,62, 310–316
- Predelli, S. 2011. I Am Still Not Here Now. *Erkenntnis*, 74, 289–303
- Romdenh-Romluc, K. 2006. I. *Philosophical Studies*, 128, 257-283
- Sidelle, N. 1991. The Answering Machine Paradox. *Canadian Journal of Philosophy*, 21, 525-539
- Stevens, G. 2008. Utterance at A Distance. *Philosophical Studies*, 143, 213–221
- Voltolini, A. 2006. Fiction as A Base of Interpretation Contexts. *Synthese*,153, 123-47

