Indexicals and Character Shifting

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Abstract

According to Character Shifting Theory, the rules determining indexical reference vary according to the communication technology used. These rules are established by conventions arising as solutions to coordination problems. I present two objections against Character Shifting Theory. First, I show that individuating context-types according to technologies makes incorrect truth-value predictions. Secondly, such individuation is not possible, as there are no coordination problems that occur when speakers communicate over these technologies. I then consider four ways by which one can respond against my objections and show that none of them succeed. The failure of Character Shifting Theory has implications on the larger debate about whether a fixed-rule intention-insensitive account of indexical reference can be successful.

Keywords Character shifting theory · David Kaplan · Philosophy of language · Indexicals

1 Introduction

Indexicals are expressions, such as 'I', 'here' and 'now', whose reference varies from one context to another.[1] Kaplan (1989) proposed that fixed rules, or characters, determine indexical reference relative to a context and without appeal to speaker's mental state or directing intentions.[2] Kaplan's theory famously makes incorrect truth-

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[1] This is often contrasted with demonstratives, expressions such as 'that', 'this' or 'him', whose reference is considered to be determined by speaker's directing intentions or an associated physical demonstration or gesture by the speaker.

[2] Since the reference of an indexical varies from one context to another, it can be said that indexical meaning varies from context to context. However, apart from a variant aspect, indexical meaning also has an invariant meaning. For example, although the indexical expression 'I' typically refers to the speaker of the utterance 'I', the expression also has a context-invariant meaning. Perhaps, the context-invariant meaning coincides with the dictionary meaning of 'I' which specifies that it is a pronoun used to refer to oneself. Kaplan's semantic theory, at least on first glance, successfully captures both these aspects of indexical meaning. The fixed rules governing indexical reference remain fixed across contexts while the reference changes from one context to another.

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value predictions for certain indexical-containing sentences used over recording devices like postcards and answering machines (Sidelle 1991).[3]

There have been two main strategies in responding to this. First, the pragmatic strategy, rejects these truth-value judgements and explains why we make them in spite of their falsehood. Second, the semantic strategy, takes these judgements to have a substantial bearing on our theory and modifies Kaplan's theory to account for them. Several proposals have been offered within each of these strategies. Within the semantic strategy, there have been two approaches to modifying Kaplan's theory. The first approach, intentionalism, allows for speaker intentions to be included as one of the contextual parameters that determine indexical reference (Predelli 2005). The second approach, conventionalism, seeks to make minimal modifications to Kaplan's theory, while still giving us correct predictions in a rule-governed, intention-free manner.

Several proposals have been made in the conventionalist tradition that account for some or many of the departures from Kaplan's theory (Cohen 2013). Intentionalists demonstrate the empirical inadequacy of conventionalist proposals by demonstrating how judgements about the reference of indexicals by competent speakers of relevant language diverge from what the fixed rules predict. Character Shifting Theory (CST) is the most recent attempt in the conventionalist tradition, which modifies Kaplan's (1989) semantic theory, such that intention-insensitive fixed rules give us correct truth-value predictions for indexical reference across various devices. I subject the latest conventionalist theory, namely CST, to a similar empirical investigation, and find that the theory is empirically inadequate. Further, I show that indexicals employed in internet chat communication channels (such as Facebook messenger and Whatsapp) will never become conventionalized, contrary to what CST implies.

According to CST, the rules governing indexical reference vary systematically according to the communication device used. These rules are formalizations of conventions that arise as solutions to interpretive problems which occur when humans first learn to communicate using a new kind of device (Michaelson 2014). In this paper, using counterexamples, I will present two objections against CST. Firstly, I show that CST makes incorrect truth-value predictions for communication over certain devices. Secondly, I show that, for these devices, there are no problems in communication, respect to which, a convention, and subsequently a reference rule, can be established. I will then consider four responses and show that none of them succeed. The failure of CST has implications on the larger debate about whether a rule-based, intention-free semantic account of indexicals can give us correct predictions.

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[3] In this semantic theory, the rules assigned to the indexical expressions determine the reference of 'I', 'here' and 'now' to be the speaker, location of utterance and time of utterance respectively. Further, Kaplan (1989) considers the sentence 'I am here now' as a necessary truth because he designates proper contexts as those in which the speaker is present at the time and place of her utterance. From this, it follows that all utterances of 'I am not here now' should be necessarily false. This seemingly intuitive prediction that speakers are always present at the time and location of their utterance falls apart when speakers record the sentence 'I not am here now' into an answering machines and the recording is played back at a time when the speaker is not present. These utterances are intuitively true, contrary to the prediction Kaplan's theoretical apparatus makes. This challenge to Kaplan's theory, following Sidelle (1991), has come to be known as the Answering Machine Paradox.

2 Character Shifting Theory

In this section I will first explain how CST seeks to account for the reference of indexical expressions when used over communication devices such as answering machines or postcards. I will then show how, on first glance, CST appears to give us a successful account for indexical usage over postcards.

According to CST, indexical expressions are not only sensitive to context but also to context-types, that correspond to the communication device over which they are used. The device shifts the rules governing indexical reference, relative to a context. Therefore, the character rules governing indexical reference change depending upon the device or technology over which the expressions are used.[4] Accordingly, in face-to-face communication, the expressions 'I', 'here' and 'now' refer to the speaker, location and time of production respectively. For answering machines, they refer to the owner of the line, location and time of playback respectively. For postcards, they refer to the author, location and time of inscription respectively.

Although rules vary from one kind of communication technology to another, they remain fixed for all uses over a particular technology. For instance, 'here' always refers to the location of playback while used over answering machines (Michaelson 2014: 525). Allowing reference of indexicals to vary within a context-type make indexical expressions seem lexically ambiguous, which is to say that these expressions can have more than one meaning. This, however, is a strategy that Michaelson (2014) avoids by fixing the character rules of indexical reference for uses within a single context-type.[5]

Why are context-types individuated according to communication technologies? Michaelson (2014) explains that when a new kind of device is introduced, a coordination problem arises where:

> 'a desired outcome depends on multiple agents being able to coordinate their actions over time and despite no particular action seeming obvious to all the relevant agents. [...]There are multiple, equally good ways of carrying out some coordinated action, but where success depends on everyone repeatedly choosing the same way'. (Michaelson 2014: 526)

The claim is that, initially, for instance, speakers used 'here' on answering machines to refer to both the location of playback and of recording. This would have created an interpretive challenge for their audience and successful communication depended 'on everyone repeatedly choosing the same way' of referring (Michaelson 2014: 526). A

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[4] Another version of such an account, where indexical character is sensitive to particular context-types, is attributed to Corazza et al. (2002). According to this view, the expression 'here', for instance, always refers to the location of utterance but what counts as this location is allowed to vary from one context-type to another. Conventions determine what context-type determines indexical reference for what kinds of uses. However, unlike Michaelson (2014), Corazza et al. (2002) fail to give a rule-governed account that specifies what convention is in effect at what kinds of uses.

[5] An example of ambiguity is the expression 'bat', which is ambiguous between a flying mammal and a sports equipment (Sennet 2016). Allowing reference of indexicals to vary within a context-type make indexical expressions look ambiguous, which is to say that different utterances of these expressions can have different meanings, an explanation that Michaelson (2014) resists. Michaelson (2014) doesn't explain in his paper why we should not posit lexical ambiguity, but points to Cohen's (2013, p.582) demonstration that such a proposal lacks the relevant evidence.

convention then arises, where speakers choose a certain way of using an indexical if they wish to communicate successfully. In case of 'here' on answering machines, the purported convention is to refer to the location of playback, deviation from which should result in unsuccessful communication.[6] CST offers a way to formalize this convention into a fixed rule for indexical reference over that device. These rules are expected to give us truth-value predictions that match intuitive judgements of competent speakers over all kinds of communication devices, thereby accounting for 'the totality of data' concerning indexical expressions (Michaelson 2014: 521).

On first glance, CST makes correct predictions with regard to postcards. For instance, suppose that I'm in India and my family is in Estonia. On a sunny day, I inscribe (1) on a postcard and mail it to my family.

(1) It is sunny here now.

When they receive the postcard, it's raining and no longer sunny in India. These weather changes don't affect my family's interpretation of the postcard. According to CST, on postcards 'I' refers to the author, 'here' and 'now' refer to the time and location of inscription respectively. At the time of inscription, if the weather was sunny in India the sentence would be true, which would match our intuition that 'now' in this case refers to the time of inscription (when I wrote the postcard). Therefore, in this case, the theory makes correct truth-value predictions.

3 Two Counterexamples

I will now present my objections against CST. I will construct two scenarios, corresponding to two different devices, in which speakers are able to successfully refer, using indexicals, in more than one way over the same technology. Since CST does not allow for multiple ways of referring over a given technology, these scenarios count as counterexamples to CST. Following this, I will consider four responses against my objections and show that they do not succeed.

3.1 Postcard Example

Imagine that I send my friend a birthday postcard (alongside a package) with the following sentences, inscribed on the card among other sentences:

(2) I am now at the University Library, writing this letter.
(3) You should have also received a package, but don't open it now.
(4) You're probably wondering now why I wrote this.
(5) I am sorry to get in touch with you only now, I should have done this a long time ago.

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[6] See Lewis (1969) for a more detailed explanation on how conventions solve coordination problems.

In (2) I use 'now' to refer to the time of the inscription, which is in accordance with CST. But in the case of (3) and (4), I refer to the time of tokening, to time when the postcard is being read. My friend, would also take this to be the reference of 'now' when she reads (3) and (4). In the case of (5), I could be referring to either the time of inscription or the time of the tokening. Both ways of referring would be legitimate interpretations and cannot be accounted for using a single rule.

3.2 Internet Example

On an internet chat application, I receive the following text from a friend[7]:

(6) I am here.

Imagine now that my friend and I had agreed on a time when we would both use the chat application to have a conversation. I log into the application a few minutes before the designated time. If, at the designated time, I receive (6) from my friend, I would rightfully assume the referent of 'here' to be her virtual location over the application.[8] Alternatively, if she sent me (6) while I waited for her arrival at an airport, I would take the referent of 'here' as the city which she is scheduled to reach. On internet communication applications, apparently, there are at least two kinds of locations that speakers use 'here' to refer to.

3.3 What the Examples Show

Since, in CST, context-types are individuated according to the type of device employed, both examples concern one context-type each as they occur on a two different types of device. If that is true, two objections against CST can be drawn from these counterexamples.

Firstly, CST makes incorrect predictions. For postcards, according to CST, 'now' in (4) refers to the time of inscription while the speaker uses it to refer to the time of reading or tokening. This does not correctly predict the truth-value judgements competent speakers have towards (3) & (4). For internet chats, since it assigns a single rule for indexical reference over a kind of communication technology, let us assume that CST assigns either a rule where 'here' refers to the virtual location of the speaker or a rule where 'here' refers to the physical location of the speaker. In either case, CST will give us incorrect predictions when speakers will use 'here' to refer to the physical location instead of the virtual location, or vice versa.

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[7] This could be a popular desktop chat application like Facebook messenger or even a popular application on mobile phones such as WhatsApp or even the regular text message application on mobile phones. My counterexamples succeed over all kinds of such virtual applications because on these, the expression 'here' can refer to either the presence of the speaker over the application or the speaker's physical presence.

[8] The reference of 'here' is similarly ambiguous on other kinds of virtual applications, such as online or video games. Imagine two players, from different geographical locations, plugged into an online game where each assumes a virtual avatar. Further imagine, that the game involves these avatars moving from one location to another, within the game universe. With this as the setup, if the players had means to communicate with each other while playing the game, one can imagine that they can the word 'here' to refer to either the location within the game universe, or to the physical location at which they're playing the game.

Secondly, because CST aims to capture conventions that arise in response to coordination problems, it fails to account for postcard and internet communication. According to CST, indexical reference is conventional, with fixed rules arising in response to coordination problems. Departures from this fixed rule within a context-type should result in a failure of communicating about the intended reference. However, my examples show that speakers are able to successfully use indexicals to refer in more than one way without one of them resulting in a failed communication. This means that indexical communication over postcards and internet is not yet conventionalised. If this is true, in order for CST to account for these context-types, we would need to show the existence of interpretive problems 'in response to which a convention might in fact arise' (Michaelson 2014: 526). We need to show, for instance, for postcards, the audience finds the interpretation of 'here' challenging because there are two ways to read it, one as the location of inscription and the other as the location of reading. But, we don't see such a problem. Therefore, there are no coordination problems, relative to which a context-type is to be individuated for indexical reference over postcards and internet chats. In the absence of these problems, a convention, and consequently a semantic rule that accounts for indexical reference over these devices, cannot be given successfully.

4 Four Responses

I will now consider four ways in which one might try to defend CST against these objections and show that they do not succeed.

4.1 Non-standard Use

One response against my objections is to argue that occurrences of indexicals in my examples are outside the scope of CST and therefore need not be explained by it. There are several departures from Kaplan's semantic apparatus that do not involve recording devices. Expressions such as 'here' and 'now' have non-indexical uses as well. 'Here', for instance, can be used as demonstrative when a speaker, using her finger, refers to a location on the map by pointing. In this case, what the expression refers to seems to be determined by the associated physical gesture (pointing) and not by an independent rule. The expression 'now', can be used to communicate about a past time. For instance, a speaker who is narrating an incident from World War history, can may say '...the Germans were *now* under attack by the Soviet forces'. In this case, the reference of the expression 'now' is fixed by the time that is previously established in the discourse or text. In these cases, the reference of the expression 'here' and 'now' clearly depart from what Kaplan's semantic theory predicts for indexical expressions. CST is not meant to give a semantic explanation for all these departures. Its aim is to explain the deviation from Kaplan's

theory that we see with 'standard' indexical uses of these expressions, when used over a given communication device.[9]

This response can play out in two ways. Firstly, it can be said that the examples are instances where these expressions can be used as bound variables.[10] Expressions used as indexicals can also have bound variable uses, where the reference of an expression is fixed by a phrase or an expression that precedes it, thereby falling outside the scope of Kaplan's theory.

For postcard cases, Michaelson (2014) himself resists this view while arguing for the empirical advantage that CST has over Token Contextualist Theory, according to which, indexicals on postcards are to be always evaluated at the context of reading (Cohen 2013). When presented with counterexamples, where reference of 'here' and 'now' in certain postcard inscriptions depart from what the theory predicts, Cohen (2013) responds by proposing that 'here' and 'now' occur as variables bound to the place and time inscribed on some part of the postcard or envelope. Michaelson (2014: 532), however, explains that this 'still makes incorrect predictions'. Imagine a scenario where I write a postcard but forget to send the postcard for weeks. Later, when I post it, the envelope is postmarked with the date that is a week later than when I wrote the postcard. In these cases, and in scenarios where speakers use 'now' to refer to the time of writing, we'd make incorrect truth-value predictions if we bound 'now' to the date on the envelope. Further, suppose there's no mention of a date on the postcard, or its envelope because it is hand-delivered. In that case, there would be nothing available for the alleged variable to bind to. However, even with the lack of a date, 'now' has a clear reference and successfully does refer to a time.

In (4), say if I suggest that my reader stops reading the note and goes to sleep, the reference of 'now' will be unaffected by any other time inscribed on the note. In the internet example, 'here' is used to refer to both the virtual location and physical location. The reference of 'here', does not depend on a binding phrase occuring in the sentence or elsewhere in the application. Even if we consider that 'here' binds to the brand name of the application (say Facebook) and by the virtue of this binding, it refers to the virtual location, if I sent (6) to a friend on the chat application for whom I am

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[9] With regard to these diverse uses of indexical expressions, Michaelson (2014) prefers a pragmatic explanation to account for their reference. This is because, according to Michaelson (2014) there is no observed regularity in the reference of these expressions, when used in these diverse ways, that a semantic rule can consistently capture in its predictions. The contextual cues that govern departures from Kaplanian referents in these cases are far too complex, for a convention-based account to predict systematically. As I show in my counterexamples, a similar problem can be seen in departures from Kaplanian theory within straightforward indexical uses over a single communication technology. A single-rule can account for the departures in reference occuring in my counterexamples, and therefore cannot give us correct predictions.

[10] Here is a standard example of bound variable use:

(7) Every boy in the school thinks he will pass the exam.

In (7) 'he' is a variable that is bound to the quantifying phrase 'every boy' which fixes its reference, instead of the context of utterance.

waiting at the bus stop, then, despite the presence of the brand name on the application, it would intuitively refer to her physical location. Therefore, the bound variable response does not work against the counterexamples.

Secondly, it can be said that in my examples indexicals occur as demonstratives (or unbound variables), whose reference depends not on a quantifier phrase but on an associated demonstration by the speaker. However, 'here' and 'now', in my example are not sensitive to, or require any demonstration for their reference - notwithstanding the variation in spatial and temporal extent of the referred location and time. Interestingly, Michaelson (2014) considers speaker's intentions as one of the contextual parameter that determines demonstrative reference. It can surely be argued that the concerned expressions in my examples are demonstrative uses in this sense - but that would threaten the entire project of explaining reference of these expressions while used over various devices as intention-independent rule-governed indexicals. Speaker intentions could be done away with, because there is a claimed regularity in reference-shifts, occurring when 'here' and 'now' are used in a standard manner, relative to the type of communication device used. This regularity could be expressed as single semantic rules that gave us correct predictions about judgements of competent speakers on the reference of these expressions. One cannot, therefore, appeal to speaker intentions to explain observed reference-shifts within these standard uses (where the reference does not depend on an associated demonstration or preceding phrase).[11]

4.2 Multiple Context-Types

The examples show that more than one reference rule is at play within each context-type. However, it may be argued that the apparent shift occurs because there are multiple context-types at work. Although Michaelson (2014) restricts the individuation of context-types to a single communication technology or device, we can perhaps have a fine-grained idea of technology, where multiple context-types are individuated within uses over a particular device.

But how would we flesh out these context-types? In my postcard example, the inscriptions occur on a single postcard. Assume that (2) was inscribed on first half of the postcard, and (4) was inscribed on the other half. Suppose, then, that we assign a different context-type for each of these two halves, in a manner that corresponds to truth-value judgements of competent speakers. This would still not make consistently correct predictions. I could swap the inscriptions between the two halves and we'd have once again a counterexample. Wherever the purported context-type is designated on the

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[11] While looking at shifts in reference, we can proceed without considering the scope or extent of the referent. For instance, in the sentences 'It is cold here' and 'I feel dizzy now', 'here' and 'now' seem to pick out the place and time of the utterance respectively. The referents, however, seem to include more than just the immediate place and time of the utterance. Referents of 'here' and 'now' usually lack clearly defined boundaries in the actual world. Indexical uses of 'here' can pick out the place where one is standing, the city where one resides or even the entire country. Similarly, 'now' can pick out the very instance of utterance, the day or an entire era. For our purpose, we can proceed without considering such shifts in the scope of indexical referents because, while looking at judgements of competent speakers towards indexical reference, we only concern with what is semantically mandated, by the purported rule, to fix the content of the expression - the referent. In (4), for instance, 'now' refers to the time of the reading or tokening. The lack of clearly defined boundary with respect to how long this time extends before or after the time of reading, does not influence judgements on whether 'now' refers to the time of reading or the time of inscription.

physical space of the postcard, the inscriptions containing 'now' can be exchanged with other inscriptions in such a manner that truth-conditions depart from what is assigned to that context-type. In the internet example, there is only one sentence (6) that is written on a single chat box, in the same place, in different scenarios - leaving no option for individuating a context-type within the application. If there were two sentences, or if the sentence was written on different chat applications within communication over internet, we would have some way of individuating two different context-types. We could include cues in the sentence to indicate a shift in context-type, or individuate different context-types for different applications within internet. But we have only one sentence, over the same chat application, and yet 'here' in (6) can refer to either the virtual location or physical location of the speaker.

The only other way to individuate context-types within uses over postcards and internet is to do this not spatially, or physically but using non-physical cues which would include wider contextual factors that do not depend on a singular convention or rule - thus continuing to pose a challenge to CST. Arguably, these wider contextual factors would have to appeal to what the speaker intends to communicate, or what the audiences grasp as the referent of the indexical used. However, that move is the very challenge that CST seeks to overcome, as it seeks to give us a single reference rule that consistently, and independently, predicts the reference across uses.

4.3 Conventions Not Yet Developed

It can be also argued that conventions with respect to postcard and internet chats simply haven't developed yet. This cannot be claimed with regard to postcards because Michaelson (2014) already assigns a context-type with a corresponding rule for postcards. But since internet communication is a relatively recent one, it can be argued that conventions governing indexicals have not yet developed on it. This implies that eventually, as time passes, there will eventually arise a convention within internet communication that CST can then formally capture and make predictions concerning indexical reference.

However, conventions, and therefore context-types, are established in response to coordination problems which arise while speakers learn to use a new recording technology. Speakers face no such interpretive problems in my examples and reference-shifts are obvious to them.[12] Else, it would not be clear to the audience

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[12] Michaelson (2014) himself considers this response, using the example of a recorded video will that is being played to the family members of the deceased person beginning with the following utterances:

(8) Today I met with my lawyer to go over all the details before making this video.
(9) Today you all received a phone call telling you to come to my lawyer's office.

The indexical 'today' in (8) refers to the day of recording and in (9) refers to the day of playback. Michaelson (2014) considers video will to be a new type device and therefore a prospective context-type. To him, this example is evidence 'that a singular convention for using 'today' on video wills has yet to emerge' (527). Eventually, he predicts, one of the ways of referring becomes dominant over video wills, a context-type is individuated with a fixed reference rule. However, individuation context-types occurs when conventions are established in response to coordination problems which arise while speakers learn to use a new recording technology. In his own example, Michaelson (2014) provides no coordination problem, with respect to which a convention would develop.

whether 'here' in (6) refers to the virtual location or physical location. The success of communication over both postcards and internet chats does not depend 'on everyone repeatedly choosing' a single way of referring using the indexical. Further, there is no support to the claim that in the future, competent speakers will begin to face interpretive problems over these devices when they are using indexicals without problems already. In absence of problems, no singular convention is motivated, or can adequately account for the 'diverse' (even if only two) ways of referring, thereby leaving no room for individuating a context-type.

Michaelson (2014) addresses the lack of coordination problems while explaining that the scope of CST is limited to straightforward uses of indexicals. With 'special uses', such as using the indexical 'now' to refer to past times, he says that 'no single cue can be isolated that might be used to characterize a coordination problem'. These uses cannot be accounted for, 'in terms of a singular convention' since they are 'extremely diverse, and no intention-free description of them seems available'. Shifts of indexical reference in both the examples are similar in the sense that a singular convention cannot account for them. These shifts are obvious to speakers, and there is no interpretive challenge in which speakers are confused about the reference of indexicals used. They have an intuitive understanding of when 'now' refers to the time of writing and when it refers to the time of reading. Similarly, 'here' is used over internet chat application to refer to two kinds of locations. In absence of this challenge, no singular convention is motivated, or can adequately account for the 'diverse' (even if only two) ways of referring, thereby leaving no room for individuating a context-type for this type of device.

4.4 Semantic Significance

This response can be made in two ways. First response would be to argue that indexicals, in the manner that my examples present, do not occur regularly enough to be taken seriously. The way 'here' and 'now' are used are awkward or scarce and do not count as sufficient data for modifying a semantic theory.

However, sentences like (2), (3), (4), (5) & (6) are not rare occurrences. Even if these exact tokens might be infrequent, they are well-formed sentences that we can imagine competent speakers uttering without difficulty. They would not seem awkward to competent speakers in any way. Further, even with other sentences, we can construct examples where same departures occur:

(10) I am here.

On internet chat, for instance, (10) would still pose a challenge if its reference was accounted for by a singular rule. Its reference would shift between virtual and physical location, depending on wider contextual factors. If I sent (10) to a friend on chat after I just met her or if we had decided to have this virtual conversation at this time, it would refer to my virtual location. Alternatively, if she was waiting for me at the airport, it would refer to my physical location. This shows that the reference shifts are not limited

to rare sentences but also to sentences typically used to characterize challenges to Kaplan's theory.

The second way to establish semantic insignificance of my counterexamples would be to leave them to pragmatic explanation. If CST explains data over a wide range of devices, leaving out some to pragmatic explanation wouldn't have a significant empirical bearing. On internet chats, this might mean that all instances of 'here' refer to only a certain kind of location, but speakers use them to refer to other kinds of location despite their semantic falsity.[13]

However, Michaelson (2014) already maintains that postcard inscriptions have a bearing on semantic theory because speakers have intuitive judgements regarding truth and falsity of sentences inscribed and these intuitions bear upon any semantic theory. Similarly, speakers have truth-value judgments towards what's written on internet chats. Further, internet chat communication is widespread and has been around for several years now. A theory which seeks to account for indexical reference across different communication device cannot leave such standard and significant communication outside its scope, especially since it was a similar consideration that motivated modification of Kaplan's theory in the first place.

5 Conclusion

While addressing the objection that CST is 'viciously ad hoc' and individuates context-types in a 'willy-nilly [manner] so as to make them match our untutored intuitions on what those terms refer to in particular contexts', Michaelson (2014: 528) explains that CST is only responding to 'competent language users' intuitions on the truth and falsity of well-formed tokens of natural language' - the 'best available data' for a semantic theory. However, I have shown that CST fails in the same regard. Since reference shifts occur even within the purported context-types, CST offers no successful semantic account of indexical reference occurring over recording technologies.

CST is the most recent attempt in the conventionalist tradition that gives a rule-governed semantic account, where 'indexicals remain context-sensitive and intention-insensitive, as Kaplan claimed' (Michaelson 2014: 523). Previous attempts in this tradition, while successful in explaining answering machine utterances, faced challenges from observed reference shifts in indexicals uses over postcards and other recording devices. CST attempted to show that these empirical challenges could be met without radically modifying Kaplan's theory. The failure of the theory in doing so undermines the conventionalist project and has implications on the larger debate about whether or not we can successfully explain indexical reference by assigning fixed rules, without appealing to speaker intentions, and still make correct truth-value predictions.

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[13] This would be similar to the view proposed by Stevens (2009), that answering machine utterances need not be seen as semantic data even though they are well-formed tokens of language.

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