Zoltán Vecsey Indexicals, fiction, and perspective

Abstract: David Kaplan elaborated a so-called two-step method for the analysis of indexical expressions. In the first step of the method, the content of indexical sentences is determined with respect to a particular collection of contextual parameters. The second step of the method identifies an actual or counterfactual circumstance with respect to which it is possible to ask for the truth values of sentence contents. In some cases of language use, however, the two-step method cannot be applied in its original form. In fictional discourses, for example, indexical sentences seem to shift their content. Truth Perspectivism is a Kaplanian view that conceives the phenomenon of content-shift as an effect of perspectival operators. It is argued in this paper that Truth Perspectivism has some counterintuitive consequences. For this reason, an alternative view is proposed that is able to explain the underlying mechanism of content-shift in a less controversial way. This alternative view is introduced here under the label Meaning Perspectivism.

Keywords: Kaplan; shifted indexicals; fictional discourse; truth perspectivism versus meaning perspectivism

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1 Semantics for indexical expressions: The classical picture

In his systematic work on the *Logic of Demonstratives* (LD), David Kaplan argued quite persuasively that indexical languages have their own logic that is in many important respects remarkably different from the classical logic of the first-order predicate calculus. Classical logic and its semantics had considerable difficulties in explaining how such expressions as "I," "here," or "now" may get different values in different contexts. The framework of first-order predicate calculus was also unable to account for how these expressions can vary their values when used by different agents in the same context. As a consequence of this explanatory deficiency, the principles for the truth conditional evaluation of indexical sentences remained rather poorly understood until the late 1980s.

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One of Kaplan's innovative solutions to this explanatory problem was a sharp conceptual distinction between *contexts of occurrence* and *circumstances of evaluation*. Before we discuss the usefulness and limits of this well-known distinction, it is important to recall what LD was *not* designed to do.

Kaplan's theory belongs to the logical tradition of Frege and Tarski, where fragments of natural languages are typically analysed using an appropriately constructed model-theoretical semantics. Working in this tradition, and also influenced by the works of Church and Lewis, Kaplan conceives semantics as an essentially formal enterprise. The range of the objects of semantic analysis in such enterprises are restricted to sets, possible worlds, and other kinds of abstract entities. This explains why the contingencies of the linguistic activities of agents are not represented in the model-theoretic part of LD. And this implies, in turn, that LD cannot be extended in a natural way to a pragmatic theory of language comprehension and production. Kaplan emphatically remarks in this regard that "logic and semantics are concerned not with the vagaries of actions, but with the verities of meanings."¹

So the concept of "context," similarly to other fundamental concepts of LD, should also not be seen as denoting concrete situations of language use. Contexts are thought of instead as minimal collections of parameters which are needed to determine the semantic contents of indexical expressions. Such collections are represented by quintuples of the form *<a*, *t*, *l*, *w*, *g>*, where *a* is an agent, *t* is a point of time, *l* is a location, *w* is a possible state of the world, and *g* is a (possibly partial) variable assignment function defined on the salient entities of w at t and *l*. Given this model-theoretic setting, the content of the contextual occurrences of expressions can be determined in a formally uniform way. For example, the semantic content of the formal counterpart of "I" in context c at w is c_a , the agent of c^2 Similarly, the content of the formal counterpart of "here" in c at w is c_0 , the location of *c*. Content determination follows technically the same pattern in all cases of individual indexical expressions. At the level of sentences, LD identifies contents with structured propositions. The content of the formal counterpart of an indexical sentence S in context c at w is the proposition P which contains as constituents one or more of c_a , c_t , and c_t .

Circumstances of evaluation enter the picture when contents are already fixed. They can be regarded as world-time pairs *<w, t>*, which have the role of assigning truth values to sentence contents. World-time pairs may be occasionally

¹ See Kaplan (1989b: 584–585).

² From here on the reference to the assignment function *g* will be omitted for the sake of simplicity.

supplemented by other parameters. This is so because truth values depend generally on the shiftable parameters of the context. Worlds and points of times may be shifted by the standard modal and temporal operators. If the target fragment of LD contains other shiftable parameters that are also relevant for truth evaluation, then the formal stucture of circumstances can be enriched with them. Perhaps locations such as "in Europe" or "in the town" may be conceived in some linguistic environments as operators or quasi-operators that are able to shift sentential contents in the way just mentioned. Fortunately, the question need not be settled here. We should only note that there is some flexibility in defining the concept "circumstance of evaluation" in LD.

As the foregoing overwiev indicates, Kaplan's theory is based on a so-called two-step method. In the first step of the method indexicals are interpreted with respect to a particular collection of relevant contextual parameters. At the level of individual expressions, the interpretation process determinates subsentential contents, whereas at the level of sentences, it determines propositions that are composed from these subsentential contents. Then the second step of the method identifies an actual or counterfactual circumstance with respect to which it is possible to ask for the truth values of propositions.³

A characteristic feature of this method is that the first step, in a certain sense, constrains the second one. It is a simple enough matter to observe that each context of occurrence is associated with privileged world and time parameters. In normal cases of communication, the privileged world and time of truth evaluation are always our own actual world and time. As an illustration, consider a context *c* containing me as agent parameter. Imagine that the following sentence type occurs in *c*:

(1) I know the solution to the problem.

According to the first step of Kaplan's method, the semantic content of the first person pronoun "I" in c is c_a , the agent of c. Thus the sentence type (1) expresses the proposition that the agent of c knows the solution to the problem. Since it may quite naturally be supposed that the privileged world (and time) of c is our actual world (and time), (1) can be evaluated by the second step as true, if and only if I, Z.V., know the solution to the problem.

This seems to be a correct result, both formally and informally. The actual world loses its privileged position only in cases where operators act on sentence contents:

³ See, for example, Perry and Israel (1996).

(2) Necessarily, I know the solution to the problem.

In (2), the privileged world of the context *c* cannot be simply the actual world, since the modal operator modifies radically the truth conditions of the sentence type "I know the solution to the problem," so that it is true if, and only if it is true at all possible world states.⁴

It is an interesting question whether the same criterion may be applied to the first step of the method. That is, are there any operators that are able to shift the conventional content of indexicals? Kaplan denies the existence of such operators. On his view, indexicals are directly referential expressions that can never be detached from the content-determining parameters of their actual context of occurrence. We can test the correctness of this claim by applying an artificial operator to the example (1):⁵

(3) In some contexts it is true that I know the solution to the problem.

If the operator "In some contexts it is true that" can shift the content of "I" in the embedded sentence, then Kaplan's claim was incorrect. It seems, however, that the operator is not able to produce such kind of content shift. In order for (3) to be a grammatically acceptable sentence, the first person pronoun in it would have to refer to an agent of an arbitrary context. Then the proposition expressed by (3) would contain as constituent the agent of this arbitrary context. But it is hard to see how the pronoun "I" could refer to such a shifted agent in its actual context of occurrence. Or, seen from the reverse angle, it is hard to understand how the directly referential "I" could fail to refer to the agent of its actual context of occurrence. We might try other operators, but (3) appears to provide some prima facie evidence in favor of the Kaplanian view, which denies the operator-shiftability of contents.⁶

This does not mean that we should take the Kaplanian picture of indexicals to be accurate in all of its details. In the last two decades, the conceptual distinction between contexts of occurrence and circumstances of evaluation has become a standard part of the orthodoxy of formal semantics. At the same time, it has

⁴ Of course, the phrase "all possible worlds" means here all possible worlds relative to a particular model-theoretic structure.

⁵ Cf. Kaplan (1989a: 510).

⁶ Is should be noted here that the relation between evidence and hypotheses in linguistics has been recently acknowledged as a complicated problem. For an analysis of the role of linguistic evidence in LD, see Vecsey (2010). A general overview of this field of research is to be found in Kertész and Rákosi (2012).

been discovered that LD in its original form is incomplete because it is not capable of modeling a certain set of natural language phenomena. There are uncommon discourse situations, for example, where indexical contents seem to be systematically shifted without the involvement and intervention of sentential operators. Everyday cases of free content-shifting include telephone answering machine messages, direct quotations, written notes, and similar kinds of communicative exchanges. A striking common feature of these cases is that they allow for indexicals to refer to objects that lie outside of their actual context of occurrence.⁷

How should the principles of the Kaplanian two-step method be modified in order to accomodate LD to the anomalous behavior of these discourse situations? This is the question I try to answer in the following three sections by focusing on content-shifting phenomena as they appear in fictional discourses.

2 Indexicals in fictional discourse

Beyond telephone answering machine messages, fictional discourses provide perhaps the most straightforward and most spectacular instances of free contentshift. Before we begin to evaluate two extant proposals for the modification of LD, it may be useful to provide a brief overview of the semantic status of indexicals in fictions. As a concrete example, let us take an actor playing the role of Caesar in the play *Caesar and Cleopatra* written by George Bernard Shaw. Consider the following utterance on the stage from Act II:

(4) I am a general myself.

For the purposes of a formal analysis, we must, of course, disregard the contingent properties of such a sentence token as (4). We should not take into consideration that (4) is an active performance of a declarative speech act. Nor should we be concerned with the particular communicative intention of the actor. The audience may react in several ways to the speech act, but it is also beside the point. What is interesting is instead the content-determining relation that holds between an abstract sequence of contextual parameters and the occurrence of the formal counterpart of the sentence *I am a general myself* in a context constructed from that sequence. From this we see immediately that in the context of occurrence of (4) the content of "I" is not determined by the actual agent of that context. So,

⁷ As far as I know, the debate on the semantic properties of such messages was opened by Sidelle (1991).

instead of having the default content c_a in c at w, "I" must be associated with another agent. Quite obviously, the actor of the play does not predicates of himself that he is a general. The most plausible supposition in this situation is that the content of the first person pronoun in (4) has to be determined by the character of the play, that is, by Caesar. Concerning the mechanism of content determination, we can then establish that there occurs a shift from c_a to c_{ap} , where c_{ap} denotes the contextually relevant agent of the play.

Here lurks a problem, however. One might object that the content-shift mentioned above cannot take place, because there is a significant difference in ontological status between the actor and the character of the play. While the actor is a person, Caesar is an abstract entity of a certain sort, and as such it cannot take over the semantic role of an agent. Therefore, Caesar (whoever he or it may be) cannot be formally represented in LD as uttering a self-referential indexical sentence. This potential objection has its origins in the debate between realism and anti-realism over fictional characters and their properties.8 Realists often argue that fictional characters are abstract entities the existence of which depends on the storytelling activities of their creators. Fictional characters are thought to supervene on mental facts and this supervenience relation creates a semantic continuity between natural languages and languages of fiction. So it is not illegitimate to claim that Caesar has several properties, and one of them is the property of uttering a sentence about himself. Anti-realists do not contend that fictional characters are created by the intentional acts of their authors, but they think of these characters as nonexistent objects. On this account, Caesar may have individuating properties, but he/it cannot have existence entailing ones. This restriction would involve certain technical difficulties in LD, but I think nonexistent objects can be made compatible with Kaplan's original ideas. Introducing a domain of quantification for nonexistent objects would be a promising step in this direction. So even if we have anti-realist inclinations, we may say that "Caesar" denotes always an agent in LD, independently from its ontological status, and this is enough to acknowledge the shift from c_a to c_{ap} in our example above.

What we have seen in (4) may be generalized to many other cases of firstperson sentences occuring in spoken and sometimes even in written fictional discourse. When the content of the narrative "I," which is often the case, is not the author of the novel or the short story, but an imaginary agent, a content-shift happens necessarily. Other indexical expressions are also able to produce the phenomenon of free content-shift. Embedded in a fictional discourse, the content

⁸ For an overview of this debate see Priest (2011).

of "now" can be shifted from c_t to an appropriately characterized fictional point of time c_{tf} . The same holds *ceteris paribus* for "here," "today" and "yesterday."

From this overview it can be safely concluded that the main deficiency of LD is that it lacks a general rule or principle that could explain the underlying mechanism of free content-shifting. The crucial question is then whether the Kaplanian two-step method has a consistent extension to fictional discourses.

3 Truth perspectivism and its problems

Two proposals have been made recently that could answer positively that question. Both of these proposals maintain that in order to assign truth values to propositions in fictional discourses we should make use of the idea of perspectivity. Because of this, I will apply for them the common label *Truth Perspectivism*.

In one of his recent papers, Stefano Predelli elaborated a view that may be regarded as a consistent extension of Kaplan's theory.⁹ Predelli accepts the primary building blocks of the formal architecture of LD. He agrees with Kaplan that contexts can be defined formally as quintuples of parameters, and that propositional contents are determined on the basis of ordered pairs consisting of sentence types and contexts. In accordance with the two-step method, Predelli also thinks that truth values for indexical propositions are determined by world-time pairs.

At first glance, Predelli's explanation of the anomalous behavior of indexicals in fictional texts is rather surprising. In particular, he explains the truth value differences between non-fictional and fictional indexical sentences in terms of circumstance-shift. Let us come back for a moment to our earlier example from the play *Caesar and Cleopatra*:

(4) I am a general myself. (Repeated)

One might be inclined to think that (4) is a paradigmatic instance of free content-shift, because the first person pronoun in it can and should not refer to the actor of the play. Predelli proposes to consider an alternative view. What if we evaluate fictional sentences from their own fictional perspective? One way to do this is to represent these sentences with a prefix roughly in the following manner:¹⁰

⁹ See Predelli (1997).

¹⁰ The idea for this arises from Lewis (1978).

(5) It is true in the play Caesar and Cleopatra that I am a general myself.

Two remarks must be made in this regard. First, the prefix "It is true in the play *x* that" is supposed to remain invisible in the surface syntax. It appears only in the analysis of the logical form of sentences. Second, "It is true in the play *x* that" is a standard intensional operator that may act on the world and time parameters of an embedded sentence. Kaplan has already noted that such operators can interact with worlds and time points since the content of indexical sentences is not *always* necessarily associated with a privileged world (and time point). Thus, it seems that (5) provides a correct analysis of (4) in that it makes explicit that the sentence should be evaluated from the perspective of the play *Caesar and Cleopatra*.

Predelli does not completely agree with this approach. Indeed, seen from the point of view of LD, the prefix strategy appears a bit counterintuitive. The syntactic structure of (5) is different from the syntactic structure of (4), and it is fairly unlikely that such a difference would not imply a corresponding difference in the semantic content of these sentences. The prefix strategy claims, however, that there is no difference in the semantic structure of (5) and (4). Hence, they must express the same proposition. This assumption cannot be taken for granted.

The strenght of Predelli's own approach lies in avoiding the counterintuitive consequences of the prefix strategy. His version of Truth Perspectivism does not apply any prefixes, and thus leaves the syntactic structure of (4) intact. On the other hand, it is not entirely clear how the fictionality of (4) could be derived without using some kind of syntactic transformation. Perhaps a solution can be found if we conceive the utterance of (4) as generating a contextual change. Predelli maintains that sentences in fictional discourse should be assotiated with modified contexts and these modified contexts contain shifted world parameters. According to this approach, the sentence type "I am a general myself" is evaluated with respect to the quintuple *<a*, *t*, *l*, *w**, *g>*, where *w** denotes the world of the performance of the play *Caesar and Cleopatra*. What has been changed is only the world parameter of the original context of (4). The modified quintuple contains the world *w**, which plays now the privileged world of that context. Since the content of the first person pronoun is Caesar at *w**, (4) can be evaluated as true.

At first blush, Predelli's approach may seem to provide a simple and elegant solution to our initial problem. But a moment's reflection reveals that it is also a bit counterintuitive. Let us suppose that sentences used in fictional discourse induce contextual changes. But if all contextual parameters are kept fixed, and the world parameters are the only ones that are shifted, then Predelli would have to explain how these shifts are performed. The only course open to him would be to argue that worlds are shifted by hidden operators, but, as we have seen above, this strategy cannot be right.¹¹

In their 2003 paper, Eros Corazza and Mark Whitsey elaborated a second version of Truth Perspectivism.¹² Corazza and Whitsey agree with Predelli that indexical expressions in fictional discourse behave in accordance with the core principles of LD. However, their positions differ significantly with respect to emphasis on ontology. Corazza and Whitsey classify themselves as anti-realists and think that fictional characters do not have real existence. And so they argue that in certain cases the content of an indexical expression in a fictional text or in a performance of a play may be determined by empty parameters.

Applied to our example, this position has the following two consequences. First, it implies that the fictional character "Caesar" should be thought of as a non-existent object. As I have already suggested, such a view is not especially problematical in itself. From the point of view of formal semantics, the ontological status of fictional characters is not of primary importance. Second, we have to take into consideration that non-existent objects can only be represented by empty contextual parameters. If we take it granted that Caesar is a non-existent object, and assume further that our example is a paradigmatic instance of free content-shift, then we must also claim that the content of the first person pronoun in (4) is determined by an empty agent parameter. Can such a non-trivial claim be supported?

Corazza and Whitsey are aware of a potential problem that may arise from the postulation of empty parameters. Let us imagine that the following sentence is uttered by an actor in a play:

(6) I am here now.

According to the view under discussion, the content of "I," "here," and "now" must be evaluated in (6) with respect to an empty contextual parameter. More precisely, all three expressions are supposed to be connected to the one and the same empty parameter, and that is controversial. How could the content of different types of indexicals be determined by the same parameter?

¹¹ At several points in his later works, Predelli argues that parameter shift is governed by speaker's intentions. This is a more reasonable proposal, but it has its own obvious limitations. See, for example, Predelli (2002, 2005) and, for a critique, Stevens (2009).

¹² See Corazza and Whitsey (2003).

On Corazza and Whitsey's view, this does not pose an insurmountable problem if we recognize that the content of indexicals may be enriched with additional information in fictional discourses. For example, (6) may be conceived as expressing the descriptive proposition *that there is an agent a who is located at a place l at a time point t*. The descriptive proposition represents merely the reflexive truth condition of (6), and so it is free from existential commitment.¹³ In grasping this truth condition, we understand what linguistic content the sentence type "I am here now" is able to convey in its fictional environment. This is different from the incremental truth condition, which can be grasped by language users only if "I am here now" occurs in a non-fictional environment. Given that descriptive propositions do not involve objects in the traditional way, there would be nothing wrong in saying that the sentential content of (6) is determined by empty parameters.

The same seems to hold for (4). Following the above line of thought, Corazza and Whitsey might say that the sentence "I am a general myself" expresses the descriptive proposition *that there is an agent a who ascribes himself the property of being a general*. For this proposition to be true with respect to the fictional world of *Caesar and Cleopatra*, the agent *a* need not exist. It is enough if the content of the first person pronoun in (4) is determined by an empty contextual parameter. In our case, the empty parameter is, of course, the fictional character Caesar.

Here we see again a world-centered explanation of free content-shift. Though, on their view, the phenomenon of content-shift is an inherent contextual mechanism of the language game of fiction, Corazza and Whitsey can hardly deny that their proposal makes essential use of shifted world parameters. The discrimination between different kinds of truth conditions is a telling sign: while they overtly associate fictional worlds with reflexive truth conditions, their arguments suggest implicitly that incremental truth conditions can be associated only with our actual world.

This is, hovewer, only the first controversial aspect of Corazza and Whitsey's version of Truth Perspectivism. The second difficulty is that even if it were accepted that reflexive truth conditions have to be involved in the evaluation of indexical sentences, the proposal would be incomplete, because it says too little, if anything, about the underlying principles of content-shifting.

In the following section, I will outline an alternative view that tries to overcome the shortcomings of Truth Perspectivism.

¹³ For more details, see Perry (2001).

4 Meaning perspectivism as an alternative

If the preceding analysis is correct, Truth Perspectivism may be regarded as an untenable position, since it attempts to explain the phenomenon of content-shift in terms of shifted circumstances of evaluation.

It has been occasionally stated in the relevant literature that the meaning of indexicals is in some sense perspectival. Kaplan also remarked, in passing, that the content of indexical sentences is always dependent on the speaker's perspective.¹⁴ In following this suggestion, we can probably examine the hidden mechanisms of content-shift in a methodologically more fruitful way than Truth Perspectivism. Indexicals are context-sensitive expressions; and we may add that they are also potentially perspective-sensitive.¹⁵

I think there is no serious technical obstacle to introducing the concept of perspective in the stock of primitives of LD. The idea promoted here is that perspective, seen as a semantic primitive, can serve the function of a non-standard contextual parameter. The resulting theory may be called *Meaning Perspectivism*.¹⁶

It is advisable to employ the most economic procedure and define the perspective parameter as a shifting effect on the standard Kaplanian context tuples. Let us say that in fictional discourses a collection of contextual parameters takes the form of $\langle a_{\rightarrow}a_{f}, t_{\rightarrow}t_{f}, l_{\rightarrow}l_{f}, w_{=}w_{f} \rangle$, where the subscript $_{f}$ denotes the perspective of the fiction F, and the symbol $_{\rightarrow}$ represents an optional shift between a standard and a nonstandard parameter. Note that in fictional contexts the agent, time, and location parameters may be optionally shifted, but at a minimum, one of them must be shifted.¹⁷ In contrast, the world parameter is always obligatorily shifted to the world parameter of the fiction. We should not mistakenly interpret this last requirement. Though the privileged world of the context of an indexical sentence is obligatorily shifted to the world of the fiction, it cannot be shifted alone. The reason for this is rather simple. The shift from w to w_{f} would not be able to explain in itself why a particular indexical expression is forced to alter its actual content in a fictional context. Something more is needed. In order to arrive at a complete

¹⁴ See, for example, Kaplan (1989a: 492–495, 520).

¹⁵ In the literature on predicates of personal taste, context-sensitivity and perspectivesensitivity are sometimes succesfully combined. For example, Stephenson (2007) argues that there is a phonologically silent but syntactically realized perspectival component in such sentences as "Licorice is tasty." The role of the perspectival parameter consists in modifying the expressed content of these sentences.

¹⁶ Schaffer (2011) uses the label Meaning Perspectivalism in a similar sense.

¹⁷ Note that even such strange contexts as $\langle a_{\rightarrow}a_{f}, t, l, w_{=}w_{f} \rangle$ are in principle possible in certain inconvenient fictions.

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representation of fictional contexts, every single content-shift must be formally represented.

Since sentence contents are already enriched with a perspectival element, Meaning Perspectivism leaves the rest of the Kaplanian model intact. Circumstances of evaluation can be thought of as world-time pairs in the same way as in the original version of LD. It may also be assumed that the privileged world with respect to which sentence contents are evaluated is our actual world.

Let us check the explanatory power of Meaning Perspectivism on our main example (4). First, the sentence type "I am a general myself" has to be interpreted with respect to the context tuple $\langle a_{\rightarrow}a_{f}, t, l, w_{=}w_{f} \rangle$, where a_{f} is Caesar, and w_{f} is the fictional world of *Caesar and Cleopatra*. On this interpretation, "I am a general myself" belongs to the fictional world of *Caesar and Cleopatra*, and thus it expresses the proposition *that Caesar himself is a general*. Second, the expressed proposition has to be evaluated relative to the actual world (and time). Since it is a plain fact that Caesar is a general in the fictional world of the play, that proposition can be taken to be true.¹⁸

The result seems satisfactory. We have shown that a paradigmatical fictional sentence can be evaluated as true in its actual context of occurrence, if one or more of its subsentential constituents shift freely their semantic content. Nothing has been said so far, however, about what motivates the process of free content-shift.

It must be stressed again that perspectivity, as we have defined it, is a non-standard contextual parameter. It is not a semantic object of the usual kind. Rather, it should be conceived as a content-shift indicator. When language users recognize the typical signs of fictional discourses, they recognize also the presence of a content-shift indicator. They come to realize that some elements of the discourse require a perspectival interpretation. But, in general, it is a contingent matter that the sentence "I am a general myself" gets interpreted from the fictional perspective of *Caesar and Cleopatra*. Language users may fail to respond properly to the perspective of the play because of many reasons. To mention just one of these: if the play is being performed by a street theatre group, an in-attentive passer-by could interpret the sentence in question as if it were part of a non-fictional discourse. Being a fictional sentence is, in this sense, a response-dependent property.

¹⁸ As it can be observed, one minor difference from the Kaplanian method is that in the actual context of (4) the privileged world is now w_{f^3} but, in spite of this, the proposition expressed by (4) has to be evaluated with respect to our actual world. If we want to regard fictive texts as part of our world, this modification seems unavoidable.

In the vast majority of cases, however, content-shift indicators perform their proper function undisturbed: they modify the contents of individual expressions and so help to avoid misinterpretations of indexical sentences embedded in fictional discourse. If sentence contents get enriched and modified by perspectival parameters, then the system of LD should mirror this fact. We may then reasonably infer that what sets off the process of free content-shifting within formal models of indexicality is the quest for semantic correctness, and in the end, the quest for validity and truth.

5 Concluding remarks

In this paper we have focused solely on the phenomenon of free content-shift as it appears in fictional discourse. It would be interesting to see whether the approach developed here can be extended to other cases of shifted indexicals.

Recorded messages are also among the obvious examples of free contentshift. The message "I am not at home now" can often be heard on answering machines. Followers of Meaning Perspectivism would say that in this case the content of the indexical "now" has to be represented formally as $t_{_}t_{,r}$, where tdenotes the time point of the recording of the message and $t_{,r}$ denotes the time point of the receiving of the message. The symbol " $_$ " indicates that an obligatory shift must be performed between these distinct time points. Thus the problem posed by answering machine messages can be solved in the same way and with much the same result as the problem posed by fictional discourses. In both cases, the correct interpretation of an indexical sentence requires the introduction of a specific perspectival element into the formal representation of the context. It is very likely that other instances of shifted indexicals can be treated along similar lines.

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