The Ban Against Illeism and Indexical Shift in Farsi[*]

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1   Introduction

Illeism is the act of referring to oneself, and, by extension, to the addressee, in the third person. More specifically, illeism is constituted by any utterance of a sentence containing a noun phrase (hf. NP) that is intended to refer to the speaker or the

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addressee but is grammatically marked as third person, as exemplified in (1) and (2).[1,2]

(1)   a. #**[Jimmy$_i$:]** {Jimmy, he$_i$} is hungry.
      b. #**[Jimmy$_i$:]** Elaine said that {Jimmy, he$_i$} is hungry.

(2)   a. #**[Jimmy to Jerry$_i$:]** {Jerry, he$_i$} is an idiot.
      b. #**[Jimmy to Jerry$_i$:]** Elaine said that {Jerry, he$_i$} is an idiot.

Illeism defined as such is in general infelicitous, at least in quotidian linguistic exchange.[3] Therefore, a generalization along the lines of (3) seems to be called for. (Some apparent counter-examples to (3) are discussed in Appendix A. None of those cases threaten the substance of the discussion that follows, as far as I can see.)

(3)   Using third person NPs to refer to the speaker or the addressee of the utterance is unacceptable.

(3) is merely a generalization. What principle(s) does it follow from? A plausible candidate is a principle which encodes a *ceteris paribus*-preference for indexical (i.e., first and second person) pronouns over third person NPs. More specifically, one can stipulate a rule according to which whenever a third person NP can be replaced by an indexical pronoun without changing the meaning of the utterance, using the third person NP is illicit.

(4)   ***Ban Against Illeism*. (hf. BAI)** Let ϕ and ϕ' be two sentences such that the only difference between them is that a third person NP in ϕ is replaced by an indexical pronoun in ϕ'. In any context in which ϕ and ϕ' are contextually equivalent ϕ is unacceptable.[4,5]   (cf. (61) below)

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[1]In a framework in which the third person is not grammatically / syntactically represented, the last sentence should be rephrased as follows: illeism is constituted by any utterance of a sentence containing a noun phrase that is intended to refer to the speaker or the addressee but is *not* grammatically marked as first or second person respectively. For simplicity, I will assume that the third person is grammatically represented. Nothing hinges on this assumption, but see fn. 17. See also fn. 6.

[2]On notation: for any proper noun N (and M) and string ϕ, the notation "**[N$_i$ (to M$_j$):]** ϕ" is meant to signify an utterance of the string ϕ by N (to M) evaluated against only those assignment functions that map the index i to N (and j to M). Note that there is a difference between "# **[N$_i$ (to M$_j$):]** ϕ" and "**[N$_i$ (to M$_j$):]** #ϕ"; the former encodes the claim that any utterance of ϕ by N (to M) is infelicitous while the latter encodes the claim that any utterance of ϕ (by anyone (to anyone)) is infelicitous.

[3]In literary usage illeism is possible and generates rhetorical effects of a rather elusive kind, such as a larger-than-life effect. One (rather literal) example of this is due to Charles de Gaulle who in the first volume of his memoirs comments on the 1962 assassination attempt on his life, writing "of the 150-odd bullets aimed at us, 14 strike our vehicle. Yet none of us is hit. May De Gaulle therefore go on pursuing his road and his vocation!" (taken from here, where other examples are recorded; thanks to François Recanati (p.c.) for bringing this example to my attention). Note the fact that in literary contexts illeism leads to secondary inferences or rhetorical effects is further evidence for the presence of some sort of pressure against nonchalant usage of it. See also the discussion on 'imposters' in Appendix A.

[4]The exact definition of contextual equivalence is not crucial here. I assume the standard definition according to which two propositions p and q are contextually equivalent in C iff p and q are true in the same C-words.

[5]I claim no originality in proposing this rule. Indeed, a principle or generalization along these lines has been assumed by many researchers. Podobryaev's (2014) *Elsewhere 3rd person* rule is just one

Consider again (1a), repeated below. This example is now predicted by BAI to be blocked by (5b). Clearly the sentence in (5a) conveys the same proposition as (5b) in any context in which Jimmy is the speaker, as is the case here by assumption. Therefore (5b) is preferred to (5a) by BAI.

(5) a. #**[Jimmy$_i$:]** {Jimmy, he$_i$} is hungry.
     b. **[Jimmy:]** I am hungry.

In the above formulation of BAI, I do not mean to imply that BAI is a *sui generis* principle. One very plausible hypothesis is that BAI itself should be derived from the *Maximize Presupposition!* principle (Heim 1983 and much subsequent work) applied to the domain of ϕ-features. I refrain from taking this step because the discussion that follows is largely neutral regarding the mechanism underlying BAI (but see the discussion in the concluding Section 9).[6]

In English, BAI rules out illeism *en bloc*: it predicts there to be no *acceptable* case of illeism (in non-literary contexts, see fn. 3). To see this, note that (quotation aside) in English indexical pronouns *always* take their value from the *actual* context of speech. Consequently, any use of a third person NP that refers either to the speaker or the addressee is predicted to be blocked by BAI. However, if BAI is on the right track then we should expect more nuanced predictions cross-linguistically. Specifically, we should expect an interaction between (in-)felicity of illeism and availability of *indexical shift* (see Deal 2017 for a recent survey and references therein). This is because in such languages indexical pronouns, in indirect discourse, may refer to the *reported* speaker / addressee instead of the *actual* speaker / addressee instead. If one manages to construct examples in which 'indexical shift' is obligatory, that is, environments in which indexical pronouns are forced to shift, then one would expect on the basis of BAI that in such environments third-person reference to the actual speaker / addressee should be possible as the competitors (i.e., indexical pronouns) are clearly not suited for the job in such environments.

In Section 2, I lay out the basic facts pertaining to indexical shift building on data from Farsi and, in Section 3, I sketch the operator-based account of indexical

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example.

[6]Another possibility is to assume that the third person feature is also indexical but in a way that is complementary to the first and second persons, as in (i) (ignoring gender and number). This is essentially a lexicalist alternative to the competition-based rule in (4).

(i) $[\![\text{he}_x]\!]^{c,g,\cdots} = \#$ if $g(x)$ is the author or the addressee of c; if defined, $[\![\text{he}_x]\!]^{c,g,\cdots} = g(x)$.

The lexicalist analysis suffers from two problems. First, it requires the third person feature to be syntactically represented, which is contested (e.g., Harley & Ritter 2002 a.o.). Second, it incorrectly predicts that a sentence like *every student in this class thinks she is smart*, on a reading where the pronoun is bound, should trigger the inference that the speaker and the addressee are not students in the relevant class, with the auxiliary result that the sentence *every student in this class thinks she is smart, including me* is incorrectly predicted to be infelicitous. The mentioned inference would result from a universal projection of the presupposition introduced by the third person feature on the bound pronoun on this analysis, analogous the attested inference of this sentence that the class consists only of female students, which results from the universal projection of the presupposition introduced by the gender feature on the same pronoun (note that *every student in this class thinks she is smart, including me* is indeed infelicitous if the speaker is male). (See also fn. 17.)

shift (Anand & Nevins 2004; Anand 2006; Deal 2017). Against this background, in Section 4, I use the SHIFT TOGETHER constraint on indexical shift (Anand & Nevins 2004; Anand 2006) to construct cases in which indexical shift is obligatory and I provide evidence that the prediction made by BAI is indeed born out: illeism is acceptable in context-shifted environments. In Section 5, I use an interaction between indexical shift and question-embedding to further corroborate this prediction. In Section 6, I discuss a generalization, motivated on the basis of Farsi data, according to which third-person reference to the *reported* speaker / addressee is unacceptable in a context-shifted environment. I will explain why this second generalization is not immediately captured by the BAI and I will suggest a modification to BAI which allows it to derive this generalization as well. According to this modification, BAI compares NPs for covaluation (not sentences for equivalence) and the relevant notion of covaluation is one which is 'blind' to the *de re / de se* distinction ('type-II covaluation' of Sharvit (2010)). In Section 7, I use this paradigm to compare the operator-based account of indexical shift to the binding-based account of indexical shift (Schlenker 1999, 2003; von Stechow 2004). My conclusion will be that the former has an advantage over the latter as far as the present data-set is concerned. In Section 8, I provide evidence that the pattern discussed *vis-à-vis* individual-denoting NPs generalizes to temporal and locative adverbials; for example, *Monday* and *today* compete in the same way that *Jimmy* and *I* do. Section 9 concludes the paper. In the remainder of this section I will summarize the rest of the paper, leaving blanks to be filled in the following sections.

As just mentioned, in languages that allow indexical shift, indexical pronouns embedded in *in*direct discourse may take their value from the actual *or reported* context of speech. For instance, consider the schematic example in (6) from Farsi (Indo-European, also referred to as Persian; see Section 2 for detailed discussion of indexical shift in this language).

(6)   **[Sajjad to Qazal:]** Leila told Mina that I hate you.   (Lit. from Farsi)

In one reading of (6) the indexicals take their value from the actual context of speech (like English) and refer to Sajjad and Qazal respectively. In the other reading the indexicals take their value from the reported context of speech (unlike English) and refer to Leila and Mina respectively.

(7)   *Possible readings for* (6):
    a.   Leila told Mina that Sajjad hates Qazal.
    b.   Leila$_i$ told Mina$_j$ that she$_i$ hates her$_j$.

One crucial empirical characteristic of indexical shift is the SHIFT TOGETHER constraint (Anand & Nevins 2004; Anand 2006) according to which all indexicals within the same minimal domain (the embedded clause in (6)) take their value from the same context. Thus (6) does not allow for a reading in which the first (second) person pronoun is shifted but the second (resp. first) person pronoun is not.

(8)   *Impossible readings for* (6):
    a.   Leila told Mina$_j$ that Sajjad hates her$_j$.
   b.   Leila$_i$ told Mina that she$_i$ hates Qazal.

Theoretically, one can account for indexical shift by stipulating a covert 'context shifting' operator (Anand & Nevins 2004; Anand 2006) which is licensed by only certain attitude predicates (such as speech-report predicates) and, if present, takes scope over the whole embedded clause. If this operator is present, (9a), then every indexical it c-commands is shifted and if it is absent, (9b), then no indexical is shifted (for the detailed semantics of this operator see Section 3).

(9)   **[Sajjad to Qazal:]**
    a.   Leila told Mina [op [I hate you]]
        'Leila$_i$ told Mina$_j$ that she$_i$ hates her$_j$'
    b.   Leila told Mina [∅ [I hate you]]
   'Leila told Mina that Sajjad hates Qazal'

Using SHIFT TOGETHER one can guarantee the syntactic presence of op and one can thereby construct environments in which indexical shift is *obligatory*. This type of environment in turn allows testing the predictions of BAI. Consider the schematic construction in (10), where the embedded third person NP refers to the actual speaker A and the second person pronoun is shifted to refer to reported addressee y.

(10)   **[A to B:]** x told y that [... [3rd NP] ... [2nd-pro] ...]
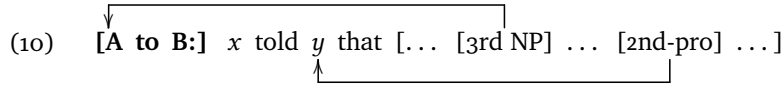
From the latter assumption, coupled with the SHIFT TOGETHER, we can conclude that the context-shifting operator is syntactically present and the LF underlying (10) looks something like (11).[7]

(11)   **[A to B:]** x told y op [... [3rd NP] ... [2nd-pro] ...]
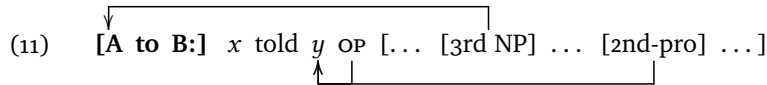
Thus the third person NP in (11) is in the scope of the context-shifting operator. Therefore, replacing the third person NP with a first person pronoun results in a structure like (12) in which the first person pronoun is also in the scope of the context-shifting operator; it follows that, much like the second person pronoun, the introduced first person pronoun *must* shift.

(12)   **[A to B:]** x told y op [... [1st-pro] ... [2nd-pro] ...]

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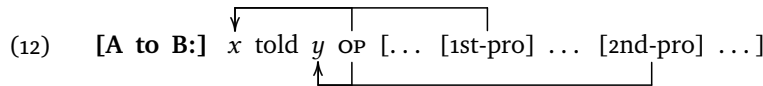
[7]A more accurate LF for (10) would at least take into account the fact that the embedded third person NP would refer to the actual speaker *de re*. Here we can afford to ignore this complication because what ultimately matters is that the interpretation of (11) is distinct from that of (12). As discussed below, the same luxury cannot be afforded for cases where indexical shift feeds BAI.

(11) and (12) are anything but synonymous / semantically equivalent. Intuitively, the embedded clause in (11) predicates something of the actual speaker A while the embedded clause in (12) predicates something of the reported speaker x.[8] As semantic equivalence of the competitors is a necessary condition for BAI to get activated, it does not predict (12) to block (11). The schema in (10), therefore, gives us a recipe to construct cases of *acceptable* illeism in languages that allow indexical shift (and obey SHIFT TOGETHER). The resulting prediction is given in (13) and Section 4 is dedicated to the corroboration of this and related predictions. The reader should note that the prediction in (13) follows immediately from the competition-based principle given in (4) and the SHIFT TOGETHER constraint on indexical shift; no auxiliary assumptions need to be made.

(13) **Indexical Shift can *bleed* BAI.** In an environment in which indexical shift is obligatory, a third person NP *may* be used to refer to the *actual* speaker.

To begin with, in Section 4 prediction (13) is verified using fact from Farsi. I then turn to examples in which indexical shift is *optional*, in the sense that there is no independent reason to assume that the context-shifting operator is present in the structure, and I will argue that indexical shift can be used in those examples to bleed BAI even though it does not have any detectable interpretive consequences, i.e., is semantically vacuous. One result of this observation is that it gives us a way to make sure that the context-shifting operator is syntactically present even if its presence cannot be semantically detected. In Section 5 I turn to how indexical shift interacts with question-embedding. I point out that in Farsi the (responsive) predicate *goftan* (to say / tell) does not allow indexical shift if it embeds a question. I will not feign a positive hypothesis regarding why this is the case here, but, building on the discussion in Section 4, I will argue that the reason is most likely syntactic in nature. I will do this by constructing examples in which *goftan* cannot embed a question while the context-shifting operator is syntactically present but semantically vacuous.

Granted that indexical shift can bleed BAI, can it also *feed* it? Consider the schematic construction in (14). The only difference between (11) and (15) is that in the latter the embedded third person NP refers to the *reported*, instead of actual, speaker.

(14) **[A to B:]** x told y that [... [3rd NP] ... [2nd-pro] ...]

Again, because the second person pronoun is assumed to refer to the reported addressee, the context-shifting operator must be present. The LF underlying (14),

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[8]In principle it is possible that A and x are / denote the same individual, but this either leads to an unacceptable LF or a case in which indexical shift feeds BAI, as discussed below. To see this note that if x is marked as third person then BAI itself guarantees infelicity. If x is the first person pronoun then the nature of the embedded third person NP becomes relevant. If this NP is a proper noun then we get a Condition C violation (because the third person NP is c-commanded by a co-referring pronoun, i.e., x) and we predict unacceptability. The case where the third person NP is a pronoun effectively reduces to the schema in (14) discussed below.

then, approximates (15).

(15)   **[A to B:]** x told y OP [... [3rd NP] ... [2nd-pro] ...]
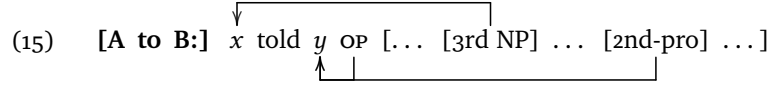
Now suppose we replace the third person NP with a token of the first person pronoun. This takes us from (15) to its BAI-competitor (16).

(16)   **[A to B:]** x told y OP [... [1st-pro] ... [2nd-pro] ...]
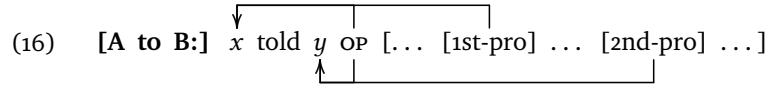
As a brief inspection of the arrows in (15) and (16) makes clear, this time the embedded clauses in the competing LFs (15) and (16) *seem* to predicate something of the same individual, namely the reported speaker x. Consequently, one might think, the competing LFs are semantically equivalent and BAI predicts (16) to block (15). In other words, (17) below appears to be a prediction of the present framework. This, however, is not technically the case. While there is indeed a sense in which the embedded clauses in (15) and (16) are both *about* the reported speaker, the vehicles used to refer to the reported speaker utilize different modes of reference; the third person NP in (15) refers (or at least can refer) to the reported speaker *de re* while the first person pronoun in (16) obligatorily refers to the reported speaker *de se*. Consequently, the propositions denoted by these two LFs diverge at root: (16) is true only if the reported speaker asserted something that was knowingly about himself while (15) can also be true if the reported speaker asserted something about some individual that happens to be himself but he does not realize this (e.g., by asserting something about a child in a photograph without realizing that the photograph was taken of the speaker in his infancy).

(17)   **Indexical Shift can *feed* BAI.** In an environment in which indexical shift is obligatory, a third person NP may *not* be used to refer to the *reported* speaker.

Section 6 is dedicated to the putative prediction (17). I will provide evidence that (17) is indeed empirically accurate in Farsi. I will furthermore point out that *optional* indexical shift cannot feed BAI: if the presence of the context-shifting operator is not independently forced, it cannot generate unacceptability by feeding BAI. Given these facts, one might want to modify BAI to make sure that (17) follows from it.[9] I will first discuss in detail why (17) in fact does *not* follow from the current

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[9]An alternative is to keep BAI as is and try to provide an alternative explanation of why (17) (stated in pre-theoretical terms: a third person pronoun, embedded in an attitudinal, context-shifted environment, cannot refer to the attitude-holder) holds in Farsi. I have to leave this option for future work, but I would like to point out one *prima facie* promising avenue. It has been observed that epithets, embedded in attitudinal environments, cannot be anteceded by the attitude-holder: *Melvin_i claims that the bastard_i was honest.* The unacceptability of such cases may be understood to be due to a Condition C violation (coupled with the assumption that epithets are r-expressions). But evidence to the contrary comes from the observation that epithets *can* have a c-commanding antecedent in cases that do not involve attitudinal predicates, consider for example *John_i ran over a man (who was) trying to give the idiot_i directions*, which is acceptable. On this basis, Dubinsky & Hamilton (1998) (from whom these

formulation of BAI, given standard assumptions regarding *de re / de se* reference. The diagnosis is that one way or the other BAI must be made 'blind' to the *de re / de se* distinction. I will then argue that this can be done on the assumptions (i) that BAI compares NPs for covaluation (not clauses for semantic equivalence) and (ii) that the relevant notion of covaluation is the one proposed by Sharvit (2010) ('type-II covaluation') to account for certain binding theoretic effects in English.

In sections 7 and 8, I turn to two secondary questions. Up to Section 7, the operator-based approach to indexical shift is assumed without argument to the exclusion of the competing approach (or family of approaches), which I will refer to as the binding-based approach (Schlenker 1999, 2003; von Stechow 2004). As is well-known (Anand 2006; Deal 2017), while the operator-based approach derives SHIFT TOGETHER in a principled way on the assumption that the context-shifting operator can only take proposition-denoting complements (e.g., on the assumption that the operator is a complementizer head), the canonical formulations of the binding-based approach can only do so via an imported stipulation. Nevertheless one might ask whether the present dataset yields any information that can be used to further evaluate the relative merits of these theories. In Section 7 I argue that it does. Specifically, the operator-based approach (in conjunction with BAI and the auxiliary assumption about *de re / de se* synonymity mentioned above) can capture the relevant facts without further ado, while the binding-based approach does not. The main result will be the three-part observation that (i) while the binding-based approach as it stands fails for a number of cases, (ii) if it is supplemented with SHIFT TOGETHER as an imported stipulation its empirical coverage improves significantly but (iii) nevertheless there is at least one kind of example which even the improved version of the theory does not capture (although this example is unproblematic for the operator-based approach).

Up to Section 8, the database consists solely on facts pertaining to indexical pronouns and third person NPs, i.e., individual-denoting expressions. The question arises whether the phenomenon under discussion generalizes across sortal domains. In Section 8, I seek to address this question by having a brief look at temporal and locative adverbials. I will argue that, for example, *today* and *Monday* compete in very much the same way that *I* and *Jimmy* do, once certain complicating factors having to do with the under-specificity of these expressions (locative *here* in particular) are controlled for. In particular, I will argue that there is an interaction with indexical shift in the former case much like the latter. If correct, this observation has theoretical consequences. The data pertaining to individual-denoting expressions support two views of BAI; one view according to which BAI encodes a competition between marked (first and second person) vs. unmarked (third person) features, and one view according to which the competition is between indexical expressions (first and second person pronouns) and their non-indexical

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examples have been borrowed, and to whose paper the reader is directed for relevant references; see also Patel-Grosz 2014) argue that epithets are pronouns *that come with an anti-logophoricity requirement*. The reason that the former example is unacceptable, in their view, is that "the nonlocal antecedent in [that] case is the perspective-bearer (i.e., the one from whose perspective the attributive content of the epithet is evaluated)." I would like to suggest that there might be a way to unify (17) with the anti-logophoricity of epithets.

counterparts (third person NPs generally). The data from temporal and locative adverbials strongly support the latter view. This, and other issues, are taken up in the concluding Section 9.

2 Farsi and indexical shift

Farsi belongs to the class of languages in which embedding indexical pronouns, that is, first and second person pronouns, in the clausal complement of speech-report predicates leads to a systematic ambiguity that boils down to whether the pronouns take their value from the actual or the reported situation of speech. Thus in the Farsi sentence (18) the first and second pronouns can either refer to the actual speaker and addressee, Reading 1, or the reported speaker and addressee, Reading 2. As already pointed out in the previous section, 'mixed readings' are not possible; e.g., it is not possible for the first person pronoun in (18) to refer to the actual speaker (as in Reading 1) if the second person pronoun refers to the reported addressee (as in Reading 2).

(18) Leila be Mina goft barat   ketab xaridam.
      L   to M   told for-2sg book bought-1sg
      Reading 1: 'Leila told Mina that I bought a book for you'
      Reading 2: 'Leila$_i$ told Mina$_j$ that she$_i$ bought a book for her$_j$'

Example (18) does not rule out the possibility of the embedded clause being quoted as in *Leila told Mina, "I bought a book for you"*. Other constructions are incompatible with such an analysis. Consider (19), which is based on an example from Schlenker 1999.

(19) Nashnidam   Leila goft chi   biyar.
      not-heard-1sg L   said what bring-IMP.2sg
      'I did not hear what Leila told me to bring'

In (19) the embedded second person pronoun is shifted to refer to the reported addressee, i.e., the actual speaker. This, however, cannot be due to quotation as the latter would generate the reading *I did not hear that Leila said, "(you) bring what?"*. Similarly, in (20) the embedded clause contains two indexical pronouns and the *wh*-word *chi* (what). The sentence is again ambiguous between a shifted and non-shifted reading if it is parsed as a matrix question.[10] Here too quotation would generate the wrong interpretation, i.e., *Leila told Mina "what have I bought for you?"*.[11]

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[10]As *goftan* is a responsive predicate, one might expect that the *wh*-word can also be interpreted below *goft* in (20). Interestingly, *goftan* does *not* license indexical shift if it embeds a question. In other words, while *Leila told Mina what I bought for you* (where the indexicals refer to coordinates of the actual context of speech) is a possible reading of (20), *Leila$_i$ told Mina$_j$ what she$_i$ bought for her$_j$* is not a possible reading of (20). See Section 5 for the relevant discussion.

[11]Schlenker (1999) provides the following example from Lazard 1992 (who cites literary sources).

(20)   Leila be Mina goft barat   chi   xaridam?
       L   to M   told for-2sg what bought-1sg
       Reading 1: 'What did Leila tell Mina that I bought for you'
       Reading 2: 'What did Leila$_i$ tell Mina$_j$ that she$_i$ bought for her$_j$'

(21) makes the same point.

(21)   Un   ketab-e   ke   Leila be Mina goft barat   xaridam   xeili
       That book-DEF that L   to M   told for-2sg bought-1sg very
       gerune!
       expensive-is
       Reading 1: 'The book that Leila told Mina I bought for you is very expensive'
       Reading 2: 'The book that Leila$_i$ told Mina$_j$ she$_i$ bought for her$_j$ ...'

Indexical shift is possible even if the wording of the embedded clause is not faithful to the original utterance being reported. For example, consider the dialog in (22) between Ali and Mina, followed by the dialog in (23) between Mina and Leila.

(22)   a. **[Mina to Ali:]** "Where did you buy this shirt?"
      b. **[Ali to Mina:]** in-o   Nazanin xarid   baram, nemidunam
                        This-OM N   bought-3sg for-1sg not-know-1sg
         az   koja.
         from where
         'Nazanin bought this (shirt) for me, I don't know from where'

(23)   a. **[Leila to Mina:]** "Did you ask Ali where he bought his shirt?"
      b. **[Mina to Leila:]** are, nemidunest,   goft   xaharam baram
                       yes, not-knew-3sg, said-3sg sister-1sg for-1sg
         xaride.
         bought-3sg
         'Yes, he didn't know. He said that his sister bought it for him.'

Ali's assertion in (22b) is the original utterance that is reported to Leila by Mina in (23b). Note that while Ali refers to Nazanin, his sister, by name Mina does so using the possessive. Mina's utterance in (23b) is particularly acceptable in a context in which Leila does not know Ali's sister by name, hence motivating Mina to use a description. (24) below is another example in a similar vein.

(24)   a. *Context: A new store has opened up in the Tajrish neighborhood of Tehran called Kereshmeh. Leila tells her sister, "I'm going to Kereshmeh to buy a shirt" (miram kereshmeh ie pirhan begiram). Later, Leila's grandmother asks Leila's sister where she is. Leila's sister, knowing that*

(i)   be shoma xabar daad ke   kojaa   xaah**am** raft
       to you.pl news gave that where will-**1sg** go

Schlenker's informant finds this sentence deviant (on the shifted reading) while Lazard reports it as OK. My own judgments, and the one informant that I have consulted, is that the sentence is OK with the shifted interpretation of the indexical only if the sentence is parsed as a matrix question: *where did x tell you that x will go?*. See also fn. 10 and the discussion in Section 5.

her grandmother would not recognize the shop by name, says:

b. ie   maqaze-ie jadid baz   shode   tu Tajrish, Leila goft miram
    one store-EZ   new open has-become in T,   L   said go-1sg
    unja lebas   bexaram.
    there clothes buy-1sg.
    '[A new store]$_j$ has opened in Tajrish, Leila$_i$ said she$_i$ is going there$_j$
    clothes-shopping.'

Examples (19) to (24) are problematic for an account based on *clausal* quotation. However, they can be accounted for if partial quotation is admitted; i.e., if it is possible for quotation to target constituents smaller than clauses, including single pronouns. The immediate problem for partial quotation is to account for the SHIFT TOGETHER constraint. It is not clear how an account based on partial quotation can make sure that distinct indexicals in the same minimal domain (the embedded clause) are such that either neither shifts or both shift (see Deal 2017 for an elaboration of this argument). Regardless, the account based on (clausal or partial) quotation can be pushed to rather implausible extremes. Consider the example in (25). This text is taken from a newspaper interview[12] with a lawyer whose client has been sentenced to death on the basis of a certain *fatwa* (Islamic ruling). The lawyer explains in (25a) how he personally visited two of the most important clerics who have supported the relevant *fatwa* and has explained his client's situation to them. In sentence (25b) the lawyer reports their response.

(25) a. man xodam xedmat-e Ayatollah Alavi-e Gorgani va Ayatollah Makarem-
          e Shirazi residam va bara-ie har do nafar tozih dadam ke chenin chizi
          bude . . .
          'I myself visited *Ayatollah* Alavi Gorgani and *Ayatollah* Makarem Shi-
          razi and explained the situation to both of them. . . '
      b. har do nafar goftand ma fatva-ie koli   dadim va
          each two person said   1pl fatwa-EZ general gave-1pl and
          darbare-ie in shaxse   xas   hokm   nadadim.
          about-EZ   this person-EZ particular judgment not-gave-1pl
          'Both of them said they have issued a general fatwa and have not given
          a judgment about this particular person.'

The crucial aspect of this example is the fact that the *plural* first person pronoun is shifted to refer to the reported speakers, i.e., the two *Ayatollahs* that the lawyer has spoken to. It is, however, completely clear from the context that the lawyer has talked to the *Ayatollahs* separately and is simply reporting the gist of what they had conveyed to him. The problem is that if this sentence is to be analyzed via quotation, the pronouns cannot be quoted, as the plural feature cannot be attributed to the *Ayatollahs*.[13] It must be the case that quotation in this example

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[12]Accessible from http://magiran.com/n3335357.

[13]It might be argued that the plural feature can indeed be attributed to the *Ayatollahs* as they might have used the plural first person as an honorific (this is common for individuals that speak from a position of high authority or prestige). First, the example (28) below does not suffer from this potential

targets only the first person *feature* of these pronouns. The same point can be made with the following example.

(26) ba   seta   az   doktoraie bimarestan sohbat kardam, har se
      with three-many from doctors-EZ hospital   talk   did-1sg, each three
      goftand az   nazare ma mo'af   hasti.
      said-3pl from view-EZ 1pl exempt are-2sg
      'I talked to three doctors from the hospital, all three said that from their point of view I am exempt (from military service).'

Another angle from which this problem can be viewed is that of ellipsis. First, note that in general the number marking on shifted indexicals must agree with the number marking on the subject / indirect object of the attitude. In (27) this is shown with respect to shifted first person.[14]

(27) a. #Ali goft   goshnamune
          A   said-1sg are.hungry-1pl
      b. #Ali o   Mina goftan   goshname
          A   and M   said-3pl are.hungry-1sg

(28) shows that agreement is not necessary when ellipsis is involved. If this was not the case one would expect, e.g., (28a) to be as unacceptable as (27a) since the reported speaker in the second disjunct is singular while the elided material contains a shifted plural first person.[15]

(28) a. ya Ali o   Mina goftan   goshnamune   ya Leila
          or A   and M   said-3pl are.hungry-1pl or Leila
          'Either Ali and Mina said they are hungry or Leila said she is hungry'
      b. ya Leila goft   goshname   ya Ali o   Mina
          or L   said-3sg is.hungry-1sg or A   and M
          'Either Leila said she's hungry or Ali and Mina said they are hungry'

The 'disappearance' of ϕ-features on pronouns in environments involving ellipsis is of course expected (Heim 2008; Kratzer 2009, a.o.), although standard examples involve *bound* pronouns while the pronouns in (28) are arguably not bound. However, the acceptability of the examples in (28) is quite problematic, as far as I can

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confound. Second, intuitively, the utterance in (25b) does *not* commit the speaker, i.e., the lawyer, to the claim that the *Ayatollahs* used the honorific form.

[14](27a) is marginally acceptable if the shifted plural is interpreted as referring to Ali and some other individuals, e.g., his friends. The reading is only marginally acceptable because out of the blue the identity of those other individuals is not settled. Furthermore, (27b) is also marginally acceptable if the embedded clause is interpreted as involving quotation and the subjects are distributed over, *Ali and Mina each said, "I am hungry"*. This reading is marked and forces the speaker to somehow signal that quotation is involved, via non-standard intonation or air-quotes. Neither of these two observations threaten the claim made in the text as far as I can see.

[15]The example (28b) potentially suffers from the potential confound that the second disjunct might be re-analyzed with a distributivity operator generating a reading similar to the one noted in fn. 14. As far as I can see, the example in (28a) does not suffer from any potential confound *vis-à-vis* the claim made in the text.

see, for an account of indexical shift based on quotation (cf. *#they said "we are hungry" and Bill did too* and *#Bill said "I am hungry" and they did too*).

Before I move on one additional property of indexical shift must be noted. Shifty indexicals in Farsi obligatorily receive *de se* interpretations, as illustrated by the contrast in (29) (based on an example from Anand 2006).

(29)   a.   doktor goft behem kudum ambul-o bezanin?
            Doctor said to-1sg which   shot-OM give-2pl
            'Which shot did the doctor say we should give him'
       b.   doktor goft behesh kudum ambul-o bezanim?
            Doctor said to-3sg which   shot-OM give-1pl
            'Which shot did the doctor say we should give him'

The sentence in (29a), which involves indexical shift, can be used to report the situation in (30a), but not the one in (30b). The sentence in (29b) (which does not involve indexical shift), on the other hand, can be used to report both situations in (30).

(30)   a.   The doctor examines several patient's reports. For each report he
            dictates his prescription to the two nurses that are present. Since the
            reports *are not anonymous*, the doctor recognizes his own chart and,
            after examining it says "give *me* a shot of penicillin". Later, one of the
            nurses asks the other one (29).
       b.   The doctor examines several patient's reports. For each report he
            dictates his prescription to the two nurses that are present. Since the
            reports *are anonymous*, the doctor does not recognize his own chart
            and, after examining it says "give *this patient* a shot of penicillin".
            Later, one of the nurses asks the other one (29).

3   The operator-based account of indexical shift

The simplest implementation of the operator-based approach to indexical shift (Anand & Nevins 2004; Anand 2006) rests on the following assumptions. First, the interpretation function is relativized to a context parameter c, an index parameter i, and a contextually-supplied assignment function g: $[\![\cdot]\!]^{c,i,g}$. Second, contexts are formalized as tuples of objects of appropriate sorts. For our purposes (abstracting from the temporal dimension) a context c is a triple consisting of a possible world, denoted WORLD(c), an individual speaker/author, denoted AUTH(c), and an individual addressee, denoted ADDR(c). Finally, it assumed that indexes and contexts are 'homologous'; each index i also consists of a world WORLD(i), an author AUTHOR(i), and an addressee ADDRR(i). I will occasionally refer to world-author-addressee tuples as formal objects in abstraction from the role they play in interpretation (as context or index) as "centers". Within this broad framework, a plausible lexical entry for the predicate *goftan* (to say / tell) is (31).

(31)   a. $[\![\ x \ be \ y \ goft \ \phi \ ]\!]^{c,i,g} = 1$ iff $\forall i' \in SAY^{i}_{x,y} : [\![\phi]\!]^{c,i',g} = 1$

b. $i' \in \text{SAY}^i_{a,b}$ iff i' is compatible with what a told b in $\text{WORLD}(i)$.

Intuitively, i' is compatible with what a told b in w iff, from a's point of view, if her utterance is true then i' could be the context in which her utterance took place.

The proposed lexical entries for indexical pronouns are given in (32). Notice it is not assumed that indexical pronouns are variables; that is, unlike the third person pronoun, the interpretation of indexical pronouns is assignment-independent.

(32) $[\![\text{1sg-pro}]\!]^{c,i,g} = \text{AUTH}(c)$, $[\![\text{2sg-pro}]\!]^{c,i,g} = \text{ADDRR}(c)$

The last ingredient is the context-shifting operator. Since indexical pronouns take their value from the context parameter, they are predicted to refer to the actual speaker / addressee unless this parameter is somehow manipulated. In the operator-based approach this manipulation is effected by a covert operator, OP, which is syncategorimatically defined in (33).

(33) $[\![\text{OP } \phi]\!]^{c,i,g} = [\![\phi]\!]^{i,i,g}$

That the system so far sketched accounts for context shifting is established by the following toy examples.

(34) a. $[\![\text{L told M that I am hungry}]\!]^{c,i,g} = 1$ iff
            $\forall i' \in \text{SAY}^i_{L,M} : [\![\text{I am hungry}]\!]^{c,i',g} = 1$ iff
            $\forall i' \in \text{SAY}^i_{L,M} : [\![\text{hungry}]\!]^{c,i',g}([\![\text{I}]\!]^{c,i',g}) = 1$ iff
            $\forall i' \in \text{SAY}^i_{L,M} : [\lambda x.\ x \text{ is hungry in } \text{WORLD}(i')](\text{AUTH}(c)) = 1$ iff
            $\forall i' \in \text{SAY}^i_{L,M} : \text{AUTH}(c) \text{ is hungry in } \text{WORLD}(i')$
       b. $[\![\text{L told M that } \textbf{OP} \text{ I am hungry}]\!]^{c,i,g} = 1$ iff
            $\forall i' \in \text{SAY}^i_{L,M} : [\![\text{OP I am hungry}]\!]^{c,i',g} = 1$ iff
            $\forall i' \in \text{SAY}^i_{L,M} : [\![\text{I am hungry}]\!]^{i',i',g} = 1$ iff
            $\forall i' \in \text{SAY}^i_{L,M} : [\![\text{hungry}]\!]^{i',i',g}([\![\text{I}]\!]^{i',i',g}) = 1$ iff
            $\forall i' \in \text{SAY}^i_{L,M} : [\lambda x.\ x \text{ is hungry in } \text{WORLD}(i')](\text{AUTH}(i')) = 1$ iff
            $\forall i' \in \text{SAY}^i_{L,M} : \text{AUTH}(i') \text{ is hungry in } \text{WORLD}(i')$

Note that the operator-based approach immediately captures SHIFT TOGETHER: if OP is present every indexical it c-commands is shifted and if it is absent no indexical is shifted. Furthermore, there is no reason to think that OP is opaque to grammatical transformations, such as extraction. Hence the problems raised in the previous section for the quotation account are not problematic for the operator-based approach.[16]

Finally, it follows from the definition of OP, the lexical entries for the verb *goftan* and the indexical pronouns, that shifted indexicals will always be interpreted *de se*. To see this, consider the two scenarios in (30), repeated below.

(35) a. The doctor examines several patient's reports. For each report he

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[16]*Except* for the puzzle raised by shifty plural pronouns in Section 2, which does not have an immediate solution in the operator-based approach either. I will have to leave this problem future research.

dictates his prescription to the two nurses that are present. Since the reports *are not anonymous*, the doctor recognizes his own chart and, after examining it says "give *me* a shot of penicillin" (*be man penisilin bezanin*).

b. The doctor examines several patient's reports. For each report he dictates his prescription to the two nurses that are present. Since the reports *are anonymous*, the doctor does not recognize his own chart and, after examining it says "give *this patient* a shot of penicillin' (*be in bimar penisilin bezanin*)'.

The doctor's utterance in (35b) is compatible with any center i' in which ADDR(i'), i.e. the two nurses, comply with AUTH(i')'s, i.e. the doctor's, demands by giving a shot of penicillin to some individual a in WORLD(i'), a being the person whose file AUTH(i') is examining in WORLD(i'). As there is uncertainty as to the identity of this person, there are centers i' compatible with the doctor's utterance in which a is some individual other than AUTH(i') and there are centers i' in which a happens to be the same individual as AUTH(i'). However, since in situation (35a) the doctor explicitly refers to himself using the first person pronoun, the centers i' compatible with his instructions are precisely those in which the nurses comply with AUTH(i')'s demands by giving a shot of penicillin to AUTH(i'). Now consider the sentence in (36) asserted by one of the nurses to the other one. Since the first person pronoun used in the embedded position is shifted by assumption, for any index i' compatible with what the doctor said, it will refer to AUTH(i'). Consequently, this sentence is only compatible with the situation in (35a) and not (35b).

(36)   doktor goft behem penesilin bezanin
        Doctor said to-1sg   penicillin give-2pl
        'The doctor told us that we (should) give him a shot of penicillin.'

4   Indexical shift bleeds the Ban Against Illeism

Consider again prediction (13) from Section 1, repeated in (37). As discussed there, this prediction can be tested using the schema in (10), repeated in (38).

(37)   **Indexical Shift can *bleed* BAI.** In an environment in which indexical shift is obligatory, a third person NP may be used to refer to the actual speaker.

(38)   **[A to B:]** x told y that [... [3rd NP] ... [2nd-pro] ...]

The embedded clause in (38) by assumption contains (i) a third person NP that refers to the actual speaker and (ii) a second person pronoun that is shifted to refer to the reported addressee. Assumption (ii) guarantees that the context-shifting operator c-commands the embedded clause. Thus the LF underlying (38) is approximately (39).

(39)   **[A to B:]** x told y OP [... [3rd NP] ... [2nd-pro] ...]

The embedded clause constitutes an environment in which indexical shift is "obligatory" in the following sense. If BAI compares an LF of the form in (39) to an alternative that is exactly same except that the third person NP is replaced with a token of the first person pronoun then the presence of the context-shifting operator in the alternative LF guarantees that the introduced first person pronoun will be "automatically" shifted to refer to the reported speaker. I.e., the LF of the relevant alternative is approximately (40).

(40)   **[A to B:]** x told y OP [... [1st-pro] ... [2nd-pro] ...]

Thus the conjunction of assumption (i) with the LFs (39) and its BAI-alternative (40) allows us to test prediction (37): if a sentence constructed along the lines of (38) is felicitous then we have evidence that "obligatory" indexical shift bleeds BAI.

Evidence that this prediction is indeed born out comes from the sentence in (41). Given the facts reviewed in Section 2, in principle this sentence should be ambiguous between a reading in which the second person pronoun is shifted, Reading 1, and a reading in which it is not, Reading 2. In fact only the former reading is intuitively available and the latter is markedly deviant (to the extent that it can be accessed to begin with). This is as things should be if (i) obligatory indexical shift bleeds BAI (rendering Reading 1 acceptable) and (ii) no other factor would interact with BAI (rendering Reading 2 unacceptable due to BAI violation).

(41)   **[Sajjad to Qazal:]** Leila be Mina goft Sajjad azat   asabanie.
                           L   to M   told S   from-2sg angry.is-3rd
        ✓**Reading 1:** 'Leila told Mina$_j$ that Sajjad is angry at her$_j$'
        ✗**Reading 2:** 'Leila told Mina that Sajjad is angry at Qazal.'

The sentences in (42) and (43) show the same pattern. These sentences involve extraction from the embedded clause and as such guarantee that clausal quotation is not a confounding factor.

(42)   **[Sajjad to Qazal:]** un   chizi ke   Leila be Mina goft (to) bayad vase
                           that thing that L   to M   told (2sg) should for
        Sajjad bexari   xeili gerune!
        S   buy.IMPR-2sg very expensive.is
        ✓**Reading 1:** 'The thing that Leila told Mina$_j$ she$_j$ should buy for Sajjad is very expensive. '
        ✗**Reading 2:** 'The thing that Leila told Mina Qazal should buy for Sajjad is very expensive.'

(43)   **[Sajjad to Qazal:]** Leila be Mina goft (to)   vase Sajjad chi
                           L   to M   told (2sg) for   S   what
        bexar?
        buy.IMPR-2sg

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> ✓**Reading 1:** 'What did Leila tell Mina$_j$ that she$_j$ should buy for Sajjad?'
> ✗**Reading 2:** 'What did Leila tell Mina that Qazal should buy for Sajjad?'

As control, (41) could be compared with (44).

(44) # **[Sajjad to Qazal:]** Leila be Mina goft Sajjad azash   asabanie
                              L   to M   told S   from-3sg angry.is-3sg
      Intended: 'Leila told Mina$_j$ that Sajjad is angry at her$_j$'

The only difference between the two sentences is that in the latter the second
person pronoun of (41) is replaced with the third person pronoun referring to
Mina, the reported addressee. In this example indexical shift is irrelevant as there
is no indexical pronoun in the embedded clause to be shifted. Strikingly, (44) is
sharply infelicitous.

According to prediction (37), indexical shift bleeds BAI in environments in
which the former is obligatory. What about environments in which indexical shift
is optional, that is, examples in which there is no way to guarantee that the
indexical pronoun that replaces a third person NP is "automatically" shifted? The
framework established so far, i.e., the operator-based account of indexical shift
coupled with BAI, does not make any specific predictions for such cases. It could
be that indexical shift can only bleed BAI if its presence is independently forced, as
in the examples discussed in the previous section. It could also be that, as far as
BAI goes, indexical shift can be thought of as a *rescuing mechanism* which, to the
extent that its presence is not independently *prohibited*, can bleed BAI to rescue
some sentences from a BAI-violation. The choice between the two options must be
resolved empirically. This is what I turn to now.

Consider the example in (45).

(45) **[Sajjad to Qazal:]** Leila be Mina goft Sajjad asabanie.
                             L   to M   told S   angry.is
      'Leila told Mina that Sajjad is hungry.'

This sentence does not contain any indexical expression, but it does contain a third
person NP in the embedded clause that refers to the actual speaker. Assuming
no interference, then, the sentence is predicted to be blocked by BAI. In fact the
sentence is felicitous. This can be explained on the assumption that indexical shift
can bleed BAI even if its presence is not otherwise forced. Evidence that it is indeed
indexical shift that makes (45) acceptable comes from the unacceptability of (46).

(46) # **[Sajjad to Qazal:]** Leila fek-kard Sajjad asabanie.
                               L   thought S   angry.is
      'Leila thought that Sajjad is hungry.'

The difference between (45) and (46) is that the predicate *goftan* in the former
is replaced by the predicate *fekr-kardan* (to think) in the latter. As indexical shift
in Farsi is *not* possible with *fekr-kardan*, the contrast between the two examples
supports the claim that the felicity of (45) is due to indexical shift.

Notice that example (45) does not contain any indexical expression. This is no

accident: no indexical expression can be present in the clause embedded by *goftan* if indexical shift is to be optional. But if no indexical expression is present then indexical shift is *vacuous* as it there is nothing for it to shift. The felicity of (45), therefore, supports the idea that OP can bleed BAI even if, strictly speaking, it is semantically vacuous.[17]

5 Indexical shift and question-embedding: a case study

Suppose we can construct a sentence *S* which is in principle structurally ambiguous between two LFs, ϕ_1 and ϕ_2. Furthermore, let us assume ϕ_1 does *not* allow indexical shift while ϕ_2 does. If the conclusion of the previous section, namely, that indexical shift can bleed BAI even if the presence of the context-shifting operator is not forced for independent reasons, is correct, then we predict that if *S* contains a third person NP that refers to the actual speaker / addressee, then ϕ_1 will not be an acceptable parse for *S*; that is, we predict that in such cases the only acceptable reading of *S* is the one expressed by ϕ_2. In this section, I would like to argue that this prediction is correct. Evidence for this claim comes from the interaction between question-embedding and indexical shift. Specifically, *goftan* is a responsive predicate and, as such, in general embeds questions. Interestingly, *goftan* does *not* license question-embedding and indexical shift simultaneously: if it embeds a question, then it does not allow indexical shift. I will not make any positive claims regarding why this is the case (but see the end of this section for a brief discussion); but I will use this generalization to test the prediction sketched just above.[18] Schematically, then, I will consider sentences of the following form.

(47)   **[A$_i$ to B:]** *x* told *y* [. . . [3rd NP]$_i$ . . . *wh* . . .]

In principle, a sentence of this form should be ambiguous between a matrix-question reading (*wh* > *goftan*) and an embedded-question reading (*goftan* > *wh*). But since the embedded clause contains a third person NP that refers to the actual speaker, we predict that the sentence is going to violate BAI unless indexical shift bleeds BAI (assuming that there is no other mechanism, relevant here, that can bleed BAI). However, if the generalization is correct that indexical shift is incompatible with the embedded-question reading, then the only acceptable parse would

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[17]This conclusion, if true, is rather surprising on the view that the distribution of covert operators in general must be subject to an economy condition which punishes their semantically vacuous occurrences. One possible solution would be to make sure that the context-shifting operator is *not* vacuous in the relevant cases. For example, if we postulate that the third person feature is semantically interpreted along the lines sketched in 6, then this *desideratum* is met.

[18]There is a lacuna in the literature on how indexical shift and embedded questions interact. Consequently, as the moment it is unclear whether the incompatibility of question-embedding and indexical is specific to Farsi or whether it generalizes to other languages. For example, one might suspect the fact that Farsi is an *in situ* language plays a role here. If so, the prediction is made that this generalization does not apply to *ex situ* languages (that license indexical shift). Naturally, I have to leave this question to future work.

have to be the one that expresses the matrix-question reading. Below I will flesh out this reasoning and provide evidence that the prediction is correct.

First, consider the sentence in (48) which involves a *wh*-word embedded in the clausal complement of *goftan*. This sentence ambiguous (depending on intonation) between a matrix question reading and an embedded question reading, as *goftan* is a responsive predicate and Farsi is an *wh*-in situ language.[19]

(48) Leila be Mina goft ki   da'vatesh   kard?
      L   to M   told who invite-EZ-3sg did-3sg
      ✓**Reading 1:** 'Who did Leila$_i$ tell Mina invited her$_i$?'
      ✓**Reading 2:** 'Leila$_i$ told Mina who invited her$_i$'

The same ambiguity arises if the third person pronoun in (48) is replaced with the first person pronoun but, interestingly, only if this pronoun is *not* shifted; if the pronoun is shifted the embedded question reading becomes impossible:

(49) Leila be Mina goft ki   da'vatam   kard
      L   to M   told who invite-EZ-1sg did-3sg
      ✓**Reading 1:** 'Who did Leila tell Mina invited me?'   [*wh>say*, −shift]
      ✓**Reading 2:** 'Leila told Mina who invited me.'   [*wh<say*, −shift]
      ✓**Reading 3:** 'Who did Leila$_i$ tell Mina invited her$_i$?'   [*wh>say*, +shift]
      ✗**Reading 4:** 'Leila$_i$ told Mina who invited her$_i$.'   *[*wh<say*, +shift]

The absence of Reading 4 in (49) is evidence that, at least in Farsi (cf. fn. 18), if the speech-report predicate *goftan* embeds a question then it does not license indexical shift. Next, consider (50) which has the form of the schema in (47).

(50) **[Sajjad to Qazal:]** Leila be Mina goft ki   Sajjad-o da'vat kard?
                             L   to M   told who S-OM   invite did-3sg
      ✓**Reading 1:** 'Who did Leila tell Mina invited Sajjad?'
      ✗**Reading 2:** 'Leila told Mina who invited Sajjad.'

The complement of *goftan* does not contain any indexical expression in (50). Instead it contains a third person NP that refers to Sajjad, the actual speaker. Interestingly, the embedded question reading is judged unacceptable while the matrix question reading is ready accessible. This fact is entirely expected if the context-shifting operator is a rescuing mechanism *via-à-vis* BAI: as the sentence contains a third person NP that refers to the actual speaker, the only way for it to be felicitous is for indexical shift to bleed BAI (assuming there is no other way to escape the wrath of BAI). But indexical shift is impossible if the *wh*-item *ki* (who) is interpreted below the predicate *goftan*. Consequently, the only acceptable LF for (50) is one in which *ki* is interpreted at root and the context-shifting operator is inserted to rescue the sentence from a BAI violation.

On the one hand, the observations made above corroborate the conclusion of the previous section, that indexical shift is a readily available mechanism to bleed

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[19]I will construct examples with the *wh*-word *ki* (who). As far as I can see, nothing hinges on this. Every interrogative form, including polar and alternative questions, can be used to make essentially the same point.

BAI (but, of course, only in environments that license indexical shift to begin with), even if semantically vacuous. On the other hand, these data might shed some light on the reason why question-embedding and indexical shift are incompatible (in Farsi). Specifically, note that since in (50) there is no indexical expression, the context-shifting operator would be vacuous. The reason that the presence of this operator is incompatible with question-embedding, then, appears to be syntactic in nature: it is the sheer presence of the context-shifting operator that interferes with question-embedding, even if, as is the case in (50), the former does not have any detectable semantic consequences.[20]

## 6 Indexical shift feeds the Ban Against Illeism

Consider the schema (51) repeated from Section 1.

(51) **[A to B:]** x told y that [... [3rd NP] ... [2nd-pro] ...]
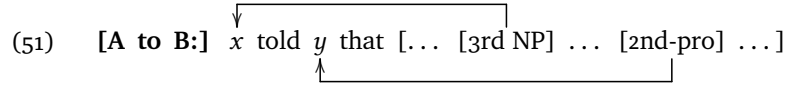
This schema contains (i) a third person NP that refers to the reported speaker and (ii) a second person pronoun that refers to the reported addressee. The latter guarantees that the LF underlying any sentence of the form (51) contains an occurrence of the context-shifting operator in the embedded clause.

(52) **[A to B:]** x told y [OP [... [3rd NP] ... [2nd-pro] ...]]
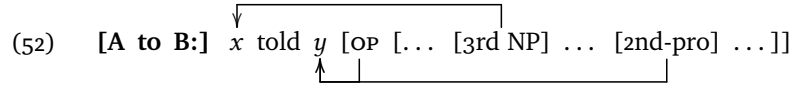
As it stands, (52) does not violate BAI with respect to the coordinates of the *actual* context of speech as it does not contain any NP that refers to any of those coordinates. Does it violate BAI with respect to the *reported* context of speech? Specifically, suppose the third person NP of (52) is replaced with a token of the first person pronoun. Notice that since OP is syntactically present, the introduced first person pronoun is bound to shift.

(53) **[A to B:]** x told y [OP [... [1st-pro] ... [2nd-pro] ...]]
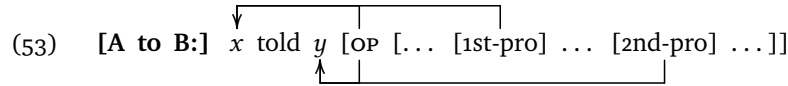
BAI predicts that (53) blocks (52) only if the two are semantically equivalent. Strictly speaking, this is not the case. The reason is that in (53) the first person pronoun refers to the reported speaker *de se* through the mechanism of context-shifting while in (52) the third person NP refers (or can refer) to the reported speaker *de re*.[21] Therefore, the two alternatives are not in fact semantically equivalent: while

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[20]This conclusion can be challenged if, for example, we assume that the third person feature is indexical along the lines sketched in fn. 6.

[21]Percus & Sauerland (2003) argue that third person pronouns can receive a dedicated *de se* parse. This does not affect the argument made in the text: if Sauerland & Percus are correct, then third person pronouns can be ambiguously represented either as *de se* pronouns or *de re* pronouns. The former is straightforwardly blocked by BAI in the relevant environments. The problem is the existence of the *de*

(53) entails (52)[22] the reverse is not the case.

In the rest of this section, I will first provide evidence that sentences of the form in (51) are in fact unacceptable in Farsi. On the assumption that the deviance of these examples is in fact due to BAI (as no alternative explanation is readily available, cf. fn. 9), the theoretical task is to modify BAI in order to derive the desired effects. I will propose two modifications. I will argue that BAI, instead of comparing clauses for semantic equivalence, needs to compare noun phrases for covaluation. Not any notion of covaluation will do, however. What BAI seems to be sensitive to, is a notion of covaluation that is *not* fine-grained enough to register the semantic difference between *de re* and *de se* reference. I will argue that the relevant notion of covaluation is in fact the one that is proposed by Sharvit (2010), under the heading 'type-II covaluation' (equally appropriate is 'intensional covaluation'), to account for certain puzzling binding-theoretic effects in English.

Let us first verify that sentences that instantiate the schema in (51) are indeed unacceptable. Consider (54).

(54) Leila be Mina goft barat ketab xaride.
      L   to M   told for-2sg book has.bought-3sg
      ✗ **Reading 1:** 'Leila$_i$ told Mina$_j$ that she$_i$ bought her$_j$ a book.'
      ✓ **Reading 2:** 'Leila told Mina$_j$ that she$_k$ bought her$_j$ a book.'
      ✓ **Reading 3:** 'Leila$_i$ told Mina that she$_{i,k}$ bought you a book.'

Reading 3 establishes that if the indexical second person pronoun is *not* shifted, the third person pronoun may or may not refer to the reported speaker, Leila. The contrast between Readings 1 and 2 establishes that if the indexical pronoun does shift then the third person pronoun can no longer refer to the reported speaker: it must refer to some salient individual distinct from the reported speaker (or addressee, for that matter). Example (55) makes the same point with extraction, making sure that quotation is not a confounding factor.

(55) Leila be Mina goft barat chi xaride?
      L   to M   told for-2sg what has.bought-3sg
      ✗ **Reading 1:** 'What did Leila$_i$ tell Mina$_j$ she$_i$ bought for her$_j$?'
      ✓ **Reading 2:** 'What did Leila tell Mina$_j$ she$_k$ bought for her$_j$?'
      ✓ **Reading 3:** 'What did Leila$_i$ tell Mina she$_{i,k}$ bought for you?'

Again, as witnessed by Reading 3, if the embedded second person pronoun is *not* shifted the third person pronoun may or may not refer to the reported speaker. If, however, the embedded indexical pronoun is shifted the third person pronoun may refer to some salient individual (Reading 2) but not the reported speaker (*Reading 1). The reader will note that in both (54) and (55) Reading 1 is precisely the one that corresponds to the schema in (51) with a shifted indexical and a non-indexical pronoun referring to coordinates of the reported situation of speech. I conclude that when indexical shift is made obligatory by the presence of another shifted

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re LF of third person pronouns, which is uncontroversial.

[22]I assume following much previous literature that *de re* LFs can in principle generate *de se* readings via the 'self' acquaintance relation.

indexical, illeism can indeed feed BAI, generating oddness.

I noted above that indexical shift can bleed BAI even if it is not obligatory. The conclusion was that indexical shift can be thought of as a mechanism that is always available to bleed BAI, rescuing certain sentences from oddness. If this line of thinking is correct then we would expect *optional* indexical shift *not* to feed BAI. This is indeed the case as the acceptability of the sentence below demonstrates.

(56)   **[Sajjad to Qazal:]** Leila$_i$ be Mina goft ~~pro$_i$~~ asabanie.
                      L   to M   told pro angry-is-3sg
       'Leila told Mina that she is hungry.'

This examples makes it clear that the third person pronoun in and out of itself is quite capable of referring to the reported speaker / addressee; i.e., it is not the case that the third person pronoun in Farsi has an 'anti-logophoric' requirement (cf. fn. 9).[23] This observation in conjunction with the contrast between Readings 2 and 3 of (54) and (55) above establishes that indexical shift plays a crucial role in turning the third person pronoun into an anti-logophoric term.

The examples above might allow for an analysis on the basis of the assumption that there is a strong bias for *de re* pronouns to refer *de se* (i.e., via the 'self' acquaintance relation). If so, then the absence of Reading 1 in (54) and (55) follows from BAI since a third person pronoun that refers to the reported speaker / addressee *de se* can be replaced with a shifted first or second person pronoun without changing the overall meaning of the utterance. However, this approach has two short-comings. First, it does not explain why (56) is acceptable. After all, here too, *if the context-shifting operator is inserted*, the third person pronoun could be replaced with a first person pronoun without changing the meaning. Perhaps the context-shifting operator is simply not allowed in such cases. The second problem is much more significant. Rather surprisingly, third person reference to the attitude holder in a context-shifted environment is unacceptable even if the original utterance being reported is explicitly non-first personal. Consider the following context, slightly modified from (30b) in section 2.

(57)   *Context: The doctor examines several patient's charts. For each chart he dictates his prescription to a nurse. Since the charts* are anonymous, *the doctor does not recognize his own chart and, after examining it says "give this patient a shot of penicillin".*

Even if this is the context that is being reported, the utterance in (58) is judged sharply infelicitous.

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[23]Schlenker (1999) notes that in Amharic third person reference to the attitude-holder is usually unacceptable (see fn. 24):

(i)   John jïgna nə-w   alɛ
        John hero be.PRES-3smO say.PERF.3sm
        'John$_i$ said that he$_{*i, j}$ is a hero.'

The contrast between (56) and this example suggests that the phenomenon under discussion in Farsi is not quite the same as the Amharic case. See also fn. 24.

(58) #doctor be xanum parastar goft behesh kudum ampulo bezan?
       Doctor to lady   nurse   said to-3sɢ which shot   give-2sɢ.ɪᴍᴘ
       Intended: 'Which shot did the doctor$_i$ tell the nurse$_j$ that she$_j$ should give
       him$_i$?'

The unacceptability of (58) is surprising because it seems to suggest that a mere
preference for *de se* interpretation of *de re* pronouns is not enough. If it was, one
would expect (58) to be entirely acceptable as the situation being reported is one
in which attitude-holder's attitude is explicitly non-first personal. Indeed the only
way to express the intended reading of (58) in the context of (57) is to avoid using
indexical shift altogether (i.e., to replace the embedded second person pronoun
with a third person pronoun referring to the nurse).[24]

Having established that indexical shift feeds BAI, we now need to account for it.
As noted above the main obstacle in doing to is the fact that the alternatives that
BAI needs to evaluate are *not* semantically equivalent. One alternative involves an
indexical pronoun that shifts and refers to, say, the attitude-holder *de se* while the
other alternative involves a third person noun phrase that refers to the attitude
holder *de re*. I do not see a way of solving this problem while maintaining that
BAI applies only at the clausal level. However, if we allow ourselves to check
BAI at the level of individual NPs then we might be able to get a grip on the
problem. Specifically, consider the following puzzle. The (English) sentence (59)
is intuitively true in the following context (taken from Sharvit 2010): "Sarah Palin,
who is running for president, wakes up from a coma and suffers from severe
memory loss: she doesn't remember that she is running for president and perhaps
doesn't even know who she is. McCain visits her in the hospital, and she says to
him: 'I don't know who to vote for.'" While the two of them look at a picture of
her in the newspaper, he says to her: 'You must vote for this woman.' Palin, who
doesn't recognize herself in the picture, says: 'You are right; I will vote for this
woman. She seems reliable.' "

(59)   McCain convinced Palin to vote for herself

The problem is that on standard assumptions there is no grammatical LF of (59) that
can be true in such a context. To see this, consider the following two candidates.
(60a) is not true in the context given above because here the reflexive pronoun
is co-referential with *PRO* which refers to Palin *de se*. (60b), on the other hand,
would be true in such a context however it is ruled out by Condition A of binding

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[24]The example in (58) is quite significant as it marks a departure from other, superficially similar
examples in the literature. As noted in fn. 23, Schlenker (1999) provides evidence that in Amharic third
person reference to the attitude holder is unacceptable *with the exception of cases where the situation
being reported is explicitly non-de se*, as in the following example which Schlenker gives as OK.

(i)   a.   John sees on TV a candidate he likes a great deal, and says, "I think he's great!" Unbe-
             knownst to John, he is talking about himself.
       b.   John jigna nə-w   alɛ
             John hero be.PRES-3smO say.PERF.3sm
             'John said that he is a hero.'

Again, there is a contrast between the Farsi case and the Amharic case.

theory as the reflexive is not covalued with an NP in its local domain (marked here 'LD').

(60) a. [McCain convinced Palin [1 [$_{ld}$ PRO$_1$ vote for herself$_1$]]]
      b. [McCain convinced Palin$_2$ [1 [$_{ld}$ PRO$_1$ vote for herself$_2$]]]

Sharvit's solution to this puzzle is make sure that (60b) does *not* violate Condition A. The way she does this is by introducing a novel notion of covaluation that Condition A would rely on, what she calls type-II covaluation. The definition of this notion is rather complicated, and the reader is invited to consult Sharvit's paper for the details. For my purposes, the important point is that what type-II covaluation does in (60b) is that it makes *PRO* and *herself* 'synonymous' even though the former refers to Palin *de se* while the latter does so *de re*. In other words, type-II covaluation is 'blind' to the *de se / de re* distinction; precisely what we need given the discussion above. On this basis, the proposed modification of BAI amounts to the following rule.

(61) Let ϕ and ϕ' be two sentences such that the only difference between them is that a third person NP in ϕ (call it α) is replaced by an indexical pronoun in ϕ' (call it β). In any context in which α in ϕ is covalued with β in ϕ' (either in the standard sense, or in the sense of type-II covaluation), ϕ is unacceptable.   (cf. (4) above)

Before I close this section, it should be noted that the data discussed in section seem to be subject to cross-linguistic variation. Specifically, Anand (2006) provides the following sentence from Zazaki (his example 342), which he claims is acceptable. This sentence involves a shifted second person pronoun and a third person pronoun which refers to the reported speaker. It should be clear that the abstract structure of this example is the same as that of (54) above.

(62) Rojda Ali-ra va   kɛ ae braye tɨya pace kerda
      Rojda Ali-to said that she brother your kiss do-PERF
      'Rojda$_i$ told Ali$_k$ she$_i$ kissed his$_k$ sister.'

It is not clear to me how this rather peculiar cross-linguistic variation is to be accounted for (assuming that the reported judgments on all sides prove to be robust). It appears that Farsi and Zazaki are on the two extreme ends of an ill-understood typology pertaining to the referential possibilities of third person pronouns in attitudinal contexts. While in Farsi no third person pronoun is allowed to refer to the subject or indirect object of a context-shifting predicate, no such restriction is in place in Zazaki, and Amharic seems to occupy the middle ground (see fn. 23 and fn. 24). One possibility, if the discussion above is on the right track, is to put the blame on type-II covaluation. Recall that this notion practically amounts to blindness to *de re* vs. *de se* reference. This is very much in line with native speakers' judgments, who, notoriously, have trouble with detecting *de re* readings that not *de se*. One might suspect that Farsi speakers have internalized this 'blindness' to the *de re / de se* distinction (or, rather, have not internalized the distinction) while Zazaki speakers are particularly attuned to it. One wonders

whether the examples that motivated Sharvit's type-II covaluation can be replicated in Zazaki with the same judgments; if Zazaki speakers refuse to ignore the *de re / de se* distinction, then they might also find the sentence corresponding to (59) false in the target context. Obviously much more work is needed in this area.

7 Comparing the operator-based theory to the binding-based theory

We have seen in sections 4 to 6 that the operator-based approach to indexical shift, coupled with BAI modified to rely on type-II covaluation instead of semantic equivalence at the clausal level, captures the relevant data points in Farsi while leaving some open cross-linguistic questions. My goal in this section is to investigate the binding-based approach (Schlenker 1999, 2003, von Stechow 2004; see also Schlenker 2004) in the context of the same paradigm. The question that I aim to answer is whether the present paradigm yields any information that can be used to evaluate the relative (de-)merits of these two proposals.

For the sake of concreteness, I will sketch a simple version of the binding-based approach to indexical shift. This toy model is designed to rely on a set of assumptions that are as similar as possible to the operator-based approach, as the latter was sketched in Section 3; in particular, the toy model follows the 'double indexing' guidelines by introducing both context and index variables / abstractors in the syntax (although the latter are ignored for convenience from a certain point on). The specific details of implementation do not matter, however, and as far as I can see the claims made below generalize to more sophisticated implementations of the binding-based approach.

The chief characteristic of the binding-based approach is the syntactic representation of context variables and abstractors at LF. Thus in this framework first and second person pronouns can be represented as consisting of (i) a context variable with (ii) first and second person features denoting functions from contexts to individuals. For example, the LF representation of the first person pronoun (abstracting away from gender and number) would be [1st c_i] with the following semantics.

(63)   a. $[\![$ 1st $]\!]^g = \lambda c.\text{AUTH}(c)$, $[\![$ 2nd $]\!]^g = \lambda c.\text{ADDR}(c)$
         b. $[\![c_i]\!]^g = \#$ unless $g(i)$ is a context;[25] if $\neq \#$ then $[\![c_i]\!]^g = g(i)$
         c. $[\![$ [1st c_i] $]\!]^g = \text{AUTH}(g(i))$, $[\![$ [2nd c_i] $]\!]^g = \text{ADDR}(g(i))$

On the simplifying assumptions that context variables should always be bound and that predicates project index abstractors, the LF underlying (64a) is (64b) with the semantics provided in (64d) (as before, I abstract from tense and related issues).

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[25]A context is any tuple $\langle s, a, t, w \rangle$ where s and a are individuals, t is a time and w is a possible world such that (i) a and d exist in w at t and (ii) there is a speech-act in w at t the speaker of which is s and the addressee of which is a. For the present purposes the time coordinate can be ignored. For any context c, $\text{AUTH}(c)$ is the speaker coordinate of c, $\text{ADDR}(c)$ is the addressee coordinate of c and $\text{WORLD}(c)$ is the world coordinate of c.

(64) a. I am hungry
      b. $[\lambda c_i \lambda i_k$ [[1st c_i] ~~am~~ [hungry i_k]]]]
      c. $[\![$ hungry $]\!]^g = \lambda i \lambda x.\ x$ is hungry in WORLD(i)
      d. $[\![$ (64b) $]\!]^g = \lambda c \lambda i.$ AUTH(c) is hungry in WORLD(i)

Adopting the truth convention given in (65), (64a) is predicted to be true in context c iff the speaker of c is hungry in the world coordinate of c (at the time coordinate of c).

(65) **Truth Convention.** If ϕ is an LF of sentence S uttered in context c and if g_c is the assignment function that represents the 'referential intentions' of the speaker of c, ϕ is true relative to c iff $[\![\phi]\!]^{g_c}(c)(c) = 1$.

We assume that attitudes in general quantify over objects as fine-grained as contexts.

(66) a. John believes that I am hungry.
      b. $\lambda c_i \lambda i_k$ [John [believes i_k] $[\lambda i_{k'}$ [[1st c_i] ~~am~~ [hungry $i_{k'}$]]]]
          $\underbrace{\phantom{[\lambda i_{k'} [[1st c_i] am [hungry i_{k'}]]]}}_{\phi}$
      c. $[\![$[believe i_k] $\phi]\!]^g = \lambda x. \forall i' \in$ DOX($x, g(k)$) : $[\![\phi]\!]^g(i') = 1$
      d. $[\![\phi]\!]^g = 1$ iff $\forall i' \in$ DOX(J., $g(k)$) : AUTH($g(i)$) is hungry in WORLD(i')
      e. $[\![$ (67b) $]\!]^g = \lambda c \lambda i. \forall i' \in$ DOX(J., i) : AUTH(c) is hungry in WORLD(i')

Applying the Truth Convention, then, (66a) is predicted to be true in context c iff every center i compatible with what John believes in WORLD(c) (at TIME(c)) is such that the speaker of c is hungry in WORLD(i) (at TIME(i)).

Regarding attitudes that allow indexical shift, we simply assume that these introduce a context abstractor in their clausal complement on top of the index abstractor that is already projected by the embedded predicate. The presence of this new context abstractor then allows for indexical shift if the indexical expressions are bound by it. For example, on the pretense that *believe* is a context-shifter, the LF of (66a) is the one given below.

(67) a. John believes that I am hungry.
      b. $\lambda c_i \lambda i_k$ [John [believes i_k] $[\lambda c_{i'} \lambda i_{k'}$ [[1st c_i] ~~am~~ [hungry $i_{k'}$]]]]
          $\underbrace{\phantom{[\lambda c_{i'} \lambda i_{k'} [[1st c_i] am [hungry i_{k'}]]]}}_{\phi}$
      c. $\lambda c_i \lambda i_k$ [John [believes i_k] $[\lambda c_{i'} \lambda i_{k'}$ [[1st $c_{i'}$] ~~am~~ [hungry $i_{k'}$]]]]
          $\underbrace{\phantom{[\lambda c_{i'} \lambda i_{k'} [[1st c_{i'}] am [hungry i_{k'}]]]}}_{\phi}$
      d. $[\![$[believe i_k] $\phi]\!]^g = \lambda x. \forall i' \in$ DOX($x, g(k)$) : $[\![\phi]\!]^g(i')(i') = 1$
      e. $[\![$ (67b) $]\!]^g = \lambda c \lambda i. \forall i' \in$ DOX(J., i) : AUTH(c) is hungry in WORLD(i')
      f. $[\![$ (67c) $]\!]^g = \lambda c \lambda i. \forall i' \in$ DOX(J., i) : AUTH(i') is hungry in WORLD(i')

Now, going back to BAI-related data, the first thing to note is that, unlike the operator-based approach, the binding-based approach needs to be supplemented with auxiliary assumptions to make predictions to begin with. To see this consider example (68) taken from Section 4.

(68) **[Sajjad to Qazal:]** Leila be Mina goft Sajjad azat asabanie.
    L to M told S from-2sg angry.is-3rd
    ✓**Reading 1:** 'Leila told Mina$_j$ that Sajjad is angry at her$_j$'
    ✗**Reading 2:** 'Leila told Mina that Sajjad is angry at Qazal.'

To account for how indexical shift bleeds BAI in (68) within the binding-based approach the proper noun needs to be replaced with the first person pronoun. But notice that this is not enough; we also need to decide which context-abstractor should bind the introduced first person pronoun. Put differently, the question is whether the LF of (68), sketched in (69), should be taken to compete with (69a) or (69b). (For simplicity,from now on index variables / abstractors are ignored.)

(69) $[\lambda c_1$ L told M $[\lambda c_2$ S is angry at [2nd c_2]]]
    a. $[\lambda c_1$ L told M $[\lambda c_2$ [1st c_2] is angry at [2nd c_2]]]
    b. $[\lambda c_1$ L told M $[\lambda c_2$ [1st c_1] is angry at [2nd c_2]]]

Three potential decision-procedures come to mind. First, working our way backwards, notice that for (68) to be acceptable we need to make sure that it competes with (69a). In (69b) the introduced first person pronoun is bound by the matrix context-abstractor and, therefore, refers to the actual speaker; this LF is predicted to block (68) via BAI. Now, the difference between (69a) and (69b) is that in the former the first person indexical is bound *locally* while in (69b) it is bound by the matrix abstractor. So one idea is to encode a preference for local binding.

(70) In computation of BAI-alternatives, introduced indexicals must be bound by the closest context-abstractor.

Notice that adopting (70) is tantamount to hard-wiring a preference for the shifty interpretation of the introduced indexicals. As a result of this, it should be clear that the cases where indexical shift bleeds BAI are now captured with no problem: a third person NP embedded under *goftan* can refer to the actual speaker / addressee with no problem because if it is replaced with an indexical pronoun, that pronoun will be shifted automatically and will fail to refer to the actual speaker / addressee, thereby generating a distinct reading. One immediate problem that (70) faces, however, is that it is too restrictive when it comes to cases where indexical shift might *feed* BAI. As pointed out in Section 6, indexical shift feeds BAI, generating unacceptability *only if it is made obligatory* (i.e., optional indexical shift does not feed BAI). To see the problem, consider the following example from in Section 6.

(71) **[Sajjad to Qazal:]** Leila$_i$ be Mina goft ~~pro~~$_i$ asabanie.
    L to M told pro angry.is
    'Leila told Mina that she is hungry.'

This sentence, which is in fact impeccable, is now ruled out by (70) because the third person pronoun can be replaced with the first person and (70) would have the latter bound by the context variable introduced by the predicate, meaning that the introduced indexical is shifted to refer to the reported speaker. The resulting LF would then block the original LF via BAI on the assumption that BAI is blind to

de re / de se distinction, as argued in the previous section.

The second option is to capitalize on the idea of charity: there is at least one way to disambiguate (69) which results in an LF that does *not* block (68) through BAI. We could stipulate that this is enough to make (68) felicitous.

(72)   Suppose ϕ competes with ψ and the latter can be disambiguated in different ways. If there is at least one grammatical LF of ψ which does not block ϕ through BAI then ϕ is acceptable.

Much like (70), this analysis can capture the facts pertaining to how indexical shift bleeds BAI, but it can also capture the acceptability of (71), as the reader can verify. Evidence against (72) comes from cases like the one below.

(73)   Leila be Mina goft barat   ketab xaride.
           L   to M   told for-2sg book has.bought-3sg
           ✗ **Reading:** 'Leila$_i$ told Mina$_j$ that she$_i$ bought her$_j$ a book.'

The problem here is that the alternative constructed by replacing the third person pronoun with the first person and co-indexing the latter with the *matrix* context-variable results in a (grammatical) LF that does *not* block this sentence through BAI. Consequently, (72) would predict acceptability, contrary to fact.

Third, and finally, notice that in (69) the first person pronoun is clause-mate with a shifted indexical, namely the second person pronoun. As already discussed in Section 1 the major problem the binding-based approach is that it cannot account for SHIFT TOGETHER. If it could, then we would automatically predict (69a) to be the LF that we need to consider. So one way to approach the present problem is to reduce it to the latter: in effect, the idea here is that any modification to the binding-based approach that allows it to come to grips with SHIFT TOGETHER will allow it to capture the BAI related data as well.

(74)   In the computation of alternatives, all introduced indexicals must obey SHIFT TOGETHER.

Similar to analysis (70), this analysis can capture the data in sections 4 and 6. However, in cases where there is no indexical in the sentence other than the first person introduced by BAI, we are back to square one: which context should the first person be co-indexed with? As there is no other indexical by assumption, (74) does not make any predictions. Now, one moral of the discussion in the previous sections was that while indexical shift can rescue LFs from BAI violations, it does not force such violations. Consequently, we can effectively combine (74) with (72) as follows.

(75)   a.   In the computation of alternatives, all introduced indexicals must obey SHIFT TOGETHER.
           b.   If there is at least one grammatical LF of ψ which obeys SHIFT TOGETHER but does not block ϕ through BAI then ϕ is acceptable.

As the reader can verify, this analysis can capture all the data so far discussed in

the paper within the binding-based approach. It supports the conclusion that any version of the binding-based approach which can capture Shift Together can capture the BAI-related data as well if it is coupled with a principle of charity along the lines of (72). I would like to finish this section by pointing out a final data point that casts doubt on this conclusion.

(76) a. *Context: it is common ground that Leila's only brother is Ali.*
      b. # **[Ali:]** Leila goft baradaresh   goshnas.
                      L   said brother-3sg hungry-is
          Intended: 'Leila said that her brother is hungry'

Here we have a third person possessive NP, *her brother*, which I will assume is referential, and which embeds a third person pronoun. The sentence is odd, a fact that follows from the operator-based approach and BAI immediately. To derive the unacceptability of this sentence we need to make sure that BAI rules out both the parse of (76), with the context-shifting operator and the parse of it without the context-shifting operator.

(77) a. Leila said her brother is hungry
      b. Leila said OP her brother is hungry

The latter is ruled out because of the embedded third person pronoun, effectively in the same manner as the data discussed in Section 6. The former is also ruled out: the complex NP itself refers to Ali by contextual assumptions (indeed, the sentence is quite acceptable if it is not part of the background assumptions that Leila's only brother is Ali), therefore the LF is contextually equivalent with the alternative that is derived by replacing the whole possessive NP with the first person pronoun.

   How does the binding-based approach deal with this data point? To see the prediction, note that as there is no indexical other the first person introduced by BAI, (75) effectively boils down to (72): if we can find at least one competing LF that does not block the sentence through BAI, the sentence is predicted, incorrectly, to be felicitous. In fact, we can find two.

(78) a. $[\lambda c_1$ L said $[\lambda c_2$ [1st pro$_2$] is hungry]]
      b. $[\lambda c_1$ L said $[\lambda c_2$ [[1st pro$_1$]'s brother] is hungry]]

In (78a) the whole NP *her brother* is replaced with a first person pronoun which is shifted to refer to Leila. Clearly this LF does not block (76) as the two have two entirely different meanings. The same applies to (78b) in which the third person pronoun is replaced with a first person pronoun which is not shifted. Again we get a meaning that is very different from that of (76).

   I conclude that the data point in (76) in particular is a significant problem for the variable-based account, but as far as I can see the operator-based account accounts for all the data discussed in the paper.[26]

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[26]A potential response on the part of binding-based theorist would be post that third person features are indexical as sketched in fn. 6. If so, then the LF for (76b), assuming Shift Together, would be one of the following, with two third person features represented in the syntax, one for the embedded pronoun and one for the whole possessive.

8 Generalizing across sortal domains

In this section, I will briefly discuss the case of locative and temporal adverbials. The goal is to see whether the indexical expressions in these categories follow the same pattern as indexical pronouns discussed above.

To begin with, let us note that locative and temporal adverbials in Farsi are subject to SHIFT TOGETHER much like indexical pronouns. This is established by the following examples. In (79b), for instance, the indexical *diruz* (yesterday) must shift if the first person pronoun shifts (and vice versa). In (79a), the same point is made with the indexical *inja* (here).

(79) a. Un ketabe ke, vaghti Paris boodim, Leila goft az inja
          The book that when Paris were-1PL L said from here
          xaridam ine.
          bought-1SG this-is.
          'The book that, when we were in Paris$_j$, Leila$_i$ told me she$_i$ bought there$_j$ is this one.'
      b. Un ketabe ke, dafeie pish ke didimesh, Leila goft
          The book that time previous that saw-1PL-3SG, L said
          dirooz xaridam ine.
          yesterday bought-1SG this-is
          'The book that, last time that we saw Leila$_i$, she$_i$ told us that she bought the day before is this one.'

Next, let us note that in Farsi, as well as in English, the term *Monday* (*doshanbe* in Farsi) cannot be used synonymously with *today* if the utterance is made on a Monday.

(80) *Context: The conversation is taking place on a Monday.*
      a. Has Leila arrived already?
          Leila reside?
      b. Yes, she arrived {#Monday morning, today morning}.
          Are, {#doshanbe sobh, emruz sobh} resid.

Constructing similar examples with the indexical *here* is more complicated due to the fact that the meaning of this expression is usually underspecified; *here* could mean this room, this building, this city, this country, and so on. That said, the following discourse can be used to motivate the claim that a location-referring

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(i) a. [λc_1 Leila$_i$ said λc_2 [[3rd c_1] [[3rd c_1] pro$_i$]'s brother] is hungry]
     b. [λc_1 Leila$_i$ said λc_2 [[3rd c_2] [[3rd c_2] pro$_i$]'s brother] is hungry]

The third person feature on the possessive NP in the former LF triggers the presupposition that whoever the possessive refers to is not the actual speaker, which generates oddness in the target context. The third person feature on the embedded pronoun in the latter LF, in turn, triggers the presupposition that whoever that pronoun refers to, i.e., Leila, must not be the reported author (*modulo* the familiar *de re / de se* distinction), which, again, is falsified. Both LFs are, then, ruled out and the sentence is correctly predicted to be infelicitous by the binding-based approach. Many thanks to P. Schlenker for bringing this analysis to my attention. Note that this analysis has to cope with the problems mentioned in fn. 6.

term cannot be used in a context in which it would be unquestionably synonymous with *here*.

(81)   *Context: Amir is having a sandwich in a less-than-fancy street-food joint in Tehran, called Zapata. Mina walks in...*

    a.   **Mina:** Where is Leila?
       Mina: Leila kojast?

    b.   **Amir:** She came {#to Zapata, (in) here} a few minutes ago to buy a sandwich.
       Amir: Hamin alan umad {#Zapata, inja} ie sandevich begire.[27]

The next step is to verify that a non-indexical adverbial can be used to refer to the actual location or time of utterance if it is embedded in a context-shifted environment. The following examples show that this is indeed the case.

(82)   *Context: The conversation is taking place on a Monday.*

    a.   Chera bahash   vasate hafte qarar   gozashti?
       Why   with-3SG middle week meeting put-2SG
       'Why are you meeting her in the middle of the week?'[28]

    b.   Khodesh goft faqat doshanbe vaght daram.
       SELF-3SG said only Monday   time have-1SG
       'She herself told me that she only has time on Monday.'

(83)   *Context:Tthe conversation is taking place between Amir and Mina in a less-than-fancy street-food join in Tehran, called Zapata.*

    a.   **Mina:** Chera ba   Leila inja qarar   gozashti?
                  Why   with Leila here meeting placed-2SG
       'Why are you meeting Leila here?'

    b.   **Amir:** Khodesh goft mixam   biam   Zapata!
                 SELF-3SG said want-1SG come.INF-1SG Zapata
       'She told me herself that she wants to come here.'

The final step is to verify that a non-indexical form cannot be used to refer to the reported location or time of utterance, if it is embedded in a context-shifted environment. I have not been able to construct an adequate example with locatives; there always seems to be a potential confound, due ultimately to the under-specificity of *here*. But the following example provides evidence that the generalization holds at least for temporal adverbials.

(84)   a.   *Context: The addressee has a regular appointment with his doctor on Mondays.*

    b.   #hafteie pish, aghaie doktor behet goft doshanbe ba'd az   zohr
       Week last, mr.   doctor to-2SG said Monday   after PREP noon

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[27]Note that the *Zapata*-variant of the example becomes fully acceptable if Mina, instead of walking in, is somewhere else and calls Amir on the phone.

[28]The reader should keep in mind that in Iran the week starts on Saturday.

ba ki qarar daram?
with who meeting have-1SG
'Last week, who did the doctor tell you he has a meeting with on the Monday afternoon?'

I conclude that non-indexical adverbials are subject to the same constraints as third person NPs: (i) expressions in neither category can be used to refer to the coordinates of the actual speech context, unless embedded in a context-shifted environment, and (iii) expressions in neither category can be used to refer the coordinates of the reported speech context if embedded in a context-shifted environment.

9 Conclusion

In this paper, the predictions made by a *prima facie* plausible competition-based principle pertaining to the use of non-indexical noun phrases in conjunction with the phenomenon of indexical shift were made explicit and corroborated, building on data from Farsi. For the most part, no modification, be it on the part of the competition-based principle or the standard account of indexical shift, was required to capture data. However, certain problematic cases involving the 'anti-logophoricity' requirement of non-indexical NPs in context-shifted environments, motivated a modification to the competition-based account. As a result of this modification, the principle no longer encodes a bias in favor of indexical expression on the basis of the meaning of the alternative utterances at root; rather, it encodes a local requirement to use an indexical NP if it happens to be covalued with a non-indexical alternative, given the particular syntactic configuration. This move brings the principle one step closer to binding theory, understood as a set of constraints that regulate the distribution of referential expressions. Interestingly, it was also noted that the same pattern can be constructed on the basis of temporal and locative adverbials. This latter finding opens up several avenues for future research. Here, I will mention two.

First, extrapolating on the basis of indexical pronouns and third person NPs, one might think that the nature of the competition is 'featural' in the sense that indexical pronouns are preferred to non-indexical NPs because first and second person features are marked while the third person is not. The finding that, whatever the nature of the competition may be, it applies to (non-)indexical adverbials strongly suggests that, *contra* the view just sketched, the competition is between indexical expressions as such and their non-indexical counterparts. Yet the question remains open, why is it that indexical expressions as such are preferred?

Second, It is well known that in Free Indirect Discourse, there is a striking asymmetry between indexical (tense and) pronouns, on the one hand, and indexical adverbs on the other; specifically, in Free Indirect Discourse temporal and locative adverbials are interpreted with respect to the context of *reported* speech / thought, i.e., are shifted, while indexical (tense and) pronouns maintain their reliance on the actual context of utterance / thought, i.e., cannot be shifted. This raises

two questions. First, do indexical and non-indexical expressions compete in Free Indirect Discourse in the same way that they do in normal discourse? Second, if so, does this competition apply to indexical pronouns and adverbials uniformly or not? This line of investigation, coupled with the findings of this paper, promises to provide some insight both into the semantics of indexical pronouns and adverbials and the nature of mechanisms that underly indexical shift on the one hand and Free Indirect Discourse on the other.

A   Exceptions to the Ban Against Illeism

In this appendix several apparent counter-examples to the generalization introduced in (3), repeated below for easy reference, are discussed. My conclusion based on the following (admittedly sketchy discussion) is that none of these cases threaten the substance of the discussion in the paper although some of these cases merit closer scrutiny in the connection to the claims made in the paper.

(85)   Using third person NPs to refer to the speaker or the addressee of the utterance is unacceptable.   (= (3))

First, (3) can be obviated when the relevant material is quoted, compare (1b) and (2b) with the corresponding sentences in (86). It should be clear that (3) is meant as a constraint on how NPs are *used*, not *mentioned*.

(86)   a.   **[Jimmy:]** Elaine said, "Jimmy is hungry".
        b.   **[Jimmy to Jerry:]** Elaine said, "Jerry is an idiot".

Second, (3) does not apply to non-referential uses of noun phrases. This includes in particular the predicative uses of post-copular proper nouns, such as that in (87). As (3) only pertains to NPs that refer to individuals, felicity of this kind of example is not relevant to it.

(87)   **[Jimmy:]** My name is Jimmy.

Another type of example based on nominal appositives is given in (88).[29] Putting aside the fact that such constructions are not naturally used in day to day discourse, I believe in the last analysis they can be plausibly assimilated either to examples like (86) or (87).

(88)   **[Jimmy to Elaine:]** I, Jimmy, take thee, Elaine, as my lawfully wedded wife.

Third, identity statements pose an interesting contrast. Cases like (89a), which amount to *nominal* identification, escape (3) while cases line (89b), which amount to *individual* identification, do not. It seems plausible that (89b) should be taken as baseline and (89a) be considered acceptable for orthogonal reasons, perhaps

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[29]Thanks to Amy Rose Deal (p.c.) for bringing this type of example to my attention.

analogous to (87) (e.g., the felicitous interpretation of (89a) might amount to something like *I am the person whose name is Jimmy*).

(89) a. **[Jimmy:]** I am Jimmy.
      b. # **[Jimmy:]** this$_\pi$ is Jimmy.
             (π : pointing at one of several children in a photograph)

Fourth, and finally, *imposters* (Collins & Postal 2012) can be defined as a first approximation as those NPs that violate (3) *by design*; that is, those grammatically third person NPs that *specialize* in referring to the speaker / addressee of the utterance, as illustrated in (90a) and (90b).[30] The felicitous uses of proper nouns to refer to the actual speaker / addressee, such as (90c), presumably fall in the same category.[31]

(90) a. *Yours truly* practically screamed {her, *my} tonsils off.
      b. {Is, *are} *your highness* hungry?
      c. **[Nixon:]** You don't have Nixon to kick around anymore.

The potential relevance of imposters to the present discussion depends ultimately on one's analysis of their representation and interpretation (see Collins & Postal 2012 for a syntactic proposal and Podobryaev 2014 for a semantic one). For example, according to Collins & Postal's analysis, which is inspired by examples like (88) discussed above (referred to by Collins & Postal as 'imposter precursors'), the underlying (presumably LF) structure of (90c) already contains a first person pronoun. If so, then the gap between the surface form of these constructions (which lacks overt indexicals) and their underlying representation (which contains semantically interpreted indexical locutions) makes it non-trivial to see what prediction (3) makes in such cases. I have to leave this task to future research.

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[30] I am grateful to audiences at NYU Semantics Group for bringing the potential relevance of imposters to my attention.

[31] Collins & Postal explicitly categorize proper nouns as imposters but fail to discuss the fact that although proper nouns can be used felicitously as imposters in certain cases, it is in general infelicitous do use them as such, cf. (1a) and (90c) (see also fn. 3). A *prima facie* plausible assumption is that the 'imposterous' uses of proper nouns involve a particular mode of representation which, for unknown reasons, is not always available.

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