Indexicality: de se anaphora in discourse

Lecture 2:
Limitations of the Anaphoric Approach to Indexicality

Last time we considered some central features of demonstratives and indexicals, and began to explore problems these data present for the direct reference account due to Kaplan (1977), and a closely related anaphoric presupposition approach deriving from the work of Heim and developed in the approach to demonstratives due to Roberts (2002). Here we introduce further data, pertaining to the meaning of number and to the possibility of bound readings for indexicals. Today we’ll focus on 1st and 2nd person pronouns.

5. Characteristics of indexicals, Part iii (continued from Lecture 1)

F. The meaning of the 1st and 2nd person feature in pronouns

Last time we considered evidence that 1st and 2nd person indexicals always lead to a de se interpretation, meaning that they are understood to be self-ascriptive.

There is one other piece of linguistic evidence that indexical pronouns are lexically self-ascriptive. Wechsler (2010) observes that without exception across a broad variety of surveyed languages 1st and 2nd person pronouns have an associative semantics for their plural forms. That is, their plural forms are never interpreted to mean that there is a plural coreferential set of speakers (or addressees). Instead, it’s always understood that the denotation may include a possibly non-null complement to the speaker (addressee), so that the speaker (addressee) needn’t itself be plural. I.e. “there are no [plural] pronouns specialized for referring to ‘only addressees’ or ‘only speakers’.” This behavior contrasts sharply with other “phi features” of pronouns, including gender, number and case, which all display considerably greater flexibility and variation across languages. Wechsler further argues on the basis of a cross-linguistic search that conventional associative semantics is rare in other kinds of NPs, which would make the universal associative semantics for the indexical pronouns all the more striking. On the basis of this evidence, Wechsler proposes:

Wechsler’s (2010) associative universal:
It is a language universal that 1st and 2nd person plural pronouns are associative: Across all languages studied the counterparts of we or plural you are never to be understood as coreferential with a plural group of speakers or addressees, but instead only as including the indicated discourse participant (speaker or hearer). Apart from the plural indexicals, associative semantics is extremely rare across languages.
Anna Szabolcsi (p.c.) points out that associatives are not as rare as Wechsler would make out. For example, Hungarian non-pronominal plurals are associative (see Moravcsik 1994, 2003; Corbett 2000; Dékány 2011). Szabolcsi (p.c.) summarizes:

The Hungarian associative plural for non-pronominals is ék. Here é is roughly a possessive noun marker, as in mine, yours, John's, and k is the regular plural. The plural of Kati would be Katiik 'several people named Kati', whereas Katiék is 'Kati and her group' (which can be either Kati plus another person or Kati plus multiple people.

Hungarian also has another plural suffix. In contrast to Katiék, Katiéi means '(the) ones belonging to Kati', tieid means '(the) ones belonging to you'. Crucially, Kati herself is included in Katiék but not in Katiéi.

So Hungarian definitely has an associative plural for non-pronominals. My suspicion is that the plural pronouns mink, tik, ök 'we, you, they' are associative plurals (where mink is a variant of mi and tik a variant of ti). But this is an etymological question, whereas the ék-suffixation of names and singular definite descriptions (a tanárék, 'the teacher and his/her group') is fully productive.

See also work on (non-indexical) associative plural forms in Afrikaans (den Besten 1996), Bengala (Dayal 2012, 2014; Biswas 2014), Japanese (Moravcsik 2003; Nakanishi & Tomioka 2004), Mandarin (Jiang n.d.), several of the Slavic languages (Vassilieva 2005), and Yupik (Corbett & Mithun 1997). Thus, there is good reason to doubt that associative semantics is rare.

But even if Wechsler is wrong about the “rarity” of associative plurals, his associative universal, which so far as I know is correct, is still quite striking. Wechsler argues that the explanation for this striking language universal is that “reference to ‘addressee’ and ‘speaker’ is not directly distinguished at all within pronoun systems.” Instead, the person feature indicates self-ascription.

. . .the assignment function for a speaker and a pronoun marked [spk] assigns it to some entity whose constituent atoms include the speaker’s self-notion (\(n_{self}\)). The assignment function for an addressee and a pronoun marked [addr] assigns it to some entity whose constituent atoms include the addressee’s self-notion (\(n_{self}\)).

That is “the value of the person feature (1st /2nd /inclusive) indicates which speech-act participant self-ascripts, instead of indicating which speech-act participant the pronoun refers to” so that “self-ascription exhausts the person semantics of [you and I]” (2010:348).¹ He takes third person NPs to be unmarked for self-ascription, leaving open the possibility of use of NPs like this

¹ Kratzer (2009:203) notes that “a long line of researchers have emphasized that there really aren’t any “3rd person” features (see, e.g., Forchheimer 1953, Benveniste 1966, Zwicky 1977, Harley and Ritter 2002, Wechsler 2004). Technically, this might mean that there is no such thing as a 3rd person feature, and so-called “3rd person” inflections would be inflections that are merely unspecified for person. Alternatively, “3rd person” features might in reality be gender features, not person features.”
author or your honor to refer to speaker or addressee. Person isn’t about reference but self-ascription.

In support of his thesis, Wechsler discusses experimental work in psychology investigating the use of 1st and 2nd person pronouns by children in the early stages of language acquisition (up to about age 3½) and by children on the autism spectrum. Both classes of subjects have problems using and interpreting these pronouns properly. And both groups are now generally agreed to have either a not-yet-fully-developed or an impaired theory of mind, in the psychological sense of that term.

Summarizing the relevant experimental literature:²

...we find early PRODUCTION of first person and COMPREHENSION of second person, with other combinations developing later. One aspect of this pattern has appeared particularly mysterious. In language acquisition, comprehension normally precedes production, but for the first-person forms the order is reversed: ‘As Charney points out, the production of my without comprehension seems illogical. The children would only be able to produce my in self-reference if they had already understood other speakers’ use of my as self-referring’ (Chiat 1986:347).

But...this pattern of acquisition is exactly what is expected if the ability to self-ascribe precedes the mastery of theory of mind. During the period before theory of mind is in place, successful pronoun use is favored for the self-ascribers, that is, for the speakers producing I/my/mine and the addressees comprehending you/your/yours.

In contrast, on the standard view it was hard to see why the acquisition of these pronouns should proceed in exactly this order. If first- and second-person pronouns were designated as referentially anchored to ‘speaker’ and ‘addressee’ respectively, then that anchoring would apply equally regardless of whether one were producing or comprehending the utterance.

In one revealing study, Loveland (1984) investigated the developmental relationship between spatial point of view and correct use of I/you pronouns by means of a cross-sectional and longitudinal study of two-year-olds. Loveland concluded that ‘a breakthrough in pronoun use comes at about the time the child learns that points of view can differ’ (Loveland 1984:554), and specifically claimed that children master spatial point of view first, then apply it to pronoun comprehension and production.

Wechsler (2010:359-360)

In children with autism, there is “a special difficulty with the use of first- and second-person pronouns [involving the use of person], ‘to a degree that seems out of keeping with other aspects of their language development’ (Lee et al. 1994:156).” These children tend to reverse the person feature of these pronouns, referring to themselves as you and an addressee as I. This contrasts very clearly with pronoun-use errors in children with Down syndrome: While the autistic children had more problems with person reversal but only very rarely made a case error, the Down syndrome children showed the opposite pattern. In the psychological literature, this has been correlated with the autistic children’s inability to grasp the idea that other people have distinct “conceptual perspectives”. Again, this behavior is very difficult to explain on the standard theory of indexical pronouns: “On the standard theory of indexicals there is no need to

² Recent work by Moyer et al. (2014) is critical of the work by Charney summarized by Chiat, arguing that the experiments were poorly designed and underestimate normal two-year-olds’ ability to use 1st and 2nd person pronouns correctly. However, even if this is correct, the difference between the normal children and those with autism still seems to be accepted, so far as I know.
take the speaker’s perspective in order to understand their utterance of a first-person pronoun. All that one needs to know is (i) who is speaking, and (ii) that a first-person pronoun refers to whoever is speaking.”

Roughly, one might say that there is evidence that for normal children producing I is easy, but understanding it is hard; while understanding you is easy, but producing it is hard. And for children with autism, grasping the distinction between 1st and 2nd person is hard. Wechsler argues that this correlates with a failure to grasp the notion of self-ascription which is central to the meanings of these pronouns.

For the addressee to understand Mary’s use of the first person…he must infer Mary’s self-ascribed belief. He does so in roughly the same way that we as linguists have analyzed her utterance: he constructs a model of Mary’s belief state by applying the rules of the language. To construct a model of someone else’s belief state, an agent must exercise the human ability known as Theory of Mind, the cognitive ability to impute mental states to others and draw inferences from them (Premack & Woodruff 1978). Thus for an addressee to correctly interpret a first-person utterance requires theory of mind, while the speaker can interpret (and therefore produce correctly) her own first-person utterance without the need for theory of mind.

Similar reasoning applies to 2nd-person pronouns, only with the speech-act participants reversed…

Wechsler (2010:257)

Assuming Wechsler is right, there is nothing in the standard Kaplanian story about the Character of 1st and 2nd person plural pronouns that would lead us to expect or permit us to capture the self-ascription that underlies their associativity.

Here’s another observation that I believe supports Wechsler’s thesis that 1st or 2nd grammatical person indicates self-ascription, rather than ‘speaker’ or ‘addressee’ per se. As background, you should know that (in real life) Ernie Banks was a shortstop for the Chicago Cubs from 1953 to 1971. Leo Durocher was the Manager of the Cubs from 1966 to 1972. Now consider (56).

(56) [Context: In the amnesia scenario we consider last time, suppose that Durocher is Manager of the Cubs at the time Banks suffers his injury. Durocher visits him in his hospital room; he has been warned by the doctors not to tell Banks that he’s Banks. But they talk about the Cubs, and in particular about Banks’ current obsession with the great shortstop. Durocher comes out and says to the nurse:] Ernie thinks that we work well together.

Durocher’s statement is de se: As speaker, (56) commits him to self-locating as one of the individuals about whom Banks has the reported belief. But assuming that we is understood as ‘Durocher⊕Banks’, the utterance does not commit Durocher to claiming that Banks has such a de se commitment. That is, even though Banks is one of the entities denoted by we and we has a de se interpretation, that interpretation only commits the speaker Durocher to self-ascribing as an object of the belief. Generalizing:
Given an attitude report with a third person subject/agent and a plural first-person indexical in the complement, only the anchoring speaker need be *de se*.

This supports Wechsler’s contention that the pronominal number indicates the self-ascribing agent (e.g. speaker) and *not* the denotatum.

There has been a great deal more work in the past twenty years on the meaning of person features. One central vein pertains so so-called “fake indexicals”, those which have an apparent bound variable interpretation.

G. Fake indexicals

Both the direct reference account and the presuppositional pseudo-scope account of 1st and 2nd person, “pure” indexicals that we considered last time make a clear prediction: these pronouns cannot be bound. That is because on both those accounts these pronouns must be linked to the actual speaker or addressee—either by virtue of their Character or their anchoring presuppositions. But in fact, we do find apparent bound uses of these pronouns.

Partee (1989) noticed examples like (57), which display a strict/sloppy ambiguity in ellipsis:

(57) I won’t vote for myself unless John does.
    ‘if John votes for himself then I may vote for myself’  (sloppy)
    ‘if John votes for me then I may vote for me’  (strict)

The sloppy reading is usually assumed to involve the resolution of the ellipsis by abstracting over the subject of the main clause to derive a property, which property is then taken to be the antecedent of the elided VP. So to derive the sloppy reading in (57) we abstract on the subject in *I vote for myself* to derive \( \lambda x. x \text{ votes for } x \), which is then predicated of John. If instead *myself* is not treated as a bindable variable but as only rigidly denoting the speaker, then we derive \( \lambda x. x \text{ votes for } y, y \text{ the speaker; when this is predicated of John we get the strict reading instead.} \)

Heim (2008) observed a related phenomenon which arises when an indexical is the focused argument of a focus-sensitive operator such as *only*:

(58) Only I\(_F\) did my homework.
    ‘the only person who did her own homework was the speaker’  (sloppy)
    ‘the only person who did the speaker’s homework was the speaker’  (strict)

*Only* is generally assumed to have two implications, the prejacent implication (basically, the sentence without *only*) and an exclusive implication. For simplicity, take the prejacent to be presupposed.\(^3\) The exclusive implication is derived by abstracting on the focused constituent in

\(^3\) I don’t really think it is. For extended discussion of the extensive literature on this subject and presentation of Krsubtly different accounts see Beaver & Clark (2008), Roberts (2011).
the prejacent to form a property, which then serves to define the domain of only (the alternative-set of Rooth 1984): of all the contextually relevant entities with that property, none other than the value of the focused constituent has the property so-derived. So, e.g., Only [John] F came presupposes that John came and entails that of all the contextually relevant individuals y, none of them other than John has the derived property \( \lambda x. x \text{ came} \):

- prejacent: John came.
- exclusive: \( \forall y[\lambda x. x \text{ came}(y) \rightarrow y = \text{John}] \)

If the predicate includes a pronoun coreferential with the focused constituent, this leads to the possibility that that pronoun may be bound by the abstraction that determines the domain of only. So only [John] F did his homework presupposes that John did his homework and entails that of all the contextually relevant individuals, none of them other than John has the property denoted by \( \lambda x. \text{ did } x \text{'s homework} \). On the other hand, it is typically assumed that if John and his are not coindexed, but are “accidentally coreferential” (Reinhart’s 1984 term), then we derive the property \( \lambda x. \text{ did } y \text{'s homework} \), where \( y \) is John, i.e. the property of doing John’s homework. This yields the strict reading.

Hence sloppy readings are usually taken to involve lambda abstraction over the two NPs in question—in these examples I and myself/my. But that would assume that these arguments could have a variable interpretation, incompatible with the standard treatment of indexicals. The phenomenon has been addressed by a number of authors (Kratzer 1998b, 2009—who introduced the term fake indexicals; von Stechow 2003; Rullmann 2004; Cable 2005; Heim 2008; Maier 2009,2009b; Jacobson 2012), as summarized and discussed in detail in Sudo (2012:144ff).

Kratzer (1998) argues for an account of fake indexicals in which in the syntax—at both SS and LF—they are underspecified, lacking person features. Their surface person is determined during spell-out, roughly in PF, via agreement with functional features on the verbal inflectional head, which in turn must be compatible with features on the antecedent. Hence, in examples like those in (57) and (58), my and myself are underlingly simply underspecified pronouns, which may be straightforwardly bound. It is only in agreement, independent from interpretation,at LF, that they take on 1st person features.

But Kratzer (2009:214ff) also discusses another class of apparent “fake” indexicals, which occur non-locally and hence are not amenable to the agreement account just sketched. These include examples like the following:

(59) You are the only one who thinks that somebody understands your paper.

(60) Only you met somebody who speaks your language.

In each of these examples, the two 2nd person pronouns are not in the type of syntactically local relationship required to reasonably argue that there is indirect agreement between them. Since such examples cannot be addressed via agreement, she argues that they involve context shift, of the same sort as found in languages with shifted indexicals. She appeals to an account of context
shift due to Cable (2005), in which there is a special lambda operator that binds Kaplan-like contexts, shifting the values of speaker and addressee (Kratzer 2009:213):

indexical \( \lambda \)-operators bind 1st and 2nd person features. Numerical features are standard variables and receive their values from the variable assignment \( g \). 1st and 2nd person features are interpreted via the context index \( c \) and denote the speaker or addressee of \( c \). Neglecting the possible presence of number features like [singular]. . . 1st and 2nd person features are already pronouns. This property gives features bound by context shifters a leg up for morphophonological spell-out. Unlike numerical features, indexical features do not have to rely on feature transmission to acquire shapes. They are pronounceable pronouns from birth, and that’s what makes it so easy for them to become long-distance anaphora.

Note that on this account, in examples like (61) and its German counterpart in Kratzer’s (57a), abstraction over context in the restriction of only effectively yields universal quantification over contexts:4

(61) Only you\(_i\) met somebody who speaks your\(_i\) language.
    LF: you met somebody who speaks your language and
        \( \forall x. x \in C: \lambda[2^{nd}\] [2\(^{nd}\) met somebody who speaks 2\(^{nd}\)’s language](x) \rightarrow x = you

Insofar as this is supposed to be part of a general approach to the problem of shifting indexicals, it makes a prediction: We would expect to find shifted indexicals in embedded clauses where the subject of the embedding verb is quantificational.

But this raises an important question: Can indexical pronouns ever be bound?

H. Can indexical pronouns be bound?

There are two types of cases where I know of bound variable readings for indexical pronouns, one rather uncommon across languages and the other very common indeed.

Bound indexicals in shifted indexical languages:

The first occurs in a language with shifted indexicals, Llengua de Signes Catalana (LSC: Quer 2005,2011,2013), a sign language spoken in Catalonia. A number of sign languages have shifted indexicals, including American Sign Language (ASL: Lillo-Martin 1995, Kouidobrova & Davidson 2014, Schlenker 2014), Deutsche Gebärdensprache (DGS: Hermann & Steinbach 2012; Hübl 2013), Llengua de Signes Catalana (LSC: Quer 2005,2011,2013), Langue des Signes Française (LSF: Schlenker 2014), and Lingua dei Segni Italiana (LSI: Zucchi 2004). There are at least two classes of predicates in these languages in whose complements indexicals display shifted interpretations, e.g. 1\(^{st}\) person denoting someone other than the actual signer in the context of utterance. But the status and nature of the context shifting, and even whether it might,

---

4 This is greatly simplified from Kratzer’s LF in (57b), p.214, for ease of exposition. Please see her paper for important syntactic details. This LF is only intended to capture the logical form of the resultant LF.
in some of these sign languages, in one class or another, be a form of quotation instead of context shift, is still quite controversial (see Koulidobrova & Davidson 2014 and Schlenker 2014 for a recent extended discussion of the controversy, and Zucchi 2004, who would even make something of the fact that the indication of context-shifting in predicate complements and in direct quotation are so similar gesturally). But all the authors (and the data) seem to agree that there are some cases in (at least) ASL, DGS and LSC in which attitude predicates and verbs of saying have a non-quoted complement clause which clearly involves shifted indexicals. Consider the following LSC examples from Quer (2011):

\[
(62) \quad \text{IXa MADRID} \quad \text{MOMENT} \quad \text{JOAN} \quad \text{THINK} \quad \text{IX-1} \quad \text{STUDY} \quad \text{FINISH} \quad \text{HERE}^* \quad \text{RS-i} \\
\text{‘When he was in Madrid, Joan thought he would finish his study in Barcelona.’}
\]

\[
(63) \quad \text{YEAR-LAST} \quad \text{JOAN} \quad \text{DECLARE} \quad \text{IX-1} \quad \text{HERE} \quad \text{YEAR-THIS} \quad \text{STUDY} \quad \text{FINISH} \quad \text{RS-i} \\
\text{‘Last year Joan declared: ‘This year I’ll finish my study here’.’}
\]

As is usual in the notation of sign languages, the sign \textit{IX} is a pronoun, indexed with the locus of intended antecedent in the discourse space; this is represented by a particular location in the actual space around the signer, indicated simultaneously with the use of the pronoun (or other NP). The index \textit{I} is located at the signer, indicated by pointing toward herself. The over-lined segments are accompanied by special non-manual gestures: “\text{t}” indicates topicalization of the associated constituent, while “\text{RS-i}” indicates Role Shift to adopt the role of the agent indexed \textit{i}. Role Shift involves shifting eye gaze and, usually, body orientation in such a way as to iconically suggest that the signer has adopted that agent’s point of view (e.g., in some cases, directing her gaze toward the established indexed location for the agent’s addressee, instead of toward the actual addressee). In (62), there is Role Shift over the attitude predicate and its complement, indexed to the agent Joan, and accordingly the first person pronoun in the complement (with the signer pointing to herself) is understood to refer to Joan, not to the signer. But the locative indexical \textit{HERE} is anchored to the actual place of utterance, Barcelona, rather than to the location of the reported attitude. This contrasts with (63), where the 1st person pronoun is shifted to refer to Joan, but the sign for ‘this year’ may either be anchored to the actual year of utterance or to the time of Joan’s reported attitude.\(^5\) LSC 1st and 2nd person pronouns obligatorily shift in these contexts (per Quer 2013), while locative indexicals do not. The interpretation of \textit{NOW} as the time of the actual utterance rules out a direct quotation analysis of (62); while the possibility of interpreting \textit{YEAR-THIS} as the year of the actual (not the reported) utterance similarly rules out a direct quotation analysis for (63). There is also syntactic

\(^5\) In ASL, Koulidobrova & Davidson (2014) note a difference in scope of RS in the counterparts of examples like (62), where it extends over the embedding predicate, and those like (63), where it does not; they take this as evidence of a different status of the two kinds of examples. However, Quer (p.c.) says that LSC signers do not make the distinction Koulidobrova & Davidson discuss, spreading over the predicate in the non-speech verb class. And Quer (2013) reports examples like the following (his (33)):

\[
(i) \quad \text{SOME THINK CAN IX-1; EXAM FAIL} \\
\text{‘Someone, may think he, has failed the exam.’}
\]

Here RS is over the complement of \textit{think}, but the main clause also contains the modal \textit{CAN}. In this case, the RS does not extend over the embedding predicate.
evidence that Role Shifting is non-quotational in LSC; for example, direct quotations can be topicalized in LSC, but complements with shifted indexicals cannot.

Sign languages differ in how they realize shifted indexicals. DGS is similar to LSC in permitting mixed indexical interpretations: Hübl (2013) reports on experimental work verifying that 1\textsuperscript{st} and 2\textsuperscript{nd} person indexicals are obligatorily shifted in the scope of RS in DGS, whereas \textit{HERE} never shifts unless explicitly modified to do so (like \textit{HERE (in) MADRID} in (62)), but the DGS counterpart of \textit{YEAR-THIS} optionally does. In contrast, Schlenker (2014) reports that in LSF all indexicals obligatorily shift, including not only 1\textsuperscript{st} and 2\textsuperscript{nd} person, but ‘here’; however, in LSF, a quotational analysis cannot be ruled out on purely syntactic grounds. ASL doesn’t seem to display the kind of mixed shifting just illustrated in (62), but \textit{wh}-extraction is allowed from the relevant complement clauses, arguing that these complements aren’t interpreted as direct quotes (or at least, not purely so—see Maier (to appear) for a “mixed quotation” analysis).

Koulidobrova & Davidson (2014) report that in ASL, shift is obligatory with 1\textsuperscript{st} person under verbs of saying marked with RS, but optional under attitude predicates so-marked. Summarizing, the situation is complex and differs from one sign language to another, as we might expect—why should ASL be any more like LSF than English is like Amharic? But it is clear that there is some authentic indexical shifting going on.

Preliminary evidence suggests that shifted indexicals may not take quantificational nominals as antecedents in some, if not most languages that permit shifted interpretations.\textsuperscript{6} To clarify what’s at issue, here is an example from the one language where I find that such a construction \textit{is} reported, LSC:

\begin{center}
\begin{tabular}{c}
(64) PUPIL ALL\textsubscript{t} THINK\textsuperscript{\textasciitilde{SEE}}.refl IX-1\textsubscript{eg:1}, INTELLIGENT SUPERLATIVE \eg:front
\end{tabular}
\end{center}

\begin{center}
\begin{tabular}{c}
\textquoteleft Every pupil thinks that he is the most intelligent.\textquoteright
\end{tabular}
\end{center}

\begin{center}
\begin{tabular}{c}
(65) NOONE\textsubscript{t} SAY IX-1\textsubscript{AGR-1} SCARED DARKNESS
\end{tabular}
\end{center}

\begin{center}
\begin{tabular}{c}
\textquoteleft Noone says he’s scared of darkness.\textquoteright
\end{tabular}
\end{center}

Each of these involves RS over the complement, accompanied by shifted eye gaze. While uttering the embedded 1\textsuperscript{st} person pronominal IX-1, gaze is shifted away from the addressee downward toward the chest of the signer; then back to the front. As the glosses make clear, the quantificational subjects bind the variable which is the antecedent for the 1\textsuperscript{st} person pronoun.

But so far as I have been able to discover, this type of example is unattested in any of the other relevant languages in which shifted indexicals have been studied. Deal (2013) claims that such a construction is not grammatical in Nez Perze. In Tamil, a language spoken in south India and Sri Lanka, while the 1\textsuperscript{st} person subject agreement marker on an embedded verb may take as anchor the 3\textsuperscript{rd} person subject of an embedding verb ‘say’ (with the usual grammatical evidence from extraction that this is not direct quotation), this shifted reading is not possible if the matrix

\begin{center}
\footnotesize{\textsuperscript{6} Unfortunately, the data on this matter seem to be preliminary in most cases except Nez Perze and LSC. A lot more fieldwork is needed before any clear pattern emerges.}
\end{center}
subject antecedent is itself quantificational as in (64) and (65) (B. Chandrasekaran, p.c.). Even if it turned out that anchoring an indexical to a quantificational antecedent in shifted contexts is possible in some languages, it would still have to be explained why it is not generally possible.

All the theories of shifted indexicals I’m familiar with, including the Cable/Kratzer proposal sketched above, make such binding possible in principle, though this has not been generally recognized. For example, consider the “shift-together” accounts in Anand & Nevins, Deal and Sudo; in these, the shift promoted by an intensional predicate is not sensitive to whether the subject of the shift-triggering attitude is itself quantificational. Then in examples like (64), since under any assignment $g$ of values to the arbitrary pupil $x_i$, and in any CS-compatible world $w$, $g(x_i)(w)$ is the agent of the shifted center, nothing would block the interpretation suggested.

Note that, as Kratzer noted, the rarity of quantificationally bound indexicals is problematic for accounts that treat indexical pronouns as regular pro-forms; while it is what we would expect on the direct reference account.

So in most of the languages with shifted indexicals where the question has been investigated, it seems that they cannot be bound by quantificational matrix subjects. Yet, there is another phenomenon where indexicals do seem to regularly receive a bound interpretation.

**Indexicals in distributive predicates, Imposters:**

Another kind of example where we find what appear to be bound interpretations of indexicals is very common in English, and I suspect available in other languages, though I haven’t seen discussion in the literature about these particular features of the relevant examples. Consider:

(66) Wei (each) plan to devote ourselves$_i$ to the study of ecology.

Even without overt *each*, (66) has the reading where each of the members of the group denoted by the subject (which includes the speaker) has a plan of the relevant sort. The only possible antecedent for the reflexive is the subject.

In the logical form of a distributive predicate (Link 1979), there is either an overt adverb like *each* above or a distributive operator that universally quantifies over the atomic sub-parts of the plural subject, as in this LF for (66):

$$[\text{plan to devote ourselves$_i$ to ecology}]^D (\text{we$_i$})$$

where the distributive operator $D$ is roughly: $\lambda P. \lambda x. \forall y \leq_{i\text{-part}} x [P(y)]$

i.e. $D$ takes a predicate $P$ and a group-denoting argument $x$ and yields the proposition that every individual-part of $x$ (its atomic members) has $P$

In order to get the attested interpretation of (66), $P$ must effectively be ‘the property of devoting oneself to ecology’. That is, the subject and object of *devote* must co-vary to yield the distributed property, which then holds of each of the speakers. So in this case, $\text{themselves}$ is bound to the subject position occupied by the indexical *we*.
Many of the examples in Collins & Postal (2012) are also of this type. Collins & Postal are interested in **imposters**, cases where the notional person of a DP isn’t the same as its grammatical person: either a grammatically 3rd person pronoun is notionally 1st or 2nd person, or a grammatically 1st or 2nd person pronoun is notionally 3rd person. Consider:

- **1st person reflexives with 3rd person antecedents:**
  - (67) In this reply, the present authors1 (=the writers of the reply) attempt to defend our1 colleagues/their1 colleagues against the scurrilous charges which have been made.\(^7\)
  - (68) The present authors/Francine and the present author plan to devote ourselves to ecology.
  - (69) Daddy and Mommy will behave ourselves/?themselves in the Bahamas.

- **1st person reflexives whose antecedents are 3rd person partitives with a 1st person domain set**
  - (70) b. Each of us is proud of our accomplishments.\(^8\)
  - c. Each and every one of us thinks of ourself as the hero in our own story.

- **Note that a singular 3rd person cannot (for most speakers) antecede a non-3rd person reflexive**
  - (71) a. Daddy is enjoying himself/*myself.
  - b. Yours truly will only vote for himself/*myself.
  - c. This reporter sees himself/*myself as managing editor in the future.
  - d. This reporter will never himself/*myself agree to that.
  - e. This reporter has never perjured himself/*myself.
  - f. The baroness should take better care of herself/*yourself.

(67) has a non-distributive interpretation but (68) has a distributive interpretation: That is, in the latter we can only understand the predicate as holding of each member of the set of authors independently (each must make her own commitment), whereas in the former the authors may undertake their defense jointly. Interestingly, I find it quite felicitous to replace our in (67) with their, while that is not felicitous for me in (68). This is not something Collins & Postal discuss.

The examples in (70) involve 3rd person partitive antecedents; here the quantified subject gives rise to predicating the predicate of each member of the domain, the equivalent of a distributive interpretation over that domain: each member of the domain given by us must have the property denoted by the predicate; in each of these, again, I find his/himself acceptable in place of our/ourself.

So there is a range of examples involving distributive interpretations, the distributivity arising from either a quantificational subject (the partitive) or an explicit (each) or implicit (D) adverbial operator on the predicate, that force a bound interpretation on what looks like an indexical pronoun in the predicate. I haven’t read about such readings in other languages, but I would be very surprised indeed if they did not occur quite regularly.

---

\(^7\) This example was modified by changing ourselves/themselves to our/their theory, following a suggestion from Jim Pryor (p.c.), to it clear that the de se reading doesn’t come from a reflexive.

\(^8\) Again, changed slightly to get rid of a reflexive.
One more thing to note: Consider ordered pairs with subjects which may be understood as 3rd person imposters, where the indexical in the predicate can be felicitously replaced with a 3rd person pronoun with the same features otherwise:

(67) In this reply, the present authors\textsubscript{1} think that we have successfully defended our\textsubscript{1} colleagues against the scurrilous charges which have been made.

(72) In this reply, the present authors\textsubscript{1} think that they have successfully defended their\textsubscript{1} colleagues against the scurrilous charges which have been made.

In (67) the present authors can only have the imposter interpretation, with a de se understanding of the predicate: the speaker/authors are aware of defending themselves. But while that reading is available in (72), there is another possible, where the subject is notionally 3rd person: I think I can get an Ernie-Banks non-de se interpretation of (72), wherein I’m reporting about the authors, now amnesiac due to a regrettable accident in with both received concussions. They read their own work in the hospital, but do not recognize it as such; they also read an exchange between the authors (their erstwhile selves) and some critics, and decide that the authors have prevailed in the debate.

There is a great deal more to be said about Collins’ and Postal’s account, and especially about their dismissal of the possibility of accidental coreference (without coindexation), based in turn on a thoughtful account of the relationship between coindexation and coreference. Time permitting, we’ll come back to consider these topics at greater length later.

One more bit of background:

I. Free Indirect Discourse (FID)

FID, illustrated in (73), is one more type of construction where indexicals seem to shift away from their value in the global context:

(73) John pondered all that had transpired in the past year. After the move, he thought they’d be happy here in Tulsa, but he’d been wrong, terribly wrong. And this house was part of the problem! Now he had to reconsider all their options.

Clearly the speaker in (73) intends here to refer to Tulsa and now to the time of John’s pondering—some time in the past, while this house refers to a house in John’s proximity. FID is sometimes described as a literary style, and it is used quite often by authors. But it is also quite common and unobjectionable in ordinary usage. Here is a first, informal description of the style (Eckardt 2014, Chapter 1):

Free indirect discourse is a way of reporting a person’s thoughts as if one could listen to their inner monologue. The effect is achieved by the use of perspective indicating elements in the sentences as if the sentence was uttered by a particular protagonist. . . .[It] is characterized by the fact that grammatical perspective of the sentence, and other types of perspectivising elements do not single out the same person as the speaker.
Besides several expressions typically taken to be indexical, like here, now, and this in (73), a
great number of other expressions may be used in FID in such a way as to reflect
the information, tastes, and judgment of the protagonist whose perspective is adopted, rather than
that of the speaker. For example, in the following example cited by Eckardt, the evaluative
adjective wretched as applied to the matter in hand, and the judgment that it was “the worst of
all” reflect the protagonist Emma’s view of the matter in question, and not necessarily that of the
author Austin:

(74) The hair was curled, and the maid sent away, and Emma sat down to think and to be
miserable.—It was a wretched business, indeed!—Such an overthrow of every thing she
had been wishing for. —Such a development of every thing most unwelcome!—Such a
blow for Harriet!—That was the worst of all.


As we see in these examples, here and now are frequently shifted in FID. To understand them,
we must grasp the perspective intended by the speaker. But there are two indexicals in English
which resist shift in FID: I and singular you (though not we or plural you because of their
associative character, examined in detail in §4). These singular pronouns cannot be understood to
refer to anyone other than the speaker or addressee, even in FID, as is well known; for example,
in (73), even though John’s perspective is assumed, we cannot replace he with I, and similarly,
Emma can only be referred to in the 3rd person in (74).

Suggestions for reading for next time:

Next time we’ll turn to consider the background necessary for developing an account of the de se
character of indexicals. If you’d like to know a bit about the de se, read Lewis’ short classical
paper on the subject, Lewis (1979b). John Perry (1979) also still has something to teach us. The
technical basis for the fragment we’ll consider next time is in a chapter in Stalnaker (2008),
which is linked on the course site. Have a look at that, if you have time, to really appreciate the
modifications to Lewis that Stalnaker proposes, and that I will adopt. We’ll also spend some time
on the analysis of deictic motion verbs in Barlew (2017). Have a look at his chapter 2, if you
have time.

Additional reference (not on course site):
Biswas, Priyanka. 2014. Bangla associative plural: -ra: a cross-linguistic comparison with
Chinese men and Japanese -tachi. Proceedings of the 31th West Coast Conference on
Proceedings Project.
Corbett, Greville G. & Marianne Mithun (1997) Associative forms in a typology of number


