Three Projects for SLA, Spring 1999

I. Coordination and partial agreement in English-German interlanguage (brief).

This project will essentially be a partial replication of initial studies done by William O'Grady (University of Hawai'i) and Yoshie Yamashita (Naruto University) on coordination and partial-agreement effects. Follow-up studies are planned not only here at UNT (project directors: Maria Beck [Department of Foreign Languages] and me), but also possibly at the University of South Carolina (project director: Rakesh Bhatt).

To get a feel for what will be involved in this research, consider the sentences in (1a-b) from O'Grady & Yamashita (1998):

(1) a. An apple is/*are needed for the salad.
b. Two oranges are/*is needed for the salad.

Evident is that the *phi*-features (PERSON, NUMBER) of the subject are involved in triggering agreement. When the subject involves coordinated elements with *and* (e.g., *a truck and a car*), agreement also appears to be unproblematic, even though in some cases we find that both members of the coordinated pair are signular. Examples are in (2a-c).

(2) a. A truck and a car are/*is parked outside.
b. Two potatoes and a carrot are/*is needed for the soup.
c. An orange and two apples are/*is needed on the table.

As O'Grady & Yamashita note, the additive effect of and may make up for the singular nature of one or both conjuncts.

Problematic, however, are cases of coordination with *or*, as shown in (3a-b).

(3) a. Two oranges or an apple is/??are needed for the salad.
b. An apple or two oranges are/??is needed for the salad.

Note that agreement becomes somewhat more difficult here. Often speakers of English try to resolve the difficulty by matching agreement on the verb to the conjunct that is linearly closest to the verb, in effect, the right conjunct. The difficulty that coordination with *or* presents for speakers of English is known as *partial agreement*.

It is of interest that the partial-agreement effect does not show up the same way in all languages. Some languages may have *or*-coordination partial-agreement effects that involve not the right conjunct (as in English), but the left conjunct. In addition, whereas partial agreement appears with *or*-coordination in English, it appears with *and*-coodination in other languages.

O'Grady & Yamashita (1998) sketch out a theory of partial agreement, based in part on other work by O'Grady himself (i.e., O'Grady 1998). In part, this theory involves the general 'branching' direction of languages (e.g., English VO, Japanese OV). (The term 'branching' is mine, used only for simplicity of this short presentation. The theory itself is deeper than 'branching' direction, which is quite superficial.) O'Grady & Yamashita also present the findings of two experiments that examine partial-agreement effects

among Japanese-speaking learners of English, where the 'branching' effects of the languages involved are very transparent (possibly even to learners). The study we will conduct involves English-speaking learners of German. Noteworthy in this combination is that while the 'branching' direction of English is transparent, that of German is anything but transparent (not even for some linguists).

The experiment we will conduct involves a partial replication of the work done by O'Grady & Yamashita (1998). Essential changes will involve not just a switch from Japanese and English to English and German, but also a potentially more well-developed theory of coordination and partial agreement. The experimental design will follow that of O'Grady & Yamashita so that findings may be compared.

References and other items of bibliographic importance

Johannessen, J. 1996. Partial agreement and coordination. *Linguistic Inquiry* 27: 661-675.
O'Grady, W. 1998. Principles of phrasal architecture. *Syntaxis* 1: 143-160.
O'Grady, W. & Y. Yamashita. 1998. Partial agreement in second language acquisition. Paper at the Second Language Research Forum, University of Hawai'i at Manoa. Manuscript, University of Hawai'i at Manoa.
Progovac, L. 1998. Structure of coordination. Part 1. *GLOT International* 3(7): 3-6.
Progovac, L. 1998. Structure of coordination. Part 2. *GLOT International* 3(8): 3-9.

Note that Progovac's state of the art review in *GLOT International* includes an extensive bibliography on syntactic work on coordination.

II. The interpretation of modals and negation in English-German interlanguage.

This project involves a hidden contrast between English and German (project directors: Maria Beck [Department of Foreign Languages] and me). Consider the following sentences, noting in particular their meaningful interpretations.

(1) Die Frau muss nicht lesen.
the woman must not read
'The woman doesn't have to read.'
(2) The woman must not read.
'The woman is obligated not to read.'

What makes the German-English pair in (1) and (2) interesting is that they have exactly the same word orders (particularly with regard to the modal and the negation), but their interpretations are quite different.

One way to explain the difference in interpretation between (1) and (2) is in terms of categorization in the lexicon and the notion of syntactic c-command. For categorization, it seems uncontroversial to think that terms like *must* or *can* in English are modal auxiliaries: They belong to the category of INFL elements (or, to use an older term, 'Aux' elements). Among other things, these Infl elements differ from other verbs in that they appear in distinct word orders and in that they do not inflect for tense/agreement. These differences are shown in (3) and (4) below.

(3) a. I must not read that book.
b. *I watch not read the book.

(4) a. I must/I had to/*I musted
b. you must/you had to/*you musted
c. she must/she had to/*she musted
d. we must/we had to/*we musted
e. you must/you had to/*you musted
f. they must/they had to/*they musted

German *műssen*, by contrast, may appear in positions that are identical to those of other verbs, and they also inflect for both agreement and tense. Examples are in (5) and (6) below.

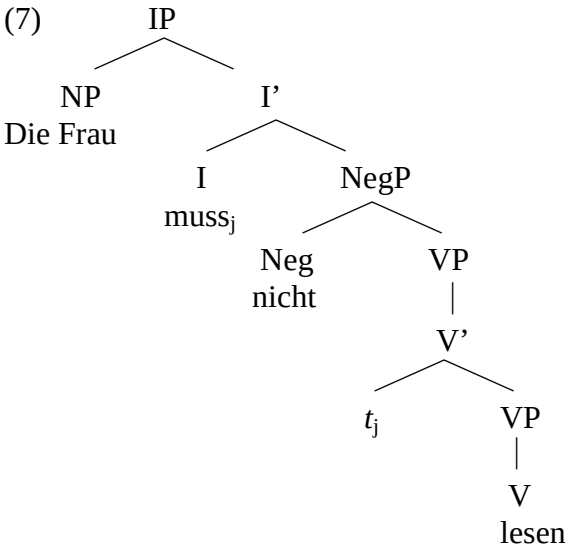
(5) a. Ich muss das Buch nicht lesen.
I must the book not read
b. Ich lese das Buch nicht.
I read the book not.

(6) a. Ich muss_/ich musste_
b. Du musst/du musstest
c. Sie muss_/sie musste_
d. wir műssen/wir műssten
e. ihr műsst/ihr műsstet
f. wir műssen/wir műssten

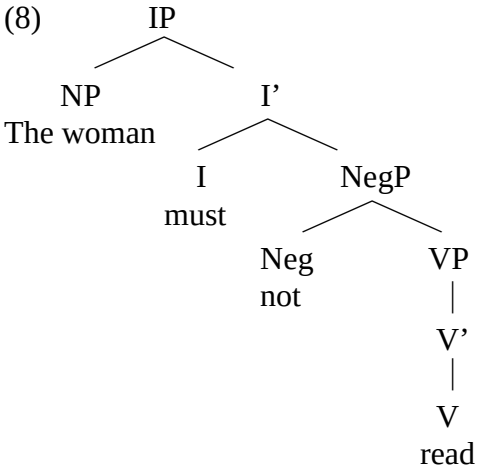
Observations like those in (5) and (6) have led to the conclusion that, whereas English modals like *must* and *can* are of the category Infl, German modals like *műssen* are of the category V; that is, they are verbs, not Infl elements (see, e.g., Steele 1981).

Now consider again the difference in interpretation between (1) and (2). One way that one might explain this difference is in terms of the simple c-command relationships between modals and negation (see, e.g., Haegemann 1994 for definitions). In the usual case, one would want to say that some element X has interpretive scope over some element Y just in case X c-commands Y. In this regard, then, note that if English *must* is an Infl element (thus base-generated under Infl) and German *müssen* is a verb, then—assuming the phrase-structural framework of Kayne (1994)—we would represent the sentences in (1) and (2) as in (7) and (8) below, respectively (much detail omitted).

(7)



(8)



Several matters are of immediate interest in the representations in (7) and (8). First, note that German is a verb-raising language: The finite verb (here, *müssen*) has raised from its underlying position in VP to the Infl position to the left of Neg. As a result, the representation in (7) includes the raised-verb *muss* with a subscripted trace (*t*) marking its underlying position. English, by contrast, is not a raising language: Verbs do not raise to Infl. However, recall that the modal *must* is not a verb; it is of the category Infl and is base generated there (i.e., not moved there).

Now consider c-command relations in (7). Clearly, *nicht* c-commands the VP (and, of course, everything inside of VP). Note, though, that *nicht* also c-commands the trace of the raised modal. In effect, if we assume that the trace includes (a copy of) its coindexed member, then it also follows that *nicht* (indirectly, by means of the trace-coindexation relationship) c-commands the modal in German. What this relationship means, in turn, is that the German modal in (7) is in the scope of negation, yielding an interpretation like the one informally depicted in (9) (where we use the term NOT as logical term standing for *nicht*; we use OBLIGATION as a term standing for *müssen*; and we use PREDICATE as a term standing for *read*):

(9) NOT -> OBLIGATION -> PREDICATE

In other words, the sentence in (7) would receive an interpretation like 'it is not an obligation for the woman to read' (that is, 'the woman doesn't have to read').

What of the English representation in (8)? Again, the modal is base-generated in Infl, which is above negation. As a result, the modal must c-commands *not*. This relationship yields an interpretation like the informal one in (10) below.

(10) OBLIGATION -> NOT -> PREDICATE

Of interest, then, is that the English sentence in (8) would, by virtue of the c-command relations that obtain over its representation, have an interpretation like 'it is an obligation for the woman not to read' (or, 'the woman is obligated not to read').

The general situation is thus the following:

(11) a. English modals (e.g., *must*) are Infl elements, base generated directly under Infl.
b. German modals (e.g., *müssen*) are verbs that, like all other German verbs, raise to Infl in finite (and subject-initial) main clauses.
c. Because of the difference between (11a) and (11b), negated sentences with modals will be interpreted in distinct ways in the two languages.
d. Diagostics that might tell the learner whether a given lexical entry is an Infl element or a V include (i) verbal inflection (tense and agreement) and (ii) the ability to appear either only in Infl or [either in Infl or in VP].

What might happen in adult second-language (L2) learning? Several possibilities obtain, among them, the following:

(12) a. Perhaps learners will begin with an English-like interpretation sentences like (1) and then switch to a German-like interpretation, once they recognize (i) that modals are inflected, just like verbs, or (ii) that modals can appear where verbs do (or perhaps both (i) and (ii)).
b. Perhaps learners never adopt the native-language (NL) setting and go directly to the German-like interpretation of sentences like (1);
c. Perhaps learners are forever stuck on the NL setting; they never adopt a German-like interpretation of sentences like (1).

d. Perhaps individual L2 learners come up with dual interpretations of sentences like (1); that is, they sometimes interpret (1) in a German-like way and sometimes in an English-like way.

Each of the possibities in (12a-d)—and there may be more—would follow from well-known views on the ontology and development of L2 knowledge. Depending one how learners interpret sentences like (1), one might thus find support for one or another of these views.

How might one go about testing such possibilities? Obviously, one would need a means to test the interpretation of sentences like (1). Results of this test would comprise the dependent variable. In addition, one would also need tests to examine learners' knowledge of (i) verbal inflection (tense/agreement) and (ii) placement options for modals and verbs (implying, among other things, that both modals and verbs raise to Infl). Results on these tests would comprise independent variables.

To test the dependent variable (i.e., interpretation of sentences like (1)), it seems evident that one would want a truth-value judgment task, where learners (and native speakers) would read short stories and then respond with either TRUE or FALSE to particular stimuli (see Crain & Thornton 1998 for extensive discussion of this task and its use in assessing the role of UG in acquisition). Critically for the researcher, a TRUE interpretation of a stimulus sentence by a learner would mean that the learner has an English-like grammar, and a FALSE interpretation of a stimulus sentence by a learner would mean that the learner has a German-like grammar. (Of course, one could reverse the idea: a FALSE interpretation of a stimulus sentence by a learner would mean that the learner has an English-like grammar, and a TRUE interpretation of a stimulus sentence by a learner would mean that the learner has a German-like grammar.)

My suggestion would be to use truth-value items with stories in the learners' native language (English) and stimulus sentences in the L2 (German). (For the control test by native speakers of German, one would need to translate the stories—and the instructions—into German.) For learners, such items might look like the example in (13).

(13) The speeding ticket.
John got a speeding ticket. It was over $100.00! John didn't have that much money, but his rich father would give it to him. (Of course, John's father would also be very angry!) John was knew that he would go to jail if he didn't pay the ticket!

a. John muss das Ticket nicht zahlen. (zahlen = pay-for)
TRUE
FALSE
b. distractor with nicht, not muss
c. distractor without nicht, not muss
d. distractor without nicht, not muss

Note in (13) that a TRUE response would mean 'John doesn't have to pay the ticket (because his father would pay it)'; a FALSE response would mean that the learner is disagreeing with the proposition that there's an obligation not to pay the ticket. The expected response from native speakers of German would be TRUE; the L2 learners might conceivably respond with either TRUE or FALSE.

A second example might help. Consider (14).

(14) A story with a moral.
You can only do one thing at a time! For example, one day Mary is holding her sick baby and cooking on the stove at the same time. Suddenly, a fire starts on the stove! The fire could burn down her house! Get the fire extinguisher! Just then, Mary's husband comes in, grabs the fire extinguisher, and puts out the fire.

a. distractor with nicht, not muss
b. distractor without nicht, not muss
c. Mary muss das Feuer nicht lőschen. (Feuer = fire)
TRUE (lőschen = put-out, extinguish)
FALSE
d. distractor without nicht, not muss

Again, if a learner responds with TRUE, then the meaning of the stimulus is 'Mary doesn't need to put out the fire (because her husband will do it)'. By contrast, if a learner responds with FALSE, then the learner is disagreeing with the proposition that there's an obligation not to put out the fire. The expected response from native speakers of German would be TRUE; again, the L2 learners might come up with either TRUE or FALSE.

Of course, one would not want to include only two items on an experiment; I would suggest at least eight (possibly more). As the examples above suggest, the items should themselves include distractor stimuli. In addition, one would need a number of *fake distractors* that have nothing to do with *muss* and *nicht* or OBLIGATION or NOT at all. Further, one would also need a number of *special distractor* items which include modal-negation stimuli, but that yield an opposite (native-speaker) expected answer from the main-test items. The total test battery might thus look somewhat like the schema in (15) below.

(15) General instructions (English for learners, German for native speakers)
Instruction item
Explanation of instruction item
Item #1: Fake distractor
Item #2: Fake distractor
Item #3: Test item
Item #4: Fake distractor
Item #5: Special distractor
Item #6: Test item
Item #7: Fake distractor
Item # 8: Special distractor
Item # 9: Fake distractor
Item #10: Test item
Item #11: Special distractor
Item #12: Fake distractor
Item #13: Test item
Item #14: Fake distractor
Item #15: Special distractor
Item #16: Test item
Item #17: Fake distractor
Item #18: Test item
Item #19: Fake distractor
Item #20: Special distractor
Item #21: Test item
Item #22: Fake distractor
Item #23: Fake distractor
Item #24: Special distractor
Item #25: Fake distractor
Item #26: Test item
Item #27: Fake distractor
Item #28: Special distractor
Item #29: Fake distractor
Item #30: Special distractor

As for the dependent variables, I would suggest somewhat simpler, more direct tests. For verbal inflection, one might consider the kind of on-line translation task employed by Beck (1998) and others. In fact, it might even be possible to test the placement options (and verb raising) with the same kind of test. Again, see Beck (1998) for an example.

Statistical analyses on group data would operate much as in Eubank et al. 1997 (though one might come up with other statistical analyses as well). In addition, given the possibility that individual learners might conceivably come up with possibilities like (12d) above, it would also be important to check the data for individual responses, as in Eubank et al. (1997).

References

Beck, M.-L. 1998. L2 acquisition and obligatory head movement. *Studies in Second Language Acquisition*.

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Eubank, L. et al. 1997. 'Tom eats rarely cooked eggs.' *Language Acquisition.*

Haegeman, L. 1994. *Introduction to Government and Binding theory*. Second edition. Oxford: Blackwell.

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III. French *ce* and the collision of syntax and semantics.

This project concentrates on the French "demonstrative" pronoun *ce*, which appears to fall under a semantic constraint involving aspect as well as a purely syntactic constraint involving binding. In the following, I first review the aspectual qualification on *ce*; the discussion here is drawn primarily from Reed (1997) and Authier (1998). Then I examine how this constraint might be represented in the syntax; here the discussion departs from that in Reed and Authier to include ideas drawn from Borer (1994). Thereafter comes a discussion—again from Reed (1997) and Authier (1998)—of a strictly syntactic constaint on *ce*, namely, that it is an anaphoric epithet whose syntactic distribution is constrained by the Binding Theory. The two constaints may come into conflict, as Authier points out. As we shall see in the next section, when the aspectual constraint on *ce* conflicts with the binding constraint takes precedence over the semantic effect imposed by aspectual considerations. The discussion concludes with notes on what might be discovered about second-language (L2) acquisition by examining *ce*.

An aspectual constraint on ce.

Ce may alternate with the gender/number-marked pronouns *il*/*elle* (he/she) in predicate-nominal sentences, as shown by the examples from Authier (1998) in (1a-b).

(1) a. Si Max était bel et bien un meutrier, *il/ce serait un homme traqué par la justice.
if max was pretty and good a murderer, he/CE would-be a man hunted by the justice.
'If Max were really a murderer, *he/CE would be a man hunted by law enforcement agencies.'

b. Si Max commettait un meutrier, il/*ce serait alors un homme traqué par la justice.
If Max committed a murder, he/CE would-be then a man hunted by the justice.
'If Max were to commit a murder, he/*CE would then be a man hunted by law enforcement agencies.

Either *ce* or *il* may appear, but, clearly, the contexts in (1a) and (1b) differentiate between them. Reed (1997) shows that the relevant factor involves a semantic constraint that makes reference to event structures, which are said to comprise three broad stages: an initial, "preparatory stage"; a "culmination point"; and a "consequent state". Authier (1998) illustrates these stages with the examples in (2b-d) for the predicate in (2a).

(2) a. PREDICATE: = BECOME THE FASTEST SWIMMER IN THE WORLD
b. She *is* becom*ing* the fastest swimmer in the world. (preparatory)
c. She has just become the fastest swimmer in the world. (culmination)
d. She has already become the fastest swimmer in the world. (consequent state)

Crucially, Reed (1997) (and Authier 1998) note that French *ce* must have the characteristic of "consequent state". Hence, in (1a) above, *ce* is licensed because the sentence refers to the consequent state of Max's being a murder. In (1b), by contrast, *il* is licensed (and *ce* is not permitted) because the effect of the adverb *alors* concentrates the central focus of the sentence on the culmination point itself, namely, Max's murdering someone. The general state of affairs governing the selection of *ce* versus *il*/*elle* is stated informally in (3), again from Authier.

(3) In predicate nominal sentences, *ce* must be used if the aspectual value of the sentence focuses on a consequent state, while personal pronouns like *il* must be used in all other cases.

Representing the aspectual constraint on *ce*.

Consider how *ce* might be represented syntactically. Following Authier (1997) and Reed (1997), we might say that *ce* must be associated with the feature [consequent state]; for brevity, we shorten this feature to CS. As this feature is plainly associated with the aspectual interpretation of events, it would follow that this feature would be checked in AspP.

It seems clear that predicate-nominal sentences with *ce* (versus *il/elle*) are states.[1] On the other hand, it also seems clear that these are not just any states; rather, the only ones that license *ce* are states that are, in some sense, preceded by accomplishments (activities and achievements) and thus are marked with CS. In other words, these are states that imply accomplishments, but the syntactic realizations of such acomplishments seem not overtly to be present.

To see this in another way, consider the aspectual semantics of Dowty (1979). In that framework, the predicate calculus of states like *The linen is white* and of accomplishments like *John whitened the linen* would appear as in (4a-b).

(4) where V_n is an *n*-place predicate and a_1 to a_n are arguments,

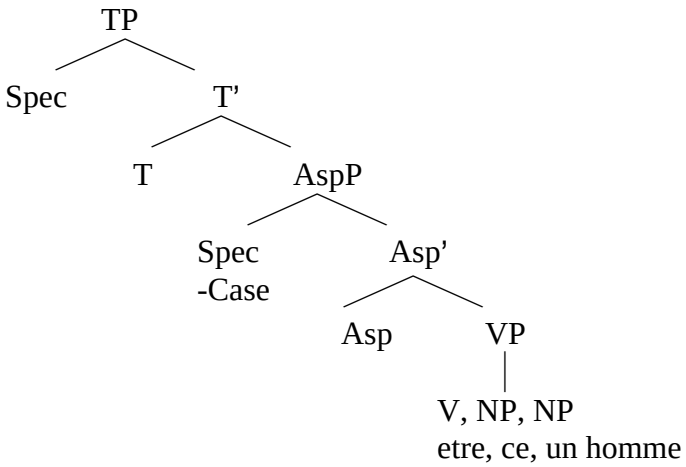
a. State: V_n (a_1 to a_n)
The linen is white = [white (linen)]

b. Accomplishment: DO [a_1, V_n (a_1 to a_n)] CAUSE [BECOME V_n (a_1 to a_n)]
John whitened the linen =
DO [John, whiten (John, linen)] CAUSE [BECOME [white (linen)]

Now, in order to represent an accomplishment-linked state like CS, we would require some mixture of states and accomplishments, where the former eschews the immediate causation (=CAUSE in (4)) and the activity (=DO in (4)) associated with the latter. In effect, it would appear that CS would involve more than a state, but less than an accomplishment, so defined.

This kind of reading might be represented in a framework like that proposed by Borer (1994) if we assume that the CS interpretation ultimately involves an "Event Measurement" (EM) interpretation of NPs (in the sense described by Borer). In other words, the subject of *c'est un homme* is interpreted as having "measured out" an event, but the subject of *il est un homme* does not have this interpretation. A simplified representation of a sentence like *c'est un homme* would be roughly as in (5).

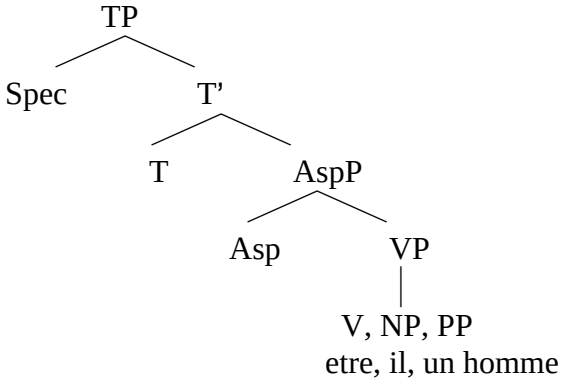
(5) *c'est un homme*



In (5), an NP moves first to Spec,AspP and therefore receives the EM interpretation in the spec-head relationship with Asp. The EM interpretation also licenses *ce*. From there, the NP moves on to Spec,TP, where NOM is checked. (We will have to assume that the other NP receives default case.) What differentiates (5) from ordinary sentences like *John ran to the store* is that the verb *être* does not have the overt semantics of causation or activity that would normally appear with EM interpretations.

The representation of a sentence like *ilest un homme* would be as in (6) below.

(6) *il est un homme*



In contrast to (5), the representation in (6) includes no specifier of AspP; no EM interpretation is available, and *ce* is also not licensed. In the derivation, an NP moves from VP directly to TP. (Again, the other NP would receive default case.)

_Ce_ and binding.

Depending on the aspectual characteristics of given utterances, either *ce* or *il*/*elle* is licensed. In addition, however, *ce* falls under the Binding Theory, which regulates the occurence of pronouns and referential expressions.[2] Of course, as might be expected, *il*/*elle* fall under Principle B: As pronouns, they must be free (not bound) in the local domain (see, e.g., Haegeman 1994 for exposition). However, with respect to binding,

demonstrative *ce* appears to function not as a pronoun, but as an anaphoric epithet under Principle C, mandating that they be free not just in the local domain, but everywhere.[3,4] The examples in (7) and (8a-b) below from Authier (1998) illustrate this condition.

(7) *Sylvie$_i$ est convaincue que c$_i$' est une matheuse.
Sylvia is convinced that CE is a math-expert
'Sylvia is convinced that she is a math expert.'

(8) a. Tous les professeurs de Sylvie$_i$ sont convaincus que c$_i$' est ene matheuse.
all the teachers of Sylvia are convinced that CE is a math-expert
'All of Sylvia's teachers are convinced that she is a math expert.'
b. Robert est jaloux de Sylvie$_i$ parce que c$_i$' est une matheuse.
Robert is jealous of Sylvia because CE is a math-expert
'Robert is jealous of Sylvia because she is a math expert.'

Note in (7) that *Sylvia* c-commands *ce* and that *Sylvia* and *ce* are co-indexed—in other words, *ce* is bound by *Sylvia*. As a result, Principle C is violated, and the sentence is correctly ruled ungrammatical. By contrast, *Sylvia* and *ce* are also co-indexed in (8a-b); however, c-command fails because *Sylvia* is too deeply embedded in the matrix clause. Because of this, *ce* is not bound in (8a-b), and so Principle C is not violated.

When binding and semantics collide.

Authier (1998) observes that the binding constraint on *ce* may collide with the aspectual one. Consider the following example (including the contraindexing), from Authier:

(9) Léon$_i$ veut que tous sachent que c$_j$'est le chef.
Leon wants that all know that CE is the boss
'Leon wants everyone to know that he (≠Leon) is the boss.'

Of interest in (9) are the two constraints on *ce*. First, the embedded clause must encode a consequent state (CS, or EM in the analysis above) that licenses the appearance of *ce*. Second, *ce* is not bound to the subject *Leon* because, even though *Leon* c-commands *ce*, the two are not co-indexed. In other words, *ce* is permitted to appear by Principle C.

Authier observes, however, that French would need a means to express the meaning of the predicate calculus in (10).

(10) WANT (1, ∀x [PERSON (x) → KNOW (x, BOSS (1))])

What (10) represents is the case in which the subject of *want* is also the boss (i.e., 'Leon wants everyone to know that he [=Leon] is the boss'). Note the effect when this meaning appears with *ce* (now coindexed with *Leon*):

(11) *Léon$_i$ veut que tous sachent que c$_i$'est le chef.
Leon wants that all know that CE is the boss
'Leon wants everyone to know that he (=Leon) is the boss.'

As indicated, the sentence is ungrammatical, clearly in violation of Principle C, which prohibits the binding relationship between *Leon* and *ce*.

Of course, natural languages—including French—can express the notion shown in (10). In French, the notion appears as in (12).

(12) Léon$_i$ veut que tous sachent qu' il$_i$ est le chef.
Leon wants that all know that he is the boss
'Leon wants everyone to know that he (=Leon) is the boss.'

In (12) we observe that the relevant constraint imposed by the Binding Theory is obeyed: *Il* is a pronoun and thus permits binding as long as that binding is not in the local domain (roughly, the embedded clause in this case). In other words, because the pronoun *il* appears instead of the epithet *ce*, Principle B becomes relevant (rather than Principle C, which governs *ce*), and the particular structural configurations in which *il* and *Leon* appear in this sentence do not violate this condition. Crucially, we also observe in (12) that the aspectual constraint is violated: Presumably the notion underlying (12) still refers to a consequent state, but *ce* does not appear. More generally, what we observe in these cases is that, in order to express (10), the Binding Theory may not be violated, but the aspectual constraint may be. In effect, the strictly grammatical constraint takes precedence over the semantic one when the two conflict.

Of course, one might argue that *ce* doesn't appear in (12) because the embedded sentence does not involve a consequent state (which, in turn, would permit *il* to appear). This view would imply that French is incapable of expressing the notion in (10) (in a structure like (12)) when that notion includes the idea that the lower clause expresses a consequent state. That this view may be incorrect is illustrated by the contraindexing in the example in (13), which shows that the pronoun *il* can no longer freely refer to any referent, but only to *Leon*.

(13) *Léon$_i$ veut que tous sachent qu' il$_j$ est le chef.
Leon wants that all know that he is the boss
'Leon wants everyone to know that he (≠Leon) is the boss.'

As Authier points out, the ungrammaticality of (13) follows from the fact that the notion it expresses is conveyed instead by the earlier example in (9).

L2 knowledge of *ce*.

It seems self-evident that an examination of *ce* in adult L2 knowledge might be revealing. Suppose we examine L2 learners of French whose native language (NL) is English (e.g., classroom learners at UNT). At first glance, it would appear that, to the extent that these learners come up with knowledge of *ce* that is anything like that of

native speakers, this knowledge might be underdetermined by exposure. Note, however, that 'knowledge of *ce*' decomposes into several subcomponents:

(14) a. they know that *ce* is an anaphoric epithet;
b. they know that the epithet *ce* is governed by Principle C (rather than Principle B, for pronominals);
c. they know that *ce* is licit only if it has the feature CS/EM; and,
d. they know that the Binding constraint on *ce* overrides the aspectual constraint just in case the two come into conflict.

Given the above—and assuming that the L2 learners do come to know all of the above—it appears that part of this knowledge might conceivably come from the NL. For (14a-d) above, consider (15a-d), respectively.

(15) a. My feeling is that English does not have a pronominal anaphoric epithet that behaves like French *ce* with respect to Binding Theory.[5] However, even if English does have such an epithet, the question is whether learners would connect *ce* with it. (This would amount to a kind of lexical transfer.)
b. Though the evidence is not incontrovertible, there is evidence to suggest that knowledge of binding domains may transfer from NL to L2. Of course, the problem is that learners may still miscategorize *ce* as a simple pronoun (and not as a pronominal epithet) and thus apply Principle B (=free in the local domain) rather than Principle C (=free everywhere), whether transferred or not.
c. If we assume that the feature CS is, in fact, Borer's EM, then it would also follow that this feature could, in principle, also be transferred from NL to L2; learners would, however, still have to acquire the following:
(i) that the feature obtains for *ce*, and
(ii) that the feature does not conflict with the verb *être*.
On the other hand, if CS has nothing to do with EM, then it is also possible that the feature does not exist at all in these learners' NL; learners would have to pick up the feature from exposure and connect it to *ce*; how this would come about is unknown, if the Borer-style analysis is incorrect.
d. Learners would presumably also know from their NL knowledge that binding requirements would override aspectual ones like CE/EM (though I do not know of any particular English sentences that might illustrate this effect).

If adult learners do come to know *ce*, it thus appears that at least parts of this knowledge could conceivably derive from NL knowledge.

We are perhaps now in a position to imagine testing. First are some matters of finding in previous research:

(16) With respect to Principle B and C, is there evidence to suggest transfer effects in the relevant literature?
(17) What about pronominal epithets (falling under Principle C) in English? Are there any?

Second, we may consider experimental problems:

(18) Do adult learners of French whose NL is English treat *ce* as a simple pronoun (Principle B) or as a pronominal epithet (Principle C)?
(19) Do adult learners recognize the aspectual constraint (CS/EM) on demonstrative *ce*?
(20) Do adult learners know that the binding takes precedence over aspect when the two conflict?

For all three areas, I think it wisest to employ truth-value measures that include written stories followed by a test stimulus and two distractor stimuli (see Crain & Thornton 1998 for discussion of the task and its use in assessing the role of UG). For French native speakers, both the stories and the stimuli would be in French (along with French instructions). For the English-speaking learners of French, we would have the stories (and the instructions) in English, but all stimuli—both the test stimulus and the distractor stimuli—would be in French.

For the pronoun vs. epithet test in (18) above—essentially a binding test (Principle B vs. Principle C)—all items would focus on binding properties of *ce* with simple, non-quantified R-expressions. No items would test aspectual constraints on *ce* or on aspect vs. binding. An example item is in (21) below. (The item is in italics; the various explanatory notes—in non-italicized script below—would not appear in the actual instrument.)

(21) *A sad story.*
Jack was working on his house. He was using a tall ladder. Suddenly Jack slipped and fell from the ladder! He was hurt very badly! The neighbor saw what happened, so he called the ambulance. Because he was so badly injured from the fall, Jack had to give up his job. Now Jack has to spend most of his time at home. Because many people think that Jack is an invalid, Jack often becomes depressed.

1. Test stimulus: *The neighbor thinks that ce is an invalid.*
Ambiguity: *ce*=Jack, *ce*=neighbor

NS: *ce*=neighbor is impossible in grammar, hence *ce*=Jack
Expected response: TRUE (only)

L2: *ce*=neighbor and *ce*=Jack may both be possible
Possible responses: TRUE (*ce*=Jack) or
FALSE (*ce*=neighbor)

2. Distractor stimulus, not with *ce*, not a binding (or aspectual) problem
3. Distractor stimulus, not with *ce*, not a binding (or aspectual) problem

A second example to test the problem in (18) is shown in (22) below. Note in (22) that the *expected* response from native speakers is the reverse of that illustrated in (21) above.

(22) *Dreams sometimes come true.*
Jane worked hard for many months when she was preparing for the Olympic Games. She swam every day for hours and hours. Her swimming became faster and faster. Her friend Mary saw that Jane had a good chance to win a medal. At the Olympic Games, all of Jane's dreams came true: The Gold Medal! Now Jane is an Olympic champion. Jane really enjoys the feeling.

1. Distractor stimulus, not with *ce*, not a binding (or aspectual) problem

2. Test stimulus: *Jane thinks that ce is a champion.*
Ambiguity: *ce*=Mary, *ce*=Jane

NS: *ce*=Jane is impossible in grammar, hence *ce*=Mary
Expected response: FALSE (only)

L2: *ce*=Mary and *ce*=Jane may both be possible
Possible responses: TRUE (*ce*=Jane) or
FALSE (*ce*=Mary)

3. Distractor stimulus, not with *ce*, not a binding (or aspectual) problem

The total battery should probably include eight such items (possibly more). If half of the items have FALSE as the expected response from native speakers and the other half of the items have TRUE (as illustrated in the two example items above), then there would appear to be no need to create special distractor items just to counterbalance the numbers of TRUE and FALSE responses.

As for the aspectual constraint on *ce*—the research question in (19) above—best would be also to employ truth-value items. In contrast to those exemplified in (21) and (22), however, we will need to focus in on aspectual contrasts; at the same time, we also need to avoid the potential confounding effect of binding considerations (Principle B or Principle C). Accomplishing as much seems straightforward enough: The short stories must make reference to preparatory stages, culmination stages, and consequent states, and the test stimuli must eschew conditions that might invoke any binding considerations, the simplest means being merely to exclude uses of *ce* in embedded contexts, where it might fall in the c-command domain of some perceived antecedent (R-expression or otherwise).

In fact, the stories in example items (21) and (22) above illustrate the relevant aspectual changes, so one might be tempted to use these same stories again to test these contrasts. These stories are problematic, however. In order to create good truth-value items, it is necessary to have story lines in which a single sentence ambiguously refers either to one 'part' of the story or to some other 'part' of the story. Now, in the story in (23) above, the ambiguity lies in who thinks that who is a champion. That ambiguity does not directly implicate the aspectual change in the story. In addition, for the aspectual contrast to be ambiguous—note that ambiguity is a central testing condition for truth-value measures—we would effectively need a story with two histories, where the

aspectual process in one does not match the aspectual process of the other, yet where *ce* may ambiguously refer to both.

An example of a story and test stimulus for the aspect test is shown in (23) below. As before, material for the test is italicized, and notes for the present discussion are not italicized.

(23) *Some historical fiction.*
Two of the most well-known scientists in all of history were Charles Darwin (work on evolution) and Albert Einstein (work on relativity theory). Darwin did his work in the late 19th century; Einstein did his work in the early 20th century. When Einstein was young, he met Darwin. That was after Darwin published his famous book, <u>The Origin of the Species</u>.

1. Test stimulus: *Ce was a famous scientist at the time of the meeting,.*

NS: *ce*=consequent state.
At meeting, only Darwin is at consequent state.
ce=Darwin; *ce* cannot be interpreted as Einstein
Expected response: TRUE (only)

NNS: *ce* may be consequent state or before, that is, any state
If *ce* is interpreted as Darwin, then TRUE response expected
If *ce* is interpreted as Einstein, then FALSE response is expected

2. Distractor stimulus, not with *ce*, not a binding or aspectual problem
3. Distractor stimulus, not with *ce*, not a binding or aspectual problem

Note that we employ two distractor stimuli along with the test stimulus. A second example for the aspect test is in (24) below.

(24) *Two famous people.*
Abraham Lincoln was the President of the United States during the American civil war that killed many, many thousands of people. With the war, Lincoln ended slavery in the country. After the war, another famous man was John Wilkes Booth. Booth shot and killed President Lincoln at a theater.

1. Distractor stimulus, not with *ce*, not a binding or aspectual problem

2. Test stimulus: *At the time of the assassination, ce was a famous man.*

NS: *ce*=consequent state.
At assassination, only Lincoln is at consequent state.
ce=Lincoln; *ce* cannot be interpreted as Booth
Expected response: TRUE (only)

NNS: *ce* may be consequent state or before, that is, any state
If *ce* is interpreted as Lincoln, then TRUE response expected
If *ce* is interpreted as Booth, then FALSE response is expected

3. Distractor stimulus, not with *ce*, not a binding or aspectual problem

Again, we employ distractor stimuli along with the test stimulus. Comparing the item in (23) to the item in (24), note, too, that we vary the ordering of the distractors and test stimuli. On the other hand, a comparison of the two example items in (23) and (24) to the two examples in (21) and (22) also shows that we were able to vary the expected responses for native speakers in the latter cases (TRUE in one, FALSE in the other), but we were unable to vary the expected responses for natives speakers in the latter (TRUE in both items). This means either (i) that we will need to attempt to create test items for the aspect test in which false would be the expected response for native speakers, or (ii) that we create a series of (non-ambiguous) distractor items using *ce* in which FALSE appears (for both natives and non-natives).

Do adult learners know that the binding takes precedence over aspect when the two conflict? To test this condition, we would again need stories with two histories, but now with ce in an embedded clause with a potential c-commanding antecedent. Two examples are below.

(25) *The famous picture.*
Almost everybody has seen the famous picture. Bill Clinton was a young man; he was with a group of students visiting Washington, D.C. The picture shows Clinton and the other students in a meeting with John F. Kennedy. Unfortunately, Kennedy was killed shortly after the picture was taken.

1. A*t the time of the picture, Kennedy knew that ce was a famous man.*
   NS: Binding: *ce* cannot be *Kennedy*; *ce* could be *Clinton*
   For *ce=Clinton*, *ce*≠CS, but CS constraint is nullified
   Expected response: FALSE (only)

   NNS: 1. If binding overrides CS (like NS),
   then expected response is (also) FALSE
   2. If CS overrides binding (not like NS), then *ce=Kennedy*
   and expected response is TRUE

2. Distractor item; no embedding; no *ce*; etc.
3. Distractor item; no embedding; no *ce*; etc.

(26) *The leader versus the student: Tiananmen Square, 1989*
We've all seen the picture of that courageous young student who stopped the column of tanks by standing right in front of the lead tank. Deng Xiaoping—the leader of China who ordered the military to enter Tiananmen Square—probably never met the young man who stopped the tanks on that day.

1. Distractor item: no significant embedding; no ce; etc.
2. Distractor item: no significant embedding; no ce; etc.

3. *On that fateful day, Deng Xiaoping knew that ce was a famous man.*

   NS: Binding: *ce* cannot be *Deng*; *ce* could be *the student*
   For *ce=student*, *ce*≠CS, but CS constraint is nullified
   Expected response: FALSE (only)

   NNS: 1. If binding overrides CS (like NS),
   then expected response is (also) FALSE
   2. If CS overrides binding (not like NS), then *ce=Deng*
   and expected response is TRUE

Overall, then, the experiment will comprise several binding items like (21) above, several aspect items like (23), and several binding-aspect items like (25). My suggestion is that we have eight of each type, for a total of 24 items. I don't think we need distractor items because each test item will itself include two distractor stimuli. Of course, for subjects (natives and non-natives), the 24 items will need to be randomized. More

generally, my suggestion is that we attempt to test, say, two different levels of non-native speakers, if possible. For the natives, we will likely need to test subjects over the internet.

References and other items of bibliographic importance

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[1] The classification of predicates in the framework of Vendler (1967) is as follows:

A. State (always atelic, durative)
   a. no internal structure.
   b. examples: *know, be sick, remain, be tall*

B. Activity (often atelic, durative)
   a. A homogenous process going on in time and with no inherent goal
   b. Examples: *run; travel; burn; read* (all without [quasi-]objects)
   c. Activity, accomplishment and achievement predicates are often referred to as eventive or dynamic in that they require the expenditure of energy (as opposed to states)

C. Accomplishment (often telic, terminative)
   a. A process going on in time and with an inherent culmination point, after which the process can no longer continue
   b. Examples: *run a mile; travel from X to Y*; *burn up/through/out*; *read the book*
   c. Activity, accomplishment and achievement predicates are often referred to as eventive or dynamic in that they require the expenditure of energy (as opposed to states)

D. Achievement (telic, terminative)
   a. A process in time and with an inherent culmination point, but the process leading up to the culmination point is instantaneous.
   b. Examples: *die, arrive, find a wallet, recognize*
   c. Activity, accomplishment and achievement predicates are often referred to as eventive or dynamic in that they require the expenditure of energy (as opposed to states)

[2] The binding theory also regulates the occurence of reflexive anaphors like *herself*. As these are not relevant to *ce* and *il*/*elle*, this part of the Binding Theory is not discussed here.

[3] More standard epiphets are expressions like *the (little) rascal*, as illustrated in (i) below.

(i) John_i said he_i was sick. $\underline{\text{The little rascal}}_i$ really tricked me.

Even though the epithet in (i) is coindexed with antecedents, it is not bound by either since both appear in a separate clause. See Haegeman (1994) for examples illustrating the range of effects that implicate Principle C.

[4] The characterization in the text of *ce* as epithet governed by Principle C is somewhat oversimplified. As Authier & Reed (1997) show, when *ce* is bound by prototypical R-expressions like proper names, then Principle C appears to be obeyed. However, when c-commanded by a quantified expression like *some researchers*, then (apparent) Principle C violations show up—though even here the quantified expression may not be structurally "too close" to *ce*. In fact, Authier & Reed (1997) suggest that the status of *ce* as pronominal epithet results in the applicability of both Principle B (as pronominal) and Principle C (as epithet). For much more complete discussion of such "split binding" effects, see Authier & Reed. Note that, for the present work, we will exclude effects involving quantified expressions by employing only R-expressions as potential antecedents.

[5] The only possibilility that comes to mind is English *one*. Obviously, we would have to assume that not all uses of *one* are the same. Hence, *one* in (i) would be different from *one* in (ii).

(i) Lynn saw the king of Iran, and Maria saw the *one* of England.

(ii) *One* must be careful when driving in the mountains.

The candidate as epithet would be the use of *one* in (ii) above. The relevant question would be that kind of binding condition this apparent epithet would fall under. Consider the coindexations in (iii) and (iv) below.

(iii) You$_i$ really do believe that you$_i$/one$_i$ can get away with that kind of misbehavior?

(iv) John$_i$ really does believe that he$_i$/one$_i$ can get away with that kind of misbehavior?

Relevant in (iii) and (iv) is that *one* is coindexed and c-commanded by elements that stand outside of the local domain (roughly, the embedded clause). Now, if *one* is governed by Principle B—as suggested by the fact that *one* seems to pair distributionally with the pronouns *you* and *he* in (iii) and (iv)—then we correctly predict that both sentences are grammatically well-formed. On the other hand, if *one* is governed by Principle C, then both (iii) and (iv) are counterfactually predicted to be ungrammatical. This kind of evidence suggests that *one* may be a pronoun with respect to binding—unlike the epithet *ce*, which behaves like an R-expression with respect to binding. In other words, the evidence suggests that *one* is not an epithet.