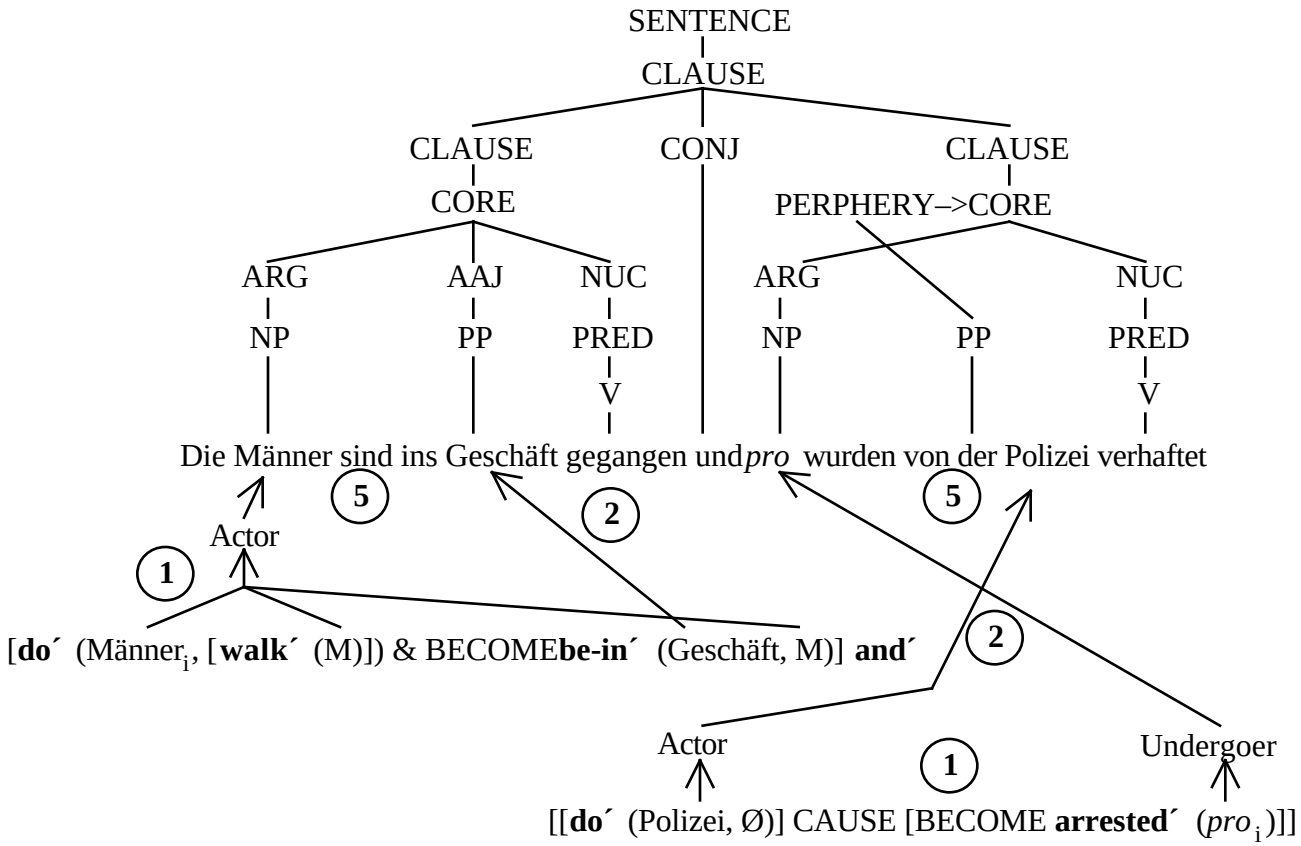
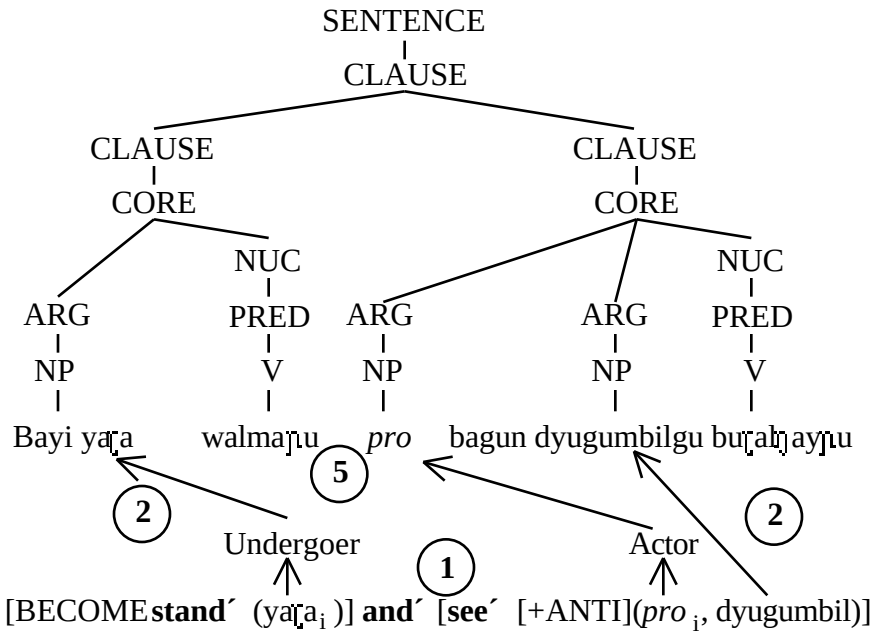
Chapter 9 Exercise Solutions

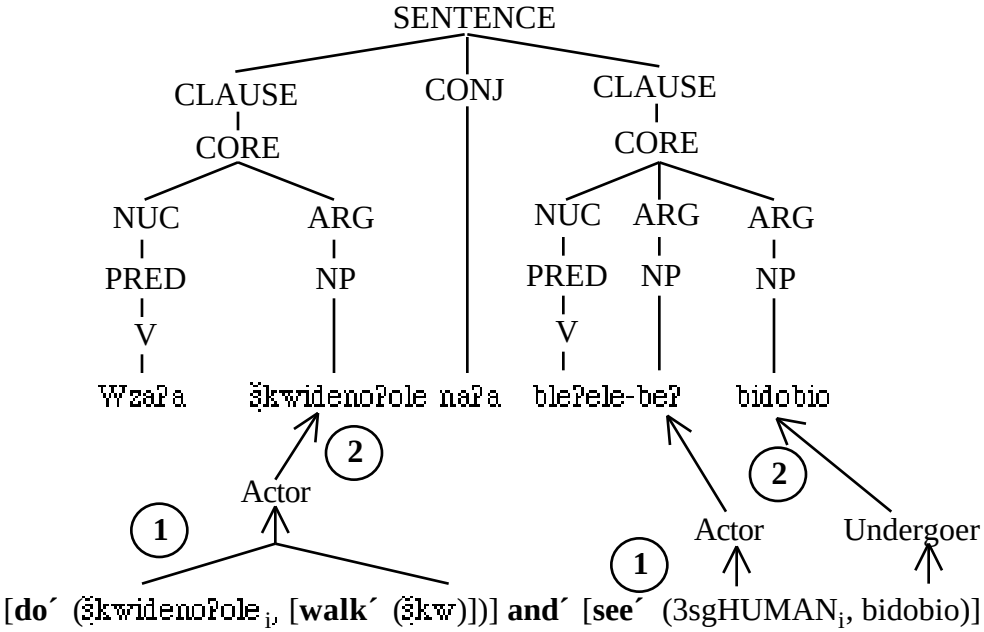
1. Diagram the linking from semantics to syntax for the German sentence in (7.41a), the Dyirbal sentence in (6.49b), and the Yateé Zapotec sentence in (1) below (tones are omitted from the Zapotec example). Give the constituent projection only for each sentence and logical structure for each clause. Where relevant, indicate the application of the appropriate case assignment and agreement rules.



The linking in this German example is straightforward; because it is a clausal juncture, each clause links separately of the other. The only complication is *pro* in the second clause, which must be the PSA in its clause, following the constructional template in Table 9.1 (which applies to German, Tepehua, Dyirbal and Icelandic, as well as to English).



As noted above, the conjunction reduction template in Table 9.1 applies in Dyirbal as well. As in the German example, each clause links separately, but the *pro* in the second clause must be the PSA. In exercise 5 in Chapter 7 it was shown that the -ŋay antipassive in Dyirbal is a lexical rule which eliminates the undergoer macrorole, leaving the non-actor argument a non-macrorole direct core argument. Since this rule applies in the lexicon, the logical structure must reflect this, and this is indicated in the logical structure by the '[+ANTI]' diacritic. Hence the second argument of **see´** appears as a non-macrorole direct core argument in the dative case, rather than as an oblique element in the periphery like the actor in the German passive construction.



Zapotec, unlike English, German and Dyirbal, has no omitted argument, no *pro*, in the linked clause. Hence each clause links separately. The actor pronoun in the second clause is cliticized to the verb.

2. Does the theory of obligatory control in (9.33) correctly predict the controller selection in the following French sentences? Explain your answer for each example.

The theory of obligatory control states that causative and jussive verbs have undergoer control, while all others have actor control. This correctly predicts the control facts in all of the French sentences. In (1) the verb *promettre* 'promise' is neither causative or jussive, and consequently it has actor control. In (2) *vouloir* 'want' is likewise neither causative or jussive, hence actor control. This is also the case in (4) with *dire* 'say', in (5) with *croire* 'believe' and in (6) with *prétendre* 'claim'. The one jussive verb in the set is *persuader* 'persuade', and as predicted it takes undergoer control.

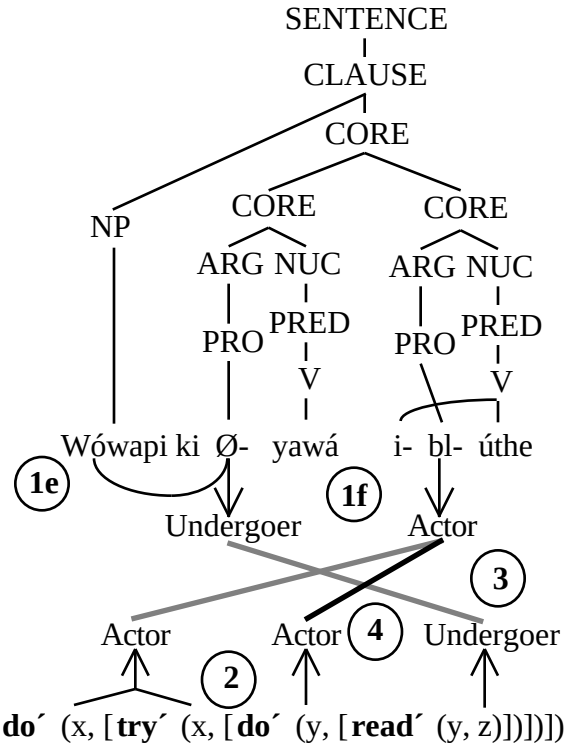
3. How does the voice system in Toba Batak interact with the theory of obligatory control in the following examples? The data are from Schachter (1984b). Is the controller semantically determined, and if so, does it follow (9.33)? What kind of pivot is there in the linked core?

In Toba Batak, the controller in an obligatory control construction is semantically, rather than syntactically determined, whereas the pivot in the linked core is syntactically and not semantically determined. In (1), the verb is *suba* 'try', and because this verb is neither jussive nor causative, the theory of obligatory control predicts actor control. This is correct, regardless of whether the actor is the PSA, as in (1a), or not, as in (1b). The sentences in (2) and (3) with the verb *elek* 'persuade' are particularly revealing. In (2) the matrix core is active voice, with the actor as PSA and the undergoer as a direct core argument. Because this is a jussive verb, the undergoer is the controller. In the linked core, on the other hand, there is no semantic constraint on which argument can be controlled; it must be the PSA of the core, regardless of whether it is actor or undergoer. In (2a), in which there is active voice in the linked core, the controlled (missing) argument is the actor, whereas in (2b), in which there is passive voice, it is the undergoer. This shows that the pivot in the linked core is a variable syntactic pivot. In (3), the verb in the matrix core is in the passive voice, but this has no affect on the interpretation of the controller; it is still the undergoer, as predicted by the theory of obligatory control. In the linked cores there is variation in voice, as in (2), and here again it is clear that the PSA of the linked core is a variable syntactic pivot. Finally, in (4) the verb in the matrix core is *janji* 'promise', and because it is neither jussive nor causative, there is actor control.

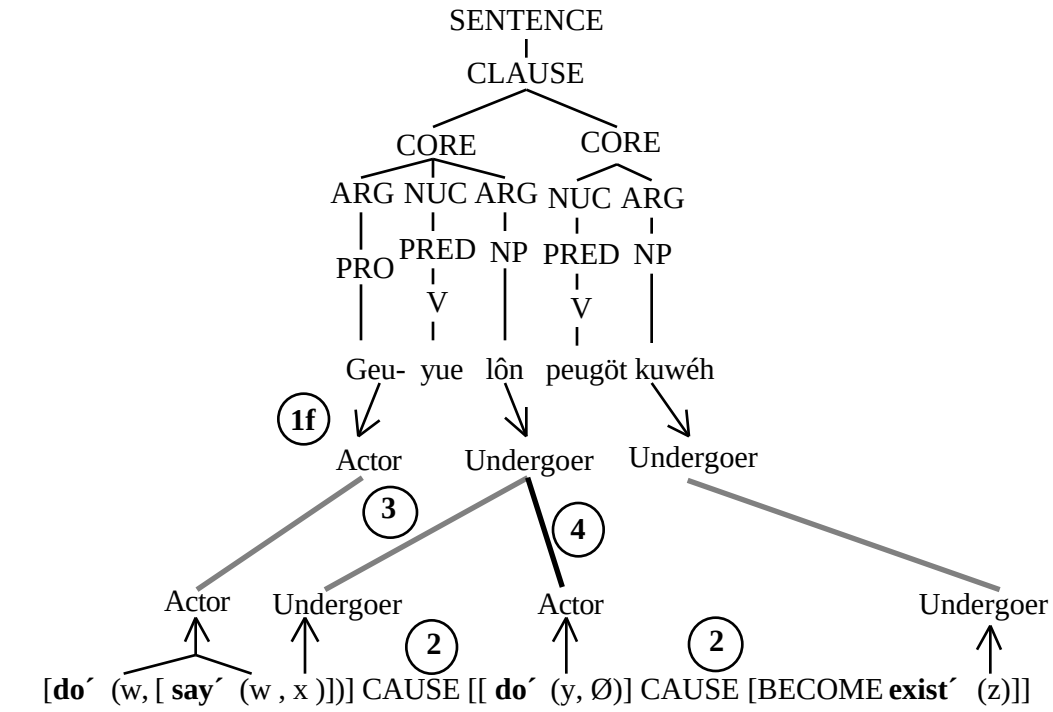
4. Diagram the linking from syntax to semantics for the Lakhota sentence in (9.28a), the Acehnese sentence in (9.30b), and the English sentence in (9.36a). Give the constituent projection only for each sentence and logical structure of the sentence.

Since Lakhota is a head-marking language without any kind of voice opposition, the first relevant step in the syntax to semantics linking algorithm in (9.48) is (1e), namely, associating any independent NPs with the bound core argument pronominals on the verb. In this example, the independent NP *wówapi ki* 'the book' occurs, and it is associated with the zero undergoer affix on *yawá* 'read'. Even though third person singular actor and undergoer are signalled by zero, this NP can only be an undergoer, because it is inanimate (cf. §7.4.1). The next step is to interpret the bound pronominals. We have already seen that *yawá* 'read' has an undergoer, and *iyútha* 'try' carries the first singular actor infix *-bl-*. Because this is a control construction, the verb in the

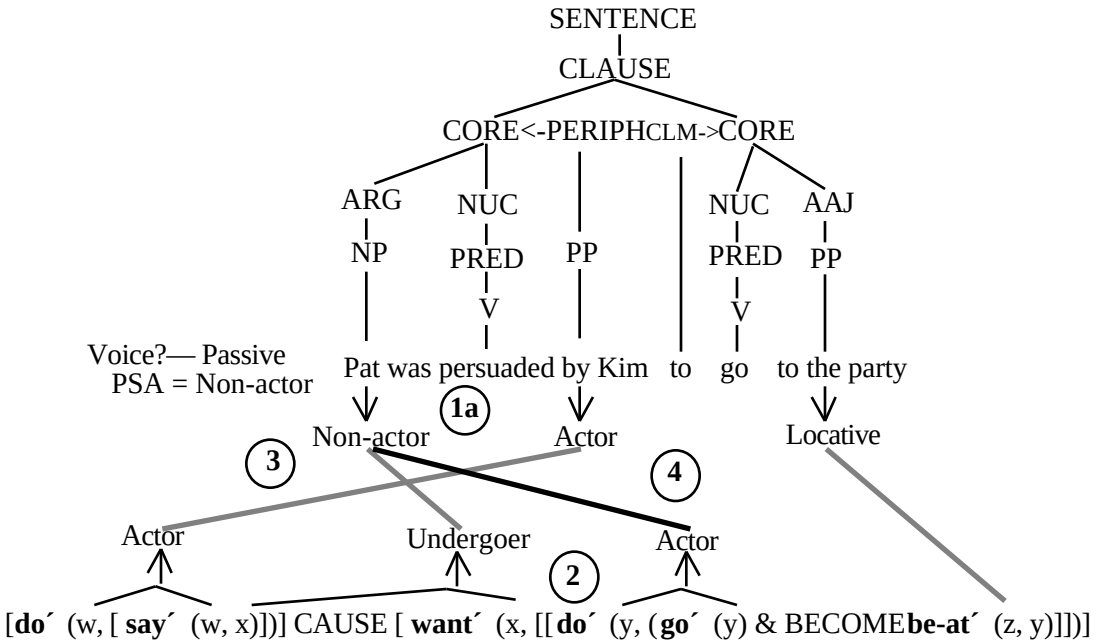
linked core cannot carry any argument marking for its invariable syntactic [S,A] pivot. After composing the logical structure for the sentence and assigning macroroles to it (step 2), we can associate the *-bl-* actor pronominal on *iyútha* 'try' with the *x* argument in the logical structure for **try´** and the zero undergoer marker on *yawá* 'read' with the *z* argument in the logical structure for **read´**. While all of the arguments in the syntactic representation have been linked, the *y* argument in the logical structure for **read´** has not been. This linking is determined by the theory of obligatory control: because *iyútha* 'try' is not a jussive or causative verb, its actor argument (which is also its only argument) is interpreted as the controller of the unliked *y* argument in the logical structure for **read´**, thereby satisfying the Completeness Constraint.



Like Lakhota, Acehnese lacks voice oppositions, and accordingly the identification of the functions of the arguments can be determined directly from their coding in the clause. Having ascertained that *geu-* '3sg' is the actor and *lôn* '1sg' the undergoer of *yue* 'order' and that *kuwéh* 'cake' is the undergoer of *peugöt* 'make', we turn to the interpretation of the logical structure of the sentence. The *w* argument of *yue* 'order' is its actor and the *x* argument its undergoer, while the *y* argument of *peugöt* 'make' is its actor and the *z* argument its undergoer. Having determined this, we can associate *geu-* with the *w* argument in the logical structure of *yue, lôn* with the *x* argument, and *kuwéh* with the *z* argument in the logical structure of *peugöt.* The Completeness Constraint is not yet satisfied, however, as there remains an unlinked argument in the logical strucutre, the *y* argument. This linking is supplied by the theory of obligatory control: since *yue* 'order' is a jussive verb, it has undergoer control, and therefore the undergoer of *yue, lôn* '1sg', is linked to the *y* argument in the logical structure for *peugöt* 'make'.

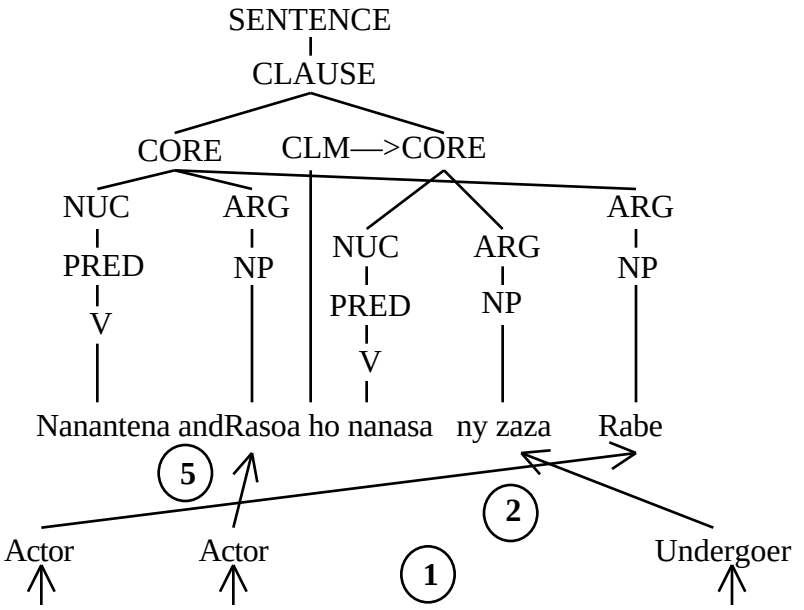


The first step in the syntax to semantics linking in languages like English is to check the voice of the verb to determine the semantic function of the PSA; in this case, the verb is passive, which means that the PSA is not the actor of *persuade*. The NP marked with *by* in the periphery, Kim, is the actor. The other verb is intransitive, and therefore this step is irrelevant for it. After step 2 is executed, it is possible to link *Kim* with the *w* argument of *persuade* and *Pat* with the *x* argument, as well as the NP *party* in the locative PP to the first (*z*) argument position in the logical structure of *go*. This leaves the *y* argument of *go* unlinked, and the theory of obligatory control requires that the undergoer of *persuade*, *Pat*, be linked to it, since *persuade* is a jussive verb.

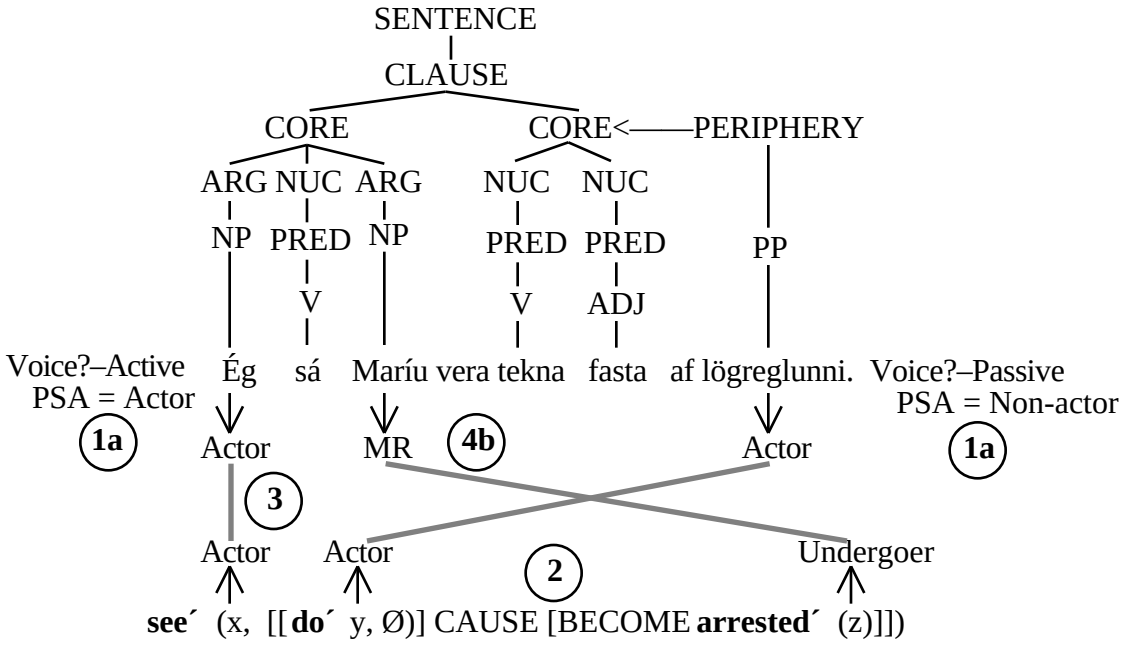


5. Diagram the linking from semantics to syntax for the Malagasy sentence in (9.58b) and the linking from syntax to semantics for the Icelandic sentence in (9.61b). Give the constituent projection only for each sentence and logical structure for the sentence.

This is a matrix-coding as non-PSA construction in Malagasy, in which the matrix core contains an 'extra' syntactic argument position and the non-matrix core is missing one. The argument that would be the PSA of the linked core, if it were part of an independent simple sentence, cannot be linked to the non-matrix core, due to this missing syntactic position. The matrix verb has only one argument, its actor *Rabe*, to contribute to the core it heads, and therefore in order to satisfy the Completeness Constraint the PSA of the embedded logical structure, *Rasoa*, must be linked to an syntactic argument position in the matrix core, yielding (9.58b).



The Icelandic sentence in (9.61b) exemplifies the same construction. The first step in the linking from syntax to semantics is to ascertain the function of the PSA from the voice of the verb. In the matrix core, the verb is active voice, and this means that the PSA, which is the initial argument in the core, is an actor. In the linked core, the voice is passive, which means that the PSA is not the actor and that the NP marked by *af* in the periphery is the actor. Looking at the logical structure for the sentence, we can determine that the *x* argument is the actor of *sjá* 'see', and that the *y* argument is the actor and the *z* argument the undergoer of *taka fast* 'arrest'. In step 3 it is possible to link *ég* '1sgNOM', the actor of *sjá*, with the *x* argument in the semantic representation and *lögreglunni* 'police' with the *y* argument. This leaves *Maríu* 'Mary' unlinked, due to the lack of a possible variable in the logical structure for *sjá* 'see'. Following step 4b, however, we may link it to the unlinked argument position in the logical structure for *taka fast* 'arrest', yielding the correct interpretation.



6. Based on the data presented below, give the following information:
   (a) The logical structure for each sentence in (1)
   (b) The interclausal semantic relations that each predicate (*eager* vs. *easy*) expresses?
   (c) The relationship between the (i) the different logical structures and different interclausal semantic relations and (ii) the different permutations possible with each predicate (i.e. how do the different syntactic possibilities in (2)-(5) follow from the logical structure of and interclausal semantic relation expressed by each predicate?)
   (d) The linking from semantics to syntax for each sentence in (1); give the constituent projection only (omit the operator and focus structure projections)

(a) LSs for (1a,b):

[1] a. (**eager´** (Pat_i, [[**do´** (x_i, Ø)] CAUSE [BECOME **pleased´** (Ø)]])
b. (**be´** [[**do´** (Ø, Ø)] CAUSE [BECOME **pleased´** (Pat)]], [**easy´**])

(b) *Eager* is a psych-action predicate, because it expresses the mental disposition of a participant toward an action. Hence it is a two-place predicate, the first argument coding the participant with the mental disposition and the second a proposition expressing the action or event about which the participant has the disposition. The participant need not be the actor of the embedded proposition, as [2] shows.

[2] John is eager to be examined by a specialist.

Easy, on the other hand, is a propositional attitude predicate; it expresses the speaker's judgment about some state of affairs. It is therefore a one-place predicate, the argument being a proposition expressing the state of affairs about which the judgment is being made.

(c) The differences in (2)-(5) all revolve around the fact that *eager* is an Equi or control predicate,

like *try* or *persuade*, while *easy* is a matrix-coding predicate, like *seem* or *believe.* Consequently, *easy*, not *eager*, can have a dummy subject with an extraposed propositional argument, as in (3b,b´) (core subordination), can have a propositional subject, as in (4b,b´) (core subordination), or can have a matrix-coded core argument from the embedded LS as its pivot, as in (1b) and (5b) (core coordination). There is an interesting constraint here which is not found in constructions with *seem* or *believe*: the matrix-coded argument cannot be the actor of the embedded LS but must be the undergoer, as (2b) and (5b) show. This seems to be a consequence of the particular logical structure in [1b] in the following way. This is an attributive logical structure, and accordingly its argument is an undergoer. Hence only the undergoer of the embedded logical structure can be interpreted as the undergoer of *easy* and the other adjectives of this class. Even though *believe* and *easy* both function as propositional attitude predicates in these constructions, *believe* characterizes the type of judgment the participant is making (i.e. aspects of the mental state of the judger), whereas *easy* characterizes the judgment itself (i.e. it is the predicate applied to the entity by the judging participant). This is why *easy* but not *believe* is subject to this undergoer-only restriction. (2b) is ungrammatical because there are in effect two undergoers, and there is no possible linking which would not violate the Completeness Constraint. And the linked core cannot be passive, as [3] shows.

[3] a. *Pat is easy to be examined by a specialist.
b. Pat is easy for a specialist to examine.

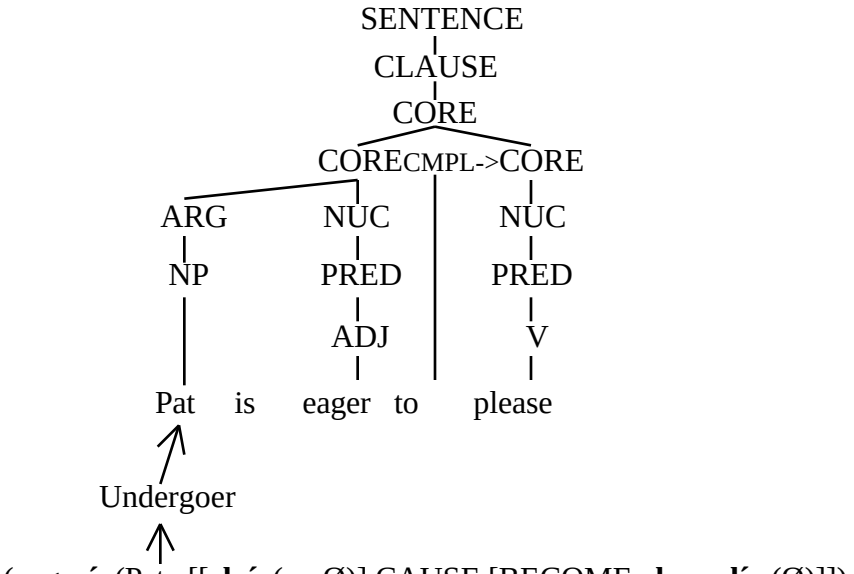
This is most likely due to the fact that his construction has a semantic pivot (undergoer); passive is a crucial part of a variable syntactic pivot but has no role to play here. Moreover, in the active voice the actor is excluded from serving as pivot in the construction, as (2b) shows, and accordingly since the 'subject' is excluded in the active voice, it should be excluded in the passive as well.

Since *eager* is a control predicate, its PSA must in every case be the first argument in its LS; this rules out (3a,a´) and (4a,a´). This follows from its being a psych-action predicate in these examples, as does the fact that these are core non-subordinate junctures. (2a) is fine, because the undergoer argument of *please* has been specified; it is unspecified in (1a). The example in (5a´) presents a rather different picture. Here there appears to be no obligatory shared argument; if a pronoun can occur which is coreferential to the argument of *eager*, then we no longer have an obligatory control construction. [4] is also fully grammatical.

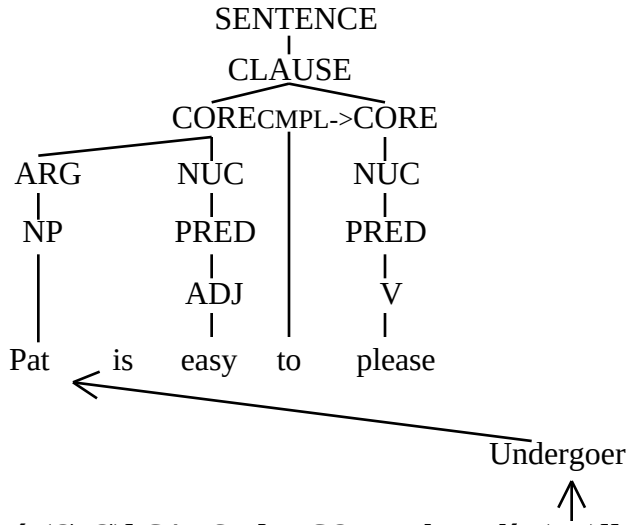
[4] Kim is eager for Pat to meet Chris.

This cannot be a psych-action construction, because the participant whose mental state is being expressed is not a participant in the specified state of affairs. It appears, then, that this is more like a *propositional attitude* construction, which expresses Kim's attitude toward some state of affairs, and accordingly there is no requirement for a shared core argument and the nexus type is subordination, just as in (3b´) with *easy*! This highlights the point that it is the interclausal semantic relation (e.g. psych-action vs. propositional attitude) which is a crucial determining factor in the syntactic behavior of a complement-taking predicate.

(d) Linking in (1a,b)



(**eager´** (Pat_i, [[**do´** (x_i, Ø)] CAUSE [BECOME **pleased´** (Ø)]])



be´ ([[**do´** (Ø, Ø)] CAUSE [BECOME **pleased´** (Pat)]], [**easy´**])

7. Describe the juncture-nexus type of the construction from Ancash Quechua (Cole 1984) in (1) and state how it differs from the constructions in (2), based on the data below. The data in (3)-(5) are relevant to determining the type of linkage. Describe the linking from semantics to syntax for (1a´), and give a constructional template for the construction.

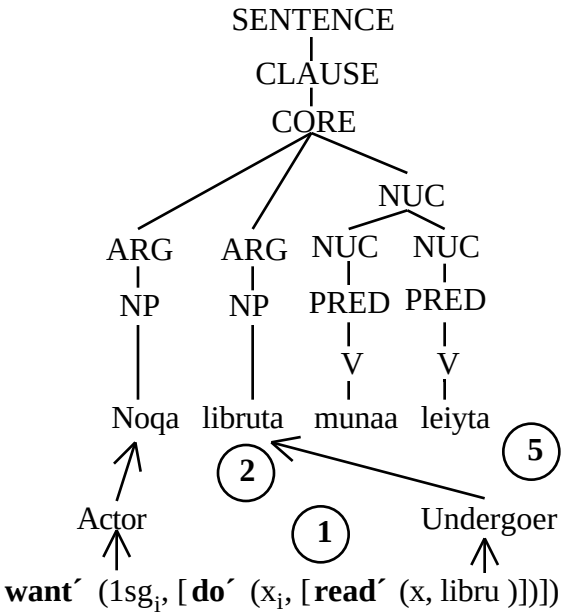
The construction in (1) and (4) differs from the one in (2), (3) and (5) in three important ways: (i) the undergoer of the second verb can occur before the first verb in the first construction but not in the second; (ii) there is a shared argument (the actor of both verbs is the same argument) in the first construction but not in the second; and (iii) an evidential marker (*–m(i)*) can occur on the arguments of both verbs in (4), regardless of the word order, whereas in (3) and (5) it can only occur on arguments of the first verb or on the first verb itself. These differences point to the first construction being a non-subordinate core juncture, and the second construction as core or clausal subordination. The second construction is most likely clausal subordination, because the subordin-

ate clause occurs in an extraposed position after the matrix verb; the normal position for NP undergoers is before the verb, and therefore we may assume that this post-verbal position is in fact outside the core, hence clausal subordination.

The first construction, which we will refer to as the infinitive construction, has an important property of a non-subordinate juncture: an obligatorily shared argument, in this case the actor of *muna-* 'want' and the actor of the verb in the linked core. In the examples with *qalla-* 'begin', it is not clear if these are control or matrix-coding constructions, but in any case the two verbs share an argument. However, (1d) presents evidence that suggests that this construction is not in fact a core juncture but rather a **nuclear** juncture. The agreement suffix on *muna-* 'want' in (1d) cross-references both the actor of *muna-* (which is also the actor of *rika-* 'see') and the undergoer of *rika-*. If this were a core juncture, then *qam-* '2sg' would not be shared between the two cores, since it is an argument of *rika-* alone. Yet it is reflected in the agreement suffix on *muna-* 'want'. This is to be expected, however, if this were a nuclear juncture in which there are two nuclei, *muna-* and *rika-*, taking a single set of core arguments. The analysis of the infinitive construction as a nuclear juncture permits an account of the other two properties mentioned above. Since this is a nuclear juncture, there is a single clause, and accordingly all of the NPs are constituents of a single main clause. As the examples in (2) show, core arguments cannot be reordered across a clause boundary, and because there is a single core in the infinitive construction, a semantic argument of the infinitive verb can occur before the finite verb, as in (1a´) and (1b´). The distribution of the evidential marker is also accounted for. Evidentials are utterance-level operators (cf. §2.2.3) and modify the speech act as a whole; consequently, they are normally restricted to matrix clauses only, and this is true in Ancash Quechua. Hence they should not be able to occur in the subordinate clauses in (2) and (5), which is correct, but because the infinitive construction is a single clause composed of a single core, all of the elements in this construction are in the main clause and therefore should be able to bear the evidential suffix, which is also correct.

We have insufficient evidence to determine what the nexus type is. It cannot be subordination, because neither nucleus functions as an aspectual operator modifying the other. We have no evidence which would allow us to decide between coordination and cosubordination. Hence we can conclude only that the construction in (1) and (4) is a non-subordinate nuclear juncture. In the figure below it is represented as cosubordination, since that is the least marked type of nuclear juncture.

It might seem somewhat odd that a 'want' construction would be a nuclear juncture, rather than a core juncture. In the Interclausal Relations Hierarchy [IRH] in Figure 8.18, the top three semantic relations on the semantic side are causative, aspectual and psych-action. Causatives are formed morphologically in Quechuan languages (cf. (9.89)), and therefore causative does not map into the tightest syntactic linkage relation. If the basic iconicity claim of the IRH is correct, then we would expect at least the next closest semantic relation, aspectual, to be realized by the tighest syntactic linkage type, and this is in fact what we find. In fact, the next two semantic relations, aspectual as in (1b) and psych-action as in (1a), are both realized by nuclear junctures.



Linking from semantics to syntax in (1b)

[Fix LS: in nuclear jucture with 'want', all of the variables would be filled in, in contrast to a core juncture; same for aspectual constructions]

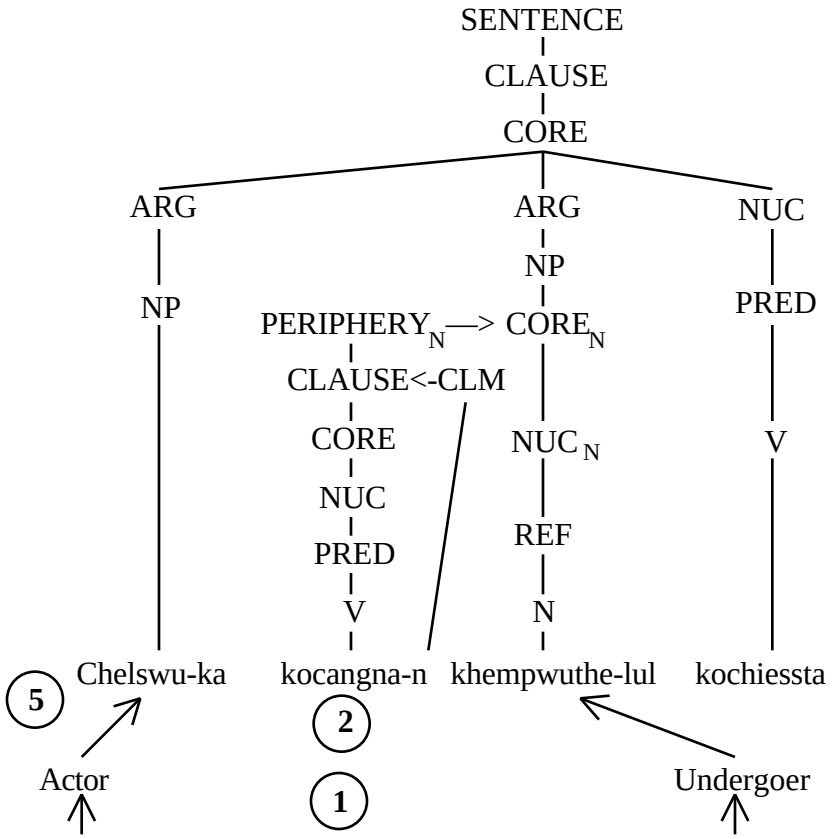
CONSTRUCTION: Ancash Quechua infinitive construction
SYNTAX: Juncture: Nuclear Nexus: Non-subordinate Construction type: Serial verb [$_{CL}$ [$_{CORE}$ ARG [$_{NUC}$ ...] (ARG) [$_{NUC}$...]]] Unit template(s): none PSA: d.n.a Linking: Default
MORPHOLOGY: infinitive for nucleus$_2$
SEMANTICS: Aspectual, psych-action
PRAGMATICS: Illocutionary force: Unspecified Focus structure: Unspecified

Constructional template for Ancash Quechua construction in (1)

8. Diagram the linking from semantics to syntax and from syntax to semantics for the externally-headed Korean relative clause in (1a) from Yang (1994) and the internally-headed Belhare relative clause in (1b) (=(6.79e)). For the purposes of this exercise, treat Belhare as dependent-marking with verb agreement, like Croatian. Give the constituent projection only and logical structure for each sentence.

The linking from semantics to syntax for externally-headed relative clauses is relatively straight-forward. The syntactic templates are selected accourding to the general template in Figure 8.38 and

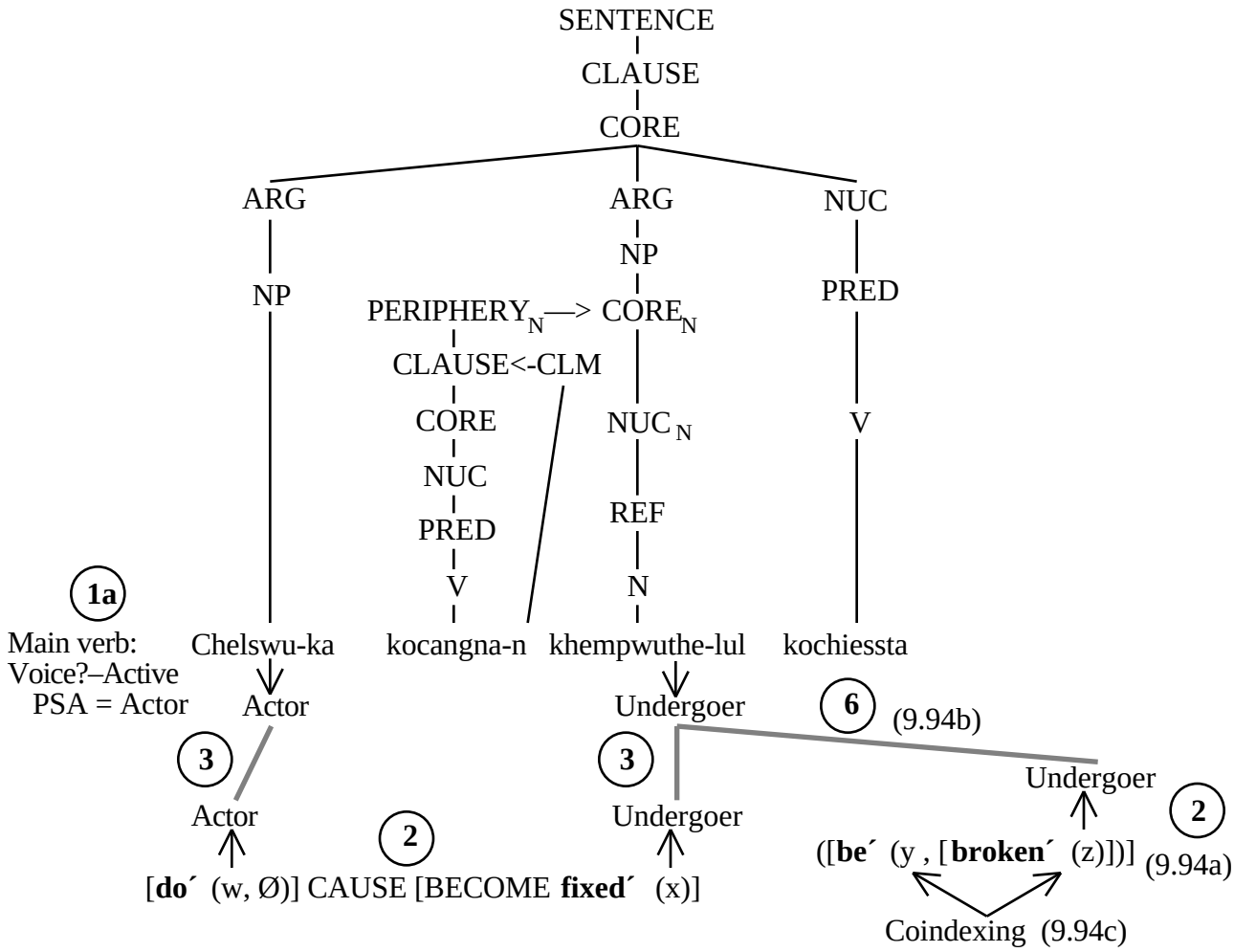
the principles in (9.93). After the semantic representation for the sentence has been composed, the first step is to determine the macrorole assignments. *Chelswu* is the actor of *kochi-* 'fix', and *khemphwute* 'computer' is the undergoer of kochi- by virtue of its being marked as the head of the attributive logical structure filling the PATIENT argument position in the logical structure. This NP is also coindexed with a variable in the embedded logical structure within the attributive logical structure, making it the PATIENT of *kocangna-* 'broken'. In step 2, *Chelswu* and *khempwuthe* are mapped into core argument positions in the matrix clause; there are no arguments to be mapped into the relative clause. Finally, in step 4 case is assigned to the core arguments.



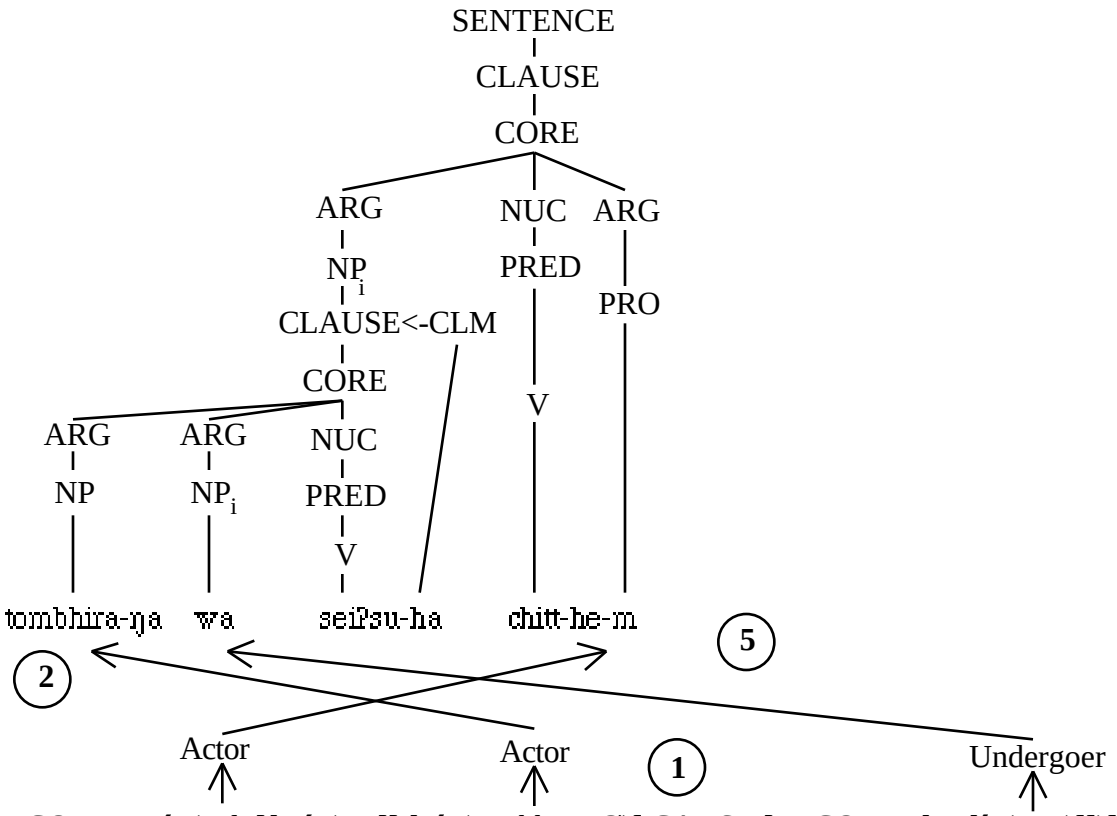
[**do´** (Chelswu, Ø)] CAUSE [BECOME **fixed´** ([**be´** (khempwuthe$_i$, [**broken´** (x_i)])])]

The linking from syntax to semantics follows the provisions in (9.94) as well as the general linking algorithm in (9.54). The first step is to determine the semantic function of the PSA (the nominative NP), based on the voice of the verb. Since it is active voice, the PSA (*Chelswu*) is the actor, and the accusative NP (*khemphwute*) is the undergoer. We now retrieve the logical structure for *kochi-* 'fix' from the lexicon, and, following (9.94a), compose an attributive logical structure with the logical structure for *kocangna-* 'broken' in the second argument position. Following step 2 in (9.54), macrorole assignments are made for the logical structures: the *w* argument of *kochi-* is an actor and the *x* argument an undergoer, while the *z* argument of *kocangna-* is an undergoer. Following step 3, we may link matrix actor with the actor argument of *kochi-* and the matrix undergoer with the undergoer argument of *kochi-*; the undergoer argument of *kocangna-* remains unlinked. By (9.94b), we follow step 6 and link the head noun in the matrix clause to the unlinked argument position in the logical structure of the relative clause verb. Finally, the *y* argument in the attributive logical structure is coindexed with the argument linked by step 6, completing the linking. It is possible to substitute the attributive logical structure for the *x* argument in the logical structure

of the matrix verb to yield the logical structure for the sentence as a whole.



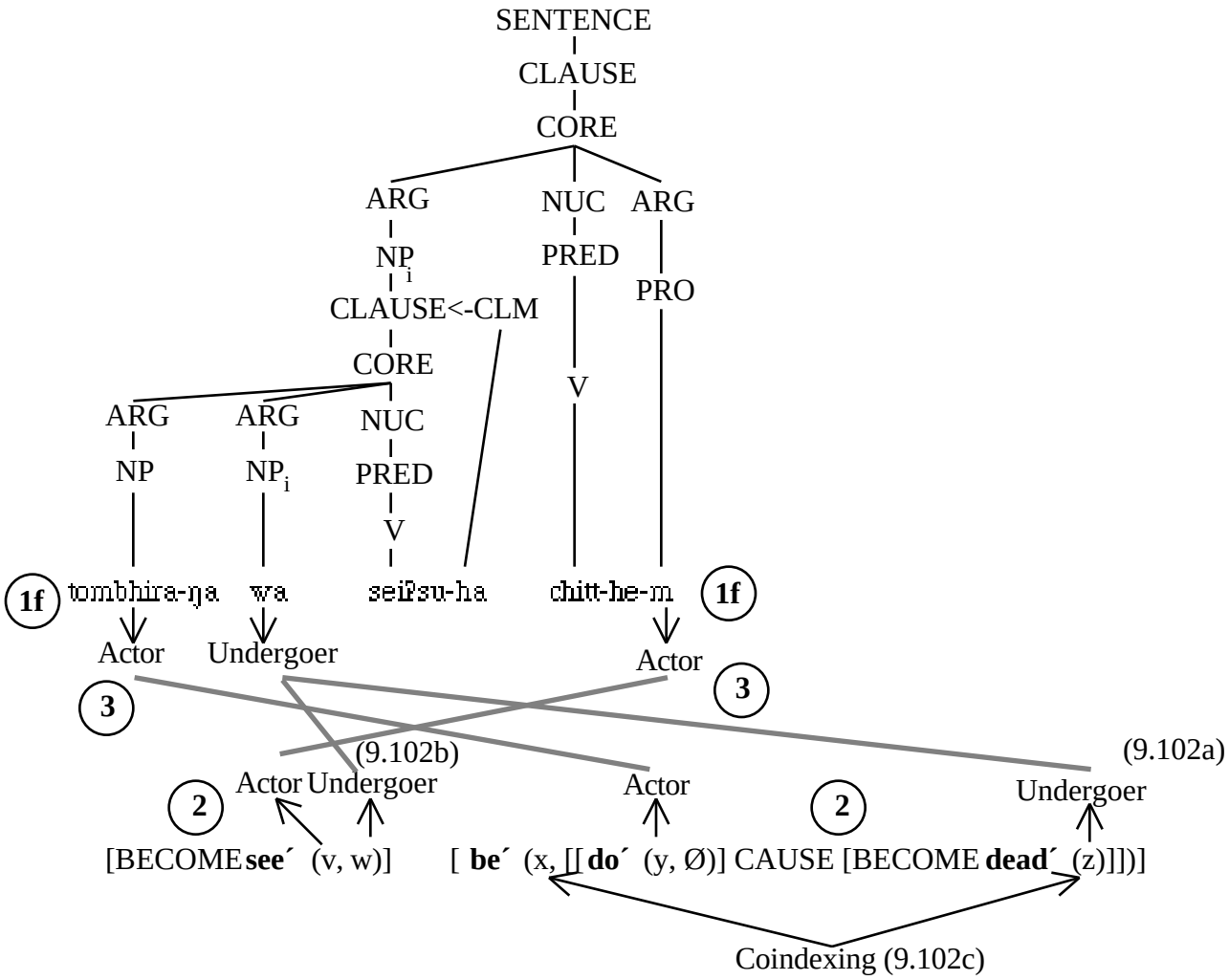
The primary difference between the logical structure for an internally-headed relative clause and that for its externally-headed counterpart lies in the attributive logical strucutre: in the externally-headed construction, the first argument is filled and the coindexed lexically-unfilled variable is in the embedded logical structure, whereas in the internally-headed construction, the first argument is lexically-unfilled and is coindexed with one of the lexically-filled arguments in the embedded logical structure. In terms of linking, the only special feature is that the clause corresponding to the embedded logical structure in the attributive logical structure fills a syntactic argument position as an NP, which is coindexed with the NP marked as the head noun in the semantic representation. In step 1, macrorole assignments are determined: in the matrix clause, the 1pl argument is the actor, while in the embedded logical structure, the *tombhira* 'wild cat' is the actor and wa 'chicken' is the undergoer. In step 2, both arguments of the embedded logical structure are mapped into core argument positions in the relative clause, and the lone argument of chitt 'find' is linked to an argument position in the matrix core. The final step is the assignment of case.



As noted in the text, the main difficulty in the linking from syntax to semantics for internally-headed relative clauses is determining which NP inside the relative clause functions as the head in the matrix clause. This was not a problem in the Bambara example in (9.99b), because the head noun is marked by *min* within the relative clause, and the requirement that the head noun be formally indefinite within the relative clause in Lakhota in (9.98) provided an important clue. In Belhare, on the other hand, there is no special marking for the head noun within the relative clause. However, as we saw in §6.5 (p. 304), it is impossible for the actor of a transitive verb to be interpreted as the head of an internally-headed relative clause in Belhare; hence there is an ergative constraint which governs the interpretation of the head noun.The linking from syntax to semantics for internally-headed relative clauses is governed by the conditions in (9.102).

Belhare lacks voice distinctions, and therefore the first step is to determine the semantic function of the core arguments from their case marking. The next step to to compose the semantic representation for the sentence; the logical structure for the main verb is retrieved from the lexicon, and following (9.102a) an attributive logical structure is created with the second argument filled by the logical structure for the verb in the relative clause. Having done this, we now determine the macrorole assignments: the *v* argument of chitt- 'find' is an actor and the *w* argument an undergoer, while the *y* argument of seiʔ- 'kill' is an actor and the *z* argument an undergoer. Following step 3, we can link *tombhira* 'wild cat' with the actor of seiʔ- 'kill' and *wa* 'chicken' with the undergoer argument, and also -m'1pl' with the actor argument of *chitt-* 'find'. At this point the *w* argument of *chitt-* 'find' is unlinked, and in order to satisfy the Completeness Constraint, one of the NPs within the relative clause must be linked to it. Which one? Since there is no morphosyntactic marking of the head, other factors must come into play to determine it.

Which argument is a plausible undergoer for *chitt-* 'find'? As noted above, there is an ergative constraint governing the interpretation of the head noun in an internally-headed relative clause in this language: the actor of a transitive verb cannot be interpreted as the head. Hence, only the undergoer of **seiʔ-** 'kill', *wa* 'chicken' can be interpreted as the head and coindexed with the w argument of *chitt-* 'find'. The last step is to coindex the *x* argument in the atributive logical structure with the argument linked in the previous step, following (9.102c). To create the same logical structure found in the semantics-to-syntax linking, the attributive logical structure can be substituted for the *w* argument in the logical structure for *chitt-* 'find', since both are linked to *wa* 'chicken' in the syntax.



9. Sentence like those one in (1) have posed a problem for GB theory, as they seem to involve a conflict between the demands of bounding theory (subjacency), on the one hand, and those of binding and case theory, on the other. Are sentences like this a problem for theory presented in this chapter? Explain.

In GB-type analyses, these sentences consist of two clauses, and the problem lies in the nature of the embedded clause. For purposes of binding theory in (1a) and (1c) and exceptional case marking in (1b), the embedded clause must be an IP, in order for the matrix verb to govern the NP or the trace in external argument position in the embedded clause. However, there is WH-

movement from the embedded IP, and consequently if the embedded clause is an IP, then the WH-word crosses two IP nodes in moving to the matrix SPEC of COMP, a clear violation of subjacency. Yet the sentences are perfectly grammatical. This suggests that subjacency is not violated, which means that there must be an intermediate SPEC of COMP, which requires the embedded clause to be a CP, not an IP. But if it is a CP, then Principle A of the binding theory would be violated in (1a) and (1c) and the Case Filter would be violated in (1b).

These problems don't arise in the RRG-type analysis proposed in chapter 9, for many reasons. The most relevant one for this exercise is that these constructions are core junctures, not clausal junctures, and therefore they are only a single clause. Because they are a single clause, the entire clause is within the potential focus domain, and WH-question formation is thus unproblematic. Case assignment has the clause as its domain of application in English, as we saw in §9.2.1, and therefore these sentences are unproblematic in this respect as well. Finally, there is no GB-style binding of traces at all within the theory.