4. The adjoined relative clause in Australia

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Introduction

In a large number of Australian languages, the principal responsibility for productive recursion in syntax is shouldered by a structure which I will refer to as the adjoined relative clause. It is typically marked as subordinate in some way, but its surface position with respect to the main clause is marginal rather than embedded—hence the location 'adjoined'. Typically, but not invariably, it is separated from the main clause by a pause. And it has been widely observed that, in languages which make extensive use of the adjoined relative, when the subordinate clause precedes the main clause, it is terminated with a characteristic falling-rising intonation and followed almost invariably by a pause; but when the main clause precedes the subordinate clause, the intonation over both clauses is more often falling, and the pause between them, if any, is brief.

The adjoined relative may be illustrated by the following sentence, from Walbiri of central Australia:

(1) *yankiri-lu phi-na yankiri pantu-nu, kutja-lpa yapa ya-nu.*
   *(I-erg aux spear-past, COMP-AUX water drink-past)*
   'I speared the emu which was/while it was drinking water.'

(For an elementary discussion of Walbiri surface syntax, particularly that pertaining to the internal constituency and surface positioning of the auxiliary, the Walbiri case system, verbal inflections, and word order, see Hale 1976. In the glossing of Walbiri sentences, I will leave the internal composition of the auxiliary unspecified, representing it simply as *aux*.) The subordinate clause follows the main clause in this example—the comma indicates the division between the two clauses. Moreover, the relative clause is marked with what I will term the 'referential' complementiser *kutja-* (glossed *COMP*) which is prefixed to the auxiliary of that clause. Sentence (1) can also be rendered as in (2), that is with the subordinate clause preposed:

(2) *yankiri-lu kutja-lpa yapa ya-nu, patjulu-lu phi-na pantu-nu.*
   *(I-erg aux COMP-AUX water drink-past, I-erg aux spear-past)*
   'The emu which was drinking water, I speared it.'
   'While the emu was drinking water, I speared it.'

It can also be rendered by the somewhat preferred variant of (2) in which the main clause is initiated by the anaphoric element *gula*:

(3) *gula phi-na pantu-nu patjulu-lu, yankiri-lu kutja-lpa yapa ya-nu.*
   *(gula I-erg aux spear-past, COMP-AUX water drink-past)*
   'The emu which was drinking water, that one I speared.
   'While the emu was drinking water, then I speared it.'

Sentences (1–3) are open to two distinct interpretations. Or perhaps one should rather say that the relative clause in these sentences can be used in two different ways. On the one hand, the relative clause may be used either to make more determinate or to supply additional information about an argument in the main clause (*yankiri-* 'emu', in this instance). I will refer to this use as the NP-relative interpretation. On the other hand, the relative clause may be used to specify the temporal setting of the event depicted in the main clause, or to make a subsidiary comment holding at the time specified in the main clause. I will refer to this as the T-relative interpretation. These two functions are widely assumed by the adjoined relative in Australian languages. In general, for Walbiri sentences of this type—and this is commonly the case elsewhere in Australia as well—the NP-relative interpretation is available when the main and subordinate clauses share an identical argument, and the T-relative interpretation is available when the two clauses do not.

In (1–3), so both interpretations are possible there. But in the following sentence (given in several variants), only the NP-relative interpretation is available, since the main and subordinate clauses share an argument while making distinct temporal references:

(4) *(a) patjulu-lu kapi-na wawiri pura-mi, kutja-lpa pantu-nu njantulu-lu.*
   *(I-erg aux cook-nonpast, COMP-AUX spear-past you-erg)*
   'I will cook the kangaroo you speared.'
   *(b) njantulu-lu kutja-lpa wawiri pantu-nu, patjulu-lu kapi-na pura-mi.*
   *(I-erg aux spear-past, COMP-AUX water drink-past)*
   'I speared the kangaroo which you cooked.'

And in (5), only the T-relative interpretation is available, since no arguments are shared:

(5) *(a) patjulu-lu lpa-na kali tjunwu-nu, kutja-phi-na ya-nu-nu njantu.*
   *(I-erg aux boomerang trim-past, COMP-AUX walk-past-hither you)*
   'I was trimming a boomerang when you came up.'
   *(b) kutja-phi-na ya-nu-nu njantu, kali lpa-na tjunwu-nu.*
   *(I-erg aux you-erg you came up, I-erg aux walk-past)*
   'You were walking when you came up.'
   *(c) kutja-phi-na ya-nu-nu njantu, gula lpa-na kali tjunwu-nu patjulu-lu.*
   *(gula I-erg aux you-erg you came up, I-erg aux walk-past)*
   'When you came up, I was walking.'

The adjoined relative structure is also widely used to specify a condition under which the predication embodied in the main clause could refer to an actual event, process, or state. I will refer to this as the conditional interpretation. It is appropriate when the main and subordinate clauses are instantiated predications—reflected formally in the modality system by future tense (*kapi-* or *phi*-auxiliary base in concert with the nonpast verbal inflection), potential mode (*katja-* auxiliary base in concert with the nonpast verbal inflection), or irrealis mode (*jlak-* or *jkatjika-* auxiliary base in concert with the irrealis inflection in the verb). It is not clear to me whether the conditional in Walbiri should be regarded as distinct from the T-relative interpretation—both require an appropriate sequence of
The reader will no doubt have noticed that the phonological shape of the traditional term 'conditional' predominates when the main and subordinate clauses are future (with /kap/.../nonpast/ in the former, and /[ ...] ...nonpast/ in the latter), both temporal and conditional interpretations are possible; and since the two clauses share an argument, a NP-relative interpretation is also possible:

(6) (a) gatjulu-calendar puluku luna-ŋi, katji-ŋŋi yarkii-ŋi niŋunu.
     (I-erg AUX dog shoot-nonpast, COMP-AUX bite-nonpast you)
     'I will shoot the dog if/when it bites you.'
     I will shoot the dog that bites you/that is going to bite you.'
     (b) maliki-li katji-ŋŋi yarkii-ŋi niŋunu, gatjulu-calendar puluku luna-ŋi.
     (c) maliki-li katji-ŋŋi yarkii-ŋi niŋunu, yula puluku luna-ŋi gatjulu-calendar.

The sense commonly associated with the traditional term 'conditional' extends to other conditionals as well). Sentence (8) is a past counterfactual (characterised by /katji-.../nonpast/ in the main clause, and /lpa-.../irrealis/ in the subordinate):

(7) (a) puluku katjika pali-mi, katji-lpa yarŋiŋa yarkii.
     (bullock AUX die-nonpast, COMP-AUX eat irrealis this)
     'The bullock would die if it ate this.'
     (b) puluku-calendar katji-lpa yarŋa yarkii, katji ka-pila.
     (bullock-bullock AUX die-nonpast, katji ka-pila)
     (c) puluku-calendar katji-lpa yarŋa yarkii, yula katji ka-pila.

(Since the two clauses share an argument, a NP-relative interpretation is also available for (7)—that is, 'A bullock that would die if it ate this.' This possibility extends to other conditionals as well). Sentence (8) is a past counterfactual (/katji-.../irrealis/ in the main clause, and /lpa-.../irrealis/ in the subordinate):

(8) (a) gatjulu-calendar puluku luna-ŋa wawiri, katji-ŋŋa mada-ŋa makiti.
     (I-erg AUX dog shoot-irreal is kangaroo, COMP-AUX have-irreal is gun)
     'I would have shot the kangaroo if I had had a gun.'
     (b) katji-ŋŋa mada-ŋa makiti gatjulu-calendar, puluku luna-ŋa wawiri.
     (c) katji-ŋŋa mada-ŋa makiti gatjulu-calendar, yula puluku luna-ŋa wawiri.

The reader will no doubt have noticed that the phonological shape of the complementiser varies in these sentences—it is /katji-/ in (1-5), while in (6-8) it is /katji-/. The choice between them apparently depends upon the semantic notion 'instantiation'. If the subordinate clause is an instantiated predication, the appropriate complementiser is /katji-/, while in the speech of some Walbiris); but if the predication in the subordinate clause is uninstantiated, the appropriate complementiser is /katji-/. For present purposes, I will regard these elements as variants of a single 'referential' complementiser, as distinct from the causal/purposive complementiser /yarŋa/-/ (with variants /yŋa-...yŋa-/ in the speech of many), to be exemplified directly. (These observations do not apply to all Walbiri dialects; however, the pattern described here is relatively popular.)

Another widespread use of the adjoined structure in Australian languages is the expression of a causal or purposive relation between predications. This is not a formal distinction in Walbiri—for many speakers, at least, both causal and purposive relatives are identical marked by the complementiser /yarŋa/-/ The causal, or 'rational' sense is present when the temporal reference of the dependent clause is prior to that of the main clause (as in (9) below), and the purposive sense is present when the reverse temporal relation holds (as in (10)).

(9) (a) gatjulu-calendar puluku luna-ŋa yarkii-ŋa puluku-ŋa njamangu yarkii.
     (I-erg AUX dog that strike-nonpast, COMP-AUX child this bite-past)
     'I am going to strike that dog, because it bit this child.'
     (b) maliki yarkii-ŋa yarkii-ŋa puluku-ŋa yarkii-ŋa yarkii, gatjulu-calendar puluku-ŋa mada-ŋa.
     (c) maliki yarkii-ŋa yarkii-ŋa puluku-ŋa yarkii-ŋa yarkii, yula puluku-ŋa mada-ŋa.

In the Walbiri examples cited so far, the adjoined relative clauses are in a finite form. Finite dependent clauses in Walbiri contain an auxiliary element which, in concert with the verbal inflections, marks a range of modal categories only slightly more restricted than the range of such categories observed in main clauses, which likewise employ auxiliaries in concert with verbal inflections. But Walbiri possesses a set of adjoined infinitive clauses as well. While the infinitive types are incapable of expressing the modal categories—since they lack the auxiliary, and since the verbal inflections are replaced by the single infinitive (or nominalising) ending /-ŋa/-/ -ŋa/-/ (the alternants depend on verbal conjugation)—they exhibit a system of complementisers which is somewhat richer than that involved in the formation of finite adjoined relatives. In infinitives, the complementiser is suffixed to the infinitive verb form.

One class of infinitive clauses closely parphrases the finite T-relative. Thus, for example, sentence (1), in its T-relative interpretation, is closely paraphrased by (11):

(11) gatjulu-calendar ŋŋa yarkii-ŋa puluku-ŋa yarkii-ŋa yarkii-ŋa yarkii-kura.
     (I-erg AUX emu speak-past, water drink-infinite-comp)

I will refer to this type as the infinitive T-relative—in this type, the event or state depicted in the subordinate clause is understood as on-going, or in effect,
at the time referred to in the main clause. The infinitive clause typically follows the main clause in linear order (but see below for a certain exception to this). In the majority of cases, the subject of the infinitive is deleted under identity with a noun phrase in the main clause, and the complementiser which appears in the infinitive is determined by the grammatical function, within the main clause, of the noun phrase which controls the deletion. In sentence (11), the controller (that is \( /\text{yanki}/ \) 'emu') is the object in the main clause. Accordingly, the complementiser which appears suffixed to the infinitive is \( /\text{kara}/ \). This complementiser appears not only where the controller is in the absolute (or nominative) case, as in (11), but also when the controller is a dative complement of the main-clause verb, as in the following:

\[ (12) \text{yatju ka-nayku mari-tjari-mi njantu-ku, marumuru yu-su-njita-kura(-ku).} \]

\( (\text{I AUX grief-inchoative-nonpast you-dat, sick lie-infinite-\text{COMP}(=\text{dat}))} \)

\( 'I feel sorry for you while you are lying sick.' \)

(The complement clause may optionally agree with the controller in case here.) But if the controller is the subject in the main clause, the appropriate complementiser is \( /\text{kara}/ \):

\[ (13) \text{parka ka wanka-mi, kalli tjan-tjita-kara.} \]

\( (\text{man AUX speak-nonpast, boomerang trim-infinite-\text{COMP}}) \)

\( 'The man is speaking while trimming the boomerang.' \)

And if the controller is the subject of a transitive main clause, and is therefore marked for ergative case, then not only must the complementiser \( /\text{kara}/ \) be used, but the clause must also be inflected for ergative case, in agreement with the controller:

\[ (14) \text{parka-gku ka kalli tjan-tjita, njita-njita-kara-ku.} \]

\( (\text{man-erg AUX boomerang trim-nonpast, sit-infinite-\text{COMP}-\text{erg}}) \)

\( 'The man is trimming the boomerang while sitting.' \)

There is an interesting exception to these assertions. When the controller is simultaneously subject and object—that is, when the main clause is a reflexive—the complementiser is \( /\text{yka} \sim /\text{la}/ \) :

\[ (15) \text{yatju-tu \&-na-tju rampal-patu-mu, kalli tjan-tjita-laja.} \]

\( (\text{I-erg AUX rel accidentally-cut-past, boomerang trim-infinite-\text{COMP}}) \)

\( 'I accidentally cut myself while trimming the boomerang.' \)

This complementiser is composite; the initial element \( /\text{yka} \sim /\text{la}/ \) is identical to the locative case. The composite also functions as a case ending, the comitative, in addition to its role as a complementiser.

When the controller is a dative not strictly subcategorised by the verb of the main clause—that is, a dative which is not a direct complement of the verb but, instead, designates an argument which is tangential to the event depicted in the main clause—the appropriate complementiser is \( /\text{yka} \sim \text{la} \) (another composite built upon the locative):

\[ (16) \text{kudu ka-la tjada-yu-su-mi ki\&-yam-mu-ku, kalli tjan-tjita-tjita-la.} \]

\( (\text{child AUX sleep-loc-nonpast father-own-dat, boomerang trim-infinite-\text{COMP}}) \)

\( 'The child is sleeping while its father is trimming the boomerang.' \)

To my knowledge, sentences (11–16) represent the full range of cases in which a noun phrase in the main clause controls the deletion of the subject of an infinitive \text{T-relative}. Infinitive \text{T}-relatives which fail to undergo subject deletion, through a failure to meet one of the above control conditions, are somewhat rare in actual usage. Those which have been observed show the complementiser \( /\text{pur}\).\)

\[ (17) \text{yala-ga ka-lpa yutjuku-la njina-mi, napa wanti-njita-puru.} \]

\( (\text{we AUX shelter-loc sit-nonpast, rain fail-infinite-\text{COMP}}) \)

\( 'We (plural inclusive) will sit in the shelter while it rains.' \)

There also exists in Walbiri an infinitive type which tends, in its semantic force, toward the NP-relative. It is uniformly understood as periphrasis with respect to the temporal reference of the main clause—that is, it is temporally prior to the main clause—and it often implies a strong causal or rational connection between the events depicted in the two clauses. As in the case of the infinitive \text{T}-relative, so in this type, a noun phrase is deleted from the infinitive clause under the influence of a controller in the main clause. Moreover, the infinitive is inflected for case in agreement with the controller. The complementiser in this type is \( /\text{wam}\), regardless of the controller:

\[ (18) \text{yatju ka-na-la kudu-ku mari-tjari-mi, wanti-njita-wam-mu-ku.} \]

\( (\text{I AUX child-dat grief-inchoative-nonpast, fail-infinite-\text{COMP}-\text{dat}}) \)

\( 'I am sorry for the child that fell.' \)

In (18), the controller is a dative complement of the main clause verb, and the infinitive clause is accordingly inflected for dative case. The noun phrase from the infinitive clause was the subject there, but it is also possible to delete the object of a transitive infinitive clause. In such cases, there is fluctuation among Walbiri speakers as to the proper case inflection on the undeleted subject. Some speakers use the ergative, as is expected in transitive clauses, but others use instead the suffix \( /\text{tjapa}/ \), an elative (elative of origin, primarily), close in meaning to the element \( /\text{wam}\), which has an elative usage in addition to its role as a complementiser:

\[ (19) \text{yatju ka-na-la kudu-ku mari-tjari-mi, wama-tjapa yala-tjita-wam-mu-ku.} \]

\( (\text{I AUX child-dat grief-inchoative-nonpast, snake-elative bite-infinite-\text{COMP}-\text{dat}}) \)

\( 'I am sorry for the child that was bitten by the snake.' \)

Purposive clauses of the type represented in (10) above also have infinitive counterparts. The infinitive purposive complementiser is \( /\text{kul}/ \), identical in form to the dative case:
The NP-relative interpretation is associated with an abstract syntactic representation at the deep-structure level of syntactic representation. One might hope to be adequately understood. But assuming for the present purposes that it is correct to distinguish between NP-relative and T-relative interpretations, it is natural to wonder whether or not there is a corresponding distinction at the deep-structure level of syntactic representation. One might propose, for example, that the NP-relative interpretation is associated with an abstract syntactic representation at which the relative clause is embedded.

The purposive complementiser may be extended by the elements /-ŋantjɪ/ and /-pudaj/ to render, respectively, a prerequisite purposive and a desiderative:

(20) (b) . . ., wawiri pura-ŋitja-kuk-ŋantjɪ(-l). . ., kangaroo cook-infinite-comp-prereq(-erg))

. . . as a prerequisite to cooking the kangaroo. . .

(20) (c) . . ., wawiri pura-ŋitja-kuk-pudaj(-lu).

. . ., with a desire to cook the kangaroo.

The subject of the infinitive purposive is deleted under the influence of the subject of the main clause. If the latter is transitive, and its subject therefore ergative (as is the case in (20a-c)), the purposive clause may optionally inflect for ergative case as well (as indicated parenthetically in (20b-c)). When the ergative is suffixed directly to the complementiser, the latter appears as /-kuraj/—thus, /purwa-ŋitja-kura-lu/ would be the case-marked form of the infinitive in (20a) above.

I. Toward a theory of the adjoined relative

Certain basic and rather superficial observations concerning the adjoined relative structure have been presented for Walbiri. Before presenting examples from another Australian language, I would like to discuss some of the theoretical issues which must be addressed in the further study of this construction. I do not pretend to have answers to any of the questions, but I am able to make a number of suggestions and observations which might serve as a focus for future research on the subject.

An issue of central importance in the investigation of the adjoined relative clause in Australia is the correspondence between its syntactic form and its semantic interpretation—particularly for the type which corresponds to the Walbiri finite adjoined relative marked with the referential complementiser /ŋitja-, katji-/ . I have asserted that, under the appropriate conditions of co-reference, these clauses are open to at least two distinct interpretations—one in which the dependent clause is construed with a noun phrase in the main clause (the NP-relative interpretation), and another in which the dependent clause is construed with the modality of the main clause (the T-relative interpretation).

The question of the semantic interpretation of the adjoined relative is, to be sure, a matter which will require long and intense study before the facts can hope to be adequately understood. But assuming for the present purposes that it is correct to distinguish between NP-relative and T-relative interpretations, it is natural to wonder whether or not there is a corresponding distinction at the deep-structure level of syntactic representation. One might propose, for example, that the NP-relative interpretation is associated with an abstract syntactic representation at which the relative clause is embedded as a constituent of a complex noun phrase the head of which is the noun phrase with which the relative clause is construed. Under such a proposal, the NP-relative would be introduced in deep structure by means of a phrase structure rule expanding the phrase category NP. Let us assume, in line with this proposal, that the phrase structure component produces structures of approximately the following form:

(21) NP

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<tr>
<th>NP</th>
<th>REL</th>
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It is immaterial to this discussion whether the relative clause precedes or follows the head.) These structures would then be available for interpretation by semantic projection rules of the type proposed by Katz and Fodor (1963) for attribution in modifier-head constructions. The essential ingredient of this proposal is that the semantic reading of the relative clause would be associated with the head noun phrase by virtue of its deep-structure position. By contrast, the T-relative clause might be introduced by means of a phrase structure rule expanding the category S. We might assume, for example, that it is generated in the marginal position which it occupies in surface structures, in which case the semantic projection rules would, correctly, fail to associate it with a noun phrase.

If NP-relatives are embedded under NP in deep structure, then their surface positioning must be effected by means of a transformational rule whose product is a derived structure identical in all essential respects to that associated with T-relatives. That is to say, at some early stage of derivation, NP-relatives become identical in form to T-relatives. I will refer to this proposal as the extraction analysis for NP-relatives.

Before commenting further on the extraction analysis, I would like to present an alternative conception of the derivation and interpretation of NP-relatives. I will refer to this alternative as the adjunction analysis. From a syntactic point of view, it is the null hypothesis, since it assumes that NP-relatives and T-relatives are entered in base structures in the same marginal—that is, adjoined—position which they occupy in surface structures. Moreover, under the adjunction analysis, NP-relatives and T-relatives are viewed as a single clausal category. For the purposes of this discussion, I will assume that the phrase structure component provides structures of the following form:

(22) S

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<tr>
<th>S</th>
<th>REL</th>
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4. The Adjoined Relative Clause
in which the relative clause (REL over S) and main clause (S to the left of REL) are descended from a common S-node. I do not wish to insist upon the details of this structure; rather I offer this as a provisional configuration which expresses the formal fact that the relative clause is adjoined to the main clause, rather than embedded within it—my intent is to reflect the prevailing surface structure observation that finite relative clauses, at least, are never flanked by material belonging to the main clause. I also do not wish to insist upon the linear ordering of the main and dependent clauses. I assume here, without further comment (but see below), that the basic order is S REL and that the alternative order REL S is derived by preposing.

If relative clauses of the Walbiri type are uniformly adjoined in deep structure, there is no configurational correlate to the semantic distinction between NP-relative and T-relative interpretations. I propose, therefore, that there is a semantic rule which associates the meaning of the subordinate clause with a main-clause noun phrase provided the latter is co-referential with a noun phrase in the subordinate clause. Thus, given a complex structure of the form

(23)
grammatical eliciting, the T-relative and NP-relative senses account for only a part of the observed instances of the relative clause—and the structure is extremely frequent, particularly in the essay-like style which Walbiri speakers adopt in ethnoscience discourse, a style which predominates in my recorded material on usage. It is abundantly clear, in any event, that the acceptability of a relative clause does not depend upon its ability to receive a T-relative or NP-relative interpretation. To be sure, this does not eliminate the possibility that these are concrete and distinct notions, to be defined in the grammar of Walbiri and assigned by the grammar to sentences. Nor does it eliminate the possibility that the NP-relative interpretation is associated with a deep-structure configuration like (21). It does, however, bring into view the alternative possibility that, apart from the strictly formal morphological and syntactic conditions on well-formedness within clauses, the overall well-formedness of a complex sentence containing a relative clause is not determined by the grammar, but rather by a subset of the system of maxims which are presumably observed in the construction of felicitous discourse, involving such notions as 'relevance', 'informativeness', and the like—compare, for example, the Gricean principles of conversation (Grice 1967).

I would like now to return to a consideration of the extraction analysis vis-a-vis the adjunction analysis. It is a matter of considerable theoretical import to decide the issue of whether or not the grammar of Walbiri has a rule which extracts a relative clause from an embedded position to an adjoined position. Notice that if the extraction rule exists, it is obligatory (for the finite relative clause, at least), since it is universally true in Walbiri surface and shallow structures that a T-relative clause and its would-be head never form a syntactic unit for the purposes of any well-established rule of Walbiri syntax. Consider, for example, the rule which auxiliary insertion in second position within the clause to which it belongs (referred to as Aux-insertion in Hale, 1973). This rule positions the auxiliary after the first nonauxiliary immediate constituent of its clause, obligatorily if the auxiliary base is shorter than disyllabic and not combined with a complementiser, optionally otherwise. It accounts for the positioning of the auxiliary in (26) *maliki wiri-njik ti-tji yalku-nu natju.*

(26) *maliki wiri-njik ti-tji yalku-nu natju.*

(dog big-erg aux bite-past me)

'The big dog bit me.' and in

(27) *maliki yali-ti-f-tji yalku-nu natju.*

(dog that-erg aux bite-past me)

'That dog bit me.' and for the alternative positionings in

(28) (a) *kapi-lipa-tjana wawiri-patu lwa-ni gali-pa-ju.*

(AUX kangaroo-pl shout-nonpast we-erg)

(b) *wawiri-patu kapi-lipa-tjana lwa-ni gali-pa-ju.*

(kangaroo-pl aux shout-nonpast we-erg)

'We (plural inclusive) are going to shoot the several kangaroos.'

The positioning of the auxiliary in (26) and (27) shows that a noun together with an adjective modifying it (*maliki wiri* 'dog big') or a noun together with its determiner (*maliki yali* 'dog that') may form a single constituent of the sentence at the time the aux-insertion rule applies. But the same is not true of a noun phrase and a relative clause construed with it. Thus, while aux-insertion provides evidence for noun phrase constituency, it fails to give evidence that there exists a constituent NP consisting of a relative clause and its head (that is, a structure of the form represented by (21)). This is, of course, only negative evidence, showing merely that such a constituent does not exist at surface structure. But, in general, to my knowledge, there is no direct evidence that a complex noun phrase constituent exists at any level of syntactic representation. I will return presently to other considerations which, from a typological perspective, might be expected to provide evidence in favour of the extraction analysis. But first I wish to comment upon the theoretical interest which I perceive in relation to this issue.

Under the proposal that Walbiri distinguishes NP-relative from T-relative configurations in deep structure, there must exist a transformational rule of extraction which effects an absolute neutralisation of the two types. It is a serious question whether a synchronic grammar containing such a rule should be allowed in linguistic theory. It is not unreasonable to imagine that such a grammar would be impossible to learn in the process of language acquisition. The question is this: Is it possible to learn a syntactic rule which universally removes from surface structure all structural evidence of the underlying configurations to which it applies? If it is possible under certain conditions, what are those conditions? For example, is it possible to acquire such a rule only if it interacts with independently motivated rules in such a way that the latter provide surface evidence for the existence of the underlying structures to which the obligatory rule applies? That is to say, would an obligatory extraction rule, for instance, be learnable if some other rule—indeed motivated and with an effect visible at surface structure—necessarily applied prior to extraction? And would such an extraction rule be otherwise unlearnable?

The question of learnability cannot, of course, be settled by an examination of a particular synchronic grammar. But it is quite conceivable that answers to this question will come from the study of language change, particularly within the framework developed by Kiparsky (for example, 1971, 1973). It may be possible to demonstrate, for example, that in the majority of cases in which a syntactic rule of the sort under discussion here becomes obligatory at a particular stage in the history of a language, subsequent stages undergo a grammatical reanalysis according to which the structural configuration formerly achieved by application of the rule is developed directly by rules of the base component, thereby eliminating any motivation for the transformational rule or for the underlying configuration to which it formerly applied. If this were the case, then we would have strong evidence in favour of the view that such rules must be disallowed, or at least evaluated as extremely costly, in synchronic grammars. It may turn out, of course, that the relevant type of grammatical reanalysis happens only when the obligatory rule in question precedes all other rules which might give surface evidence of the underlying structure to which it applies. In any event, the issue is an empirical one on which evidence from linguistic change has direct bearing.
is not to say, however, that one could not find language-internal evidence against an extraction analysis. Further research on Walbiri itself might reveal data which would make the extraction analysis unworkable. Consider, for example, a sentence like

(29) maliki-li ka minnitus waesilpinjih, kutja-lo-pala-njigwala kutjaka ngwakwula ngulkja ngulwaj.
(dog-aux cat chase-nonpast, comp-auxreceive anger-erg/inst look-past)
"The dog is chasing the cat, which were looking at one another angrily."

I am not sure of the status of such sentences; but if sentence (29) proved to be fully grammatical, with a NP-relative interpretation in which the relative clause is simultaneously construed with the main-clause subject maliki-li 'dog-erg' and the main-clause object minnitus 'cat', it could not be derived by means of an extraction rule alone—at least not under any straightforward formulation of that rule. But such a sentence would be consistent with the adunction analysis, since the main and subordinate clauses are linked by NP-coreferentiality—the relative clause is presumably reduced from a subordinated version of maliki-li mawu minnitus-lo-la lo-pala-njigwala kutjaka ngwakwula ngulwaj. 'The dog and the cat were looking at one another angrily.' In short, the study of NP-relative clauses with split antecedents might provide Walbiri-internal evidence against the extraction analysis. And there are undoubtedly other avenues of research which could be followed to settle the question for Walbiri, or for any language. The recursive capabilities of the two competing analyses might, for example, provide evidence bearing on the issue. Both analyses permit multiple subordinations and both analyses can account syntactically for the existence of sentences like

(30) kali ko minijitjina yali, gula ka maka-ni yapa-kari-li, gula ka yura galpgang-li ngj Naj.
(boomerang-aux get-go-imperative that, comp-aux have-nonpast person-other-erg, comp-aux camp us-possessive-loc sit [-nonpast])
"Go get me that boomerang that other person who lives in our camp has."

(This is from a speaker who uses gula/ in place of kutja/ for the instantiational referential complementiser.) But it might well turn out that a study of the full recursive capabilities of this structure, and the problem of construing a relative clause with a main-clause noun phrase in multiply subordinating sentences, will uncover evidence favouring one analysis over the other.

I would like now to turn to a consideration of a number of other processes involved in the formation of relative clauses in Walbiri—processes whose counterparts in other languages of the world are often associated with relative clauses of the embedded type. In part, I will be concerned with the question of how these relate to the validity of the extraction analysis (with largely negative results, as it happens), but primarily I will be concerned with providing a partial schedule of topics, so to speak, for the continued investigation of this structure in Australia.

4. THE ADJOOED RELATIVE CLAUSE

1.1. RELATIVISATION

An obvious question which suggests itself in relation to the issue of extraction versus adjunction is whether there exists a process of relativisation which distinguishes NP-relatives from T-relatives. And if there is such a process, does it necessarily apply within the domain of a structural configuration of the type proposed under the extraction analysis—that is, a structure of the type represented by (29) above? The question of relativisation is basically this: In NP-relative structures, what happens to the coreferential noun phrase in the subordinate clause?

For Walbiri, to my knowledge, the answer to this question is that there is no treatment accorded to coreferential noun phrases in NP-relatives which is distinct in any essential way from the treatment accorded to coreferential noun phrases in T-relatives, or other complex sentence types, for that matter. Whenever NP-coreferentiality occurs between the main and subordinate clauses, the second occurrence is either deleted, obligatorily in the case of infinitive clauses (see above), or else, in the case of finite clauses, the second occurrence may either delete or be 'pronounised' (that is, represented in surface structure by a determiner, normally the 'anaphoric' determiner (gula)); or the noun may even remain undeleted, with or without an accompanying (but not necessarily adjacent) determiner. Moreover, there is no special treatment of the coreferential noun phrase in the subordinate clause as distinct from that in the main clauses. The deletion or pronounisation depends upon the linear order of the two clauses. The favoured pattern is that in which the second of two coreferential noun phrases is affected. Thus, if the main clause precedes the subordinate, then the coreferential noun phrase in the latter is affected, as in

(31) patjula ku ka-na-la makitti inari yapka-ku, kutja-phi na wawiri bywa-ni (gula-ku),
(erg aux gun-dat seek-past, that-dat comp-aux kangaroo shoot-past that-inst)
"I am looking for the gun that I shot the kangaroo with."

(The favoured position of the anaphoric element in such cases is final, or near-final, within the subordinate clause.) If the subordinate clause precedes, then the coreferential noun phrase in the main clause is affected, as in

(32) makitti ku kutja-phi-nya patjula ku wawiri bywa-nya yapka-ku, gula-ku ka-na-la inari.
(gun-inst comp-aux you-erg kangaroo shoot-past that-inst, it-dat aux seek-nonpast)
"That gun you shot the kangaroo with, I am looking for it."

(In this ordering, the favoured position for the anaphoric determiner is initial within the main clause.) In the following sentence, the coreferential noun phrase in the second clause is represented fully by the determiner and the noun:
(33) yapka kuja-φ-na-tjana punu nj-a-wuka wakuljari pilik-xa, nula-ku kapi-na-
tjana ityiyu-wa-ni ngaju pilik-xa wakuljari-ki.
(those COMP-AUX many see-past wallaby hill-loc, them-dat AUX against-
go-nonpast I hill-dir wallaby-dat)
'Those many wallabies which I saw in the hills, I will go to the hills after
them.'

This sentence is particularly interesting, incidentally, because of the fact that
there are two instances of NP-coreferentiality in it ('pilik-xa' 'hill' occurs in both
classes, and /wakuljari/ 'rock-wallaby' occurs in both). And although the
use of the anaphoric determiner /nula-ku/, necessarily construed with
/wakuljari-ki/ 'wallaby-dat', would normally strongly favour the NP-relative
interpretation according to which the relative clause specifies the wallabies,
the context in which the sentence was recorded—a dialogue concerning
projected itineraries in a food-gathering expedition—makes it quite possible,
even more likely, that the relative clause is being used to specify the hills. Be
this as it may, sentences of this type—not uncommon in ordinary speech—
demonstrate that deletion of the second of two coreferential noun phrases is
not inevitable.

The treatment of coreferential noun phrases in NP-relative clauses is not
distinct in any way known to me from the treatment of coreferential noun phrases in complex sentences of other types. And since the deletion and
pronominisation processes involved depend upon the surface linear order of
the main and subordinate clauses, it is clear that they cannot apply before
the hypostatized extraction rule—they cannot, therefore, be used to support
the view that the configuration (21) exists at some underlying level of syntactic
representation.

I do not mean to imply that problems concerned with coreferentiality,
pronominisation, and deletion are not worthy of study in their own right.
There is much to be investigated in this area. For example, deletion of an
entire noun phrase surely depends upon recoverability to some extent. At
least it is rather clear from the data available that noun phrases in certain grammatical relations (for example, subject and object) delete more readily
than others (for example, instrumentals, locatives, benefactives). Thus,
pronominisation (or retention) is favoured over deletion in sentences like
(31), to a greater extent than in sentences like

(34) ngalku-nda ka-na-la mutiti-ki wari-nt, kuti-ja-φ-na wa.ljawa-ni ma.wu-
njntulu-ntu.
(I-erg AUX gun-dat seek-nonpast, COMP-AUX loss-caus-past you-erg)
'I am looking for the gun you lost.'

where deletion is much preferred. Likewise, in sentences like (35), retention
and pronominisation are favoured over deletion:

(35) (a) nga ka-na-tju gu (ka-nt, yi-φ-na yuna nga.ya.
(place AUX clear-nonpast, COMP-AUX lie-[nonpast] place-loc)
(b) nga ka-na-tju gu (ka-nt, yi-φ-na yuna nula-nya.
(place AUX clear-nonpast, COMP-AUX lie-[nonpast] j-loc)
'I am clearing the place in order to lie down on it.'

This is interesting to note further that the well-formedness of complex
sentences exhibiting NP-coreference does not depend upon NP-identity, but
rather on the strictly semantic notion of coreference. Thus, sentences like (36),
in which nominal coreference is manifested by a pair of synonyms, are
acceptable and not particularly unusual:

(wind-erg AUX hair tossing-strik'e-nonpast, COMP-AUX wind speak [-nonpast])
'The wind tosses our hair when it blows (lit. speaks).'

While the study of these matters is important, and perhaps crucial to a
proper understanding of Walbiri linguistic competence, it seems to me
unlikely at this point that it will contribute in any substantive way to the
question of the underlying syntactic source of NP-relatives.

1. Case agreement

At an earlier point in this discussion, it was pointed out that an infinitive
clause may agree in case with the main-clause noun phrase which controls the
deletion of a coreferential noun phrase within the infinitive. This is illustrated by sentence (18), repeated here for convenience:

(18) naja ka-na-la kuwe-ka marri-tjari-mi, warri-nja-waru-ku.
(I AUX child-dat grief-inchoative-nonpast, fall-infinite-compl-dat)
'I am sorry for the child that fell.'

The fact of case-agreement might, on initial consideration, be taken as
evidence in favour of an underlying structure in which the infinitive clause is
embedded under the same NP-node as the nominal with which it agrees. It
is known, for example, that when a noun phrase is dismembered by the perm-
tuation rules which account for the free word order so characteristic of
Walbiri, each constituent of the noun phrase is separately marked for case.
Thus, while in (26) the subject noun phrase /maliki-wiri-nil'/ 'dog big-erg' is,
as a unit, marked for ergative case, the constituents of that noun phrase are
separately marked for the ergative in alternative renditions of (26) in which
the parts of the noun phrase are separated:

(37) (a) maliki-li φ-til yalku-nu wiri-nil.
(dog-erg AUX bite-past big-erg)
(b) wiri-nil φ-til yalku-nu maliki-li.
(big-erg AUX bite-past big-erg)

I assume, speculatively, that this is accomplished by a rule of concord which
marks each constituent of a noun phrase with an abstract case feature
appropriate to the case category of the noun phrase as a whole. Whether the
actual case ending appears once or repeatedly depends upon whether the
noun phrase constituents, at the time the case features are given phonological
shape, are dominated by a common NP-node—if they are, then the case will
be spelled out once, on the final constituent of the noun phrase; but if they are not, the case will be spelled out separately on each of the constituents. Whatever the details of concord may be, it is obvious that the case agreement in (18) would be an automatic consequence of the concord rule under the extraction analysis, provided the extraction rule followed concord. Concord would then be a rule giving surface evidence of an underlying complex noun phrase configuration.

Although it is not inconceivable that this is the correct analysis of sentences like (18), case agreement cannot be used as an argument in favour of the extraction analysis for NP-relatives in general, for the simple reason that it is not limited to infinitives like that in (18), the only type for which the NP-relative inner case is held to occur at all. It applies obligatorily in the case of T-relative infinitives employing the complementiser -j/-kura/, and it applies optionally in the case of purposives and complements in /kura/. It appears, therefore, that case agreement is to be distinguished from case concord. I suggest that it is intimately linked with the obligatory coreferential noun phrase deletion characteristic of infinitive clauses. That is to say, case agreement is a surface manifestation of the control relation which holds between a noun phrase in the main clause and a noun phrase (obligatorily deleted) in the infinitive clause. And however the agreement is effected, it is defined over the control relation and not over the strictly structural relation of shared domination which is presumably involved in case concord. Viewed in this light, the phenomenon of case agreement is closely similar in nature to the phenomenon of complementiser choice (discussed above in connection with infinitives); this is also defined over the control relation.

If it is correct that case agreement is to be distinguished from case concord, and if, moreover, case agreement is to be defined in terms of control rather than in terms of shared domination, then there is no reason to expect it to be associated with NP-relatives to the exclusion of other subordinate clauses—and it is evidently not limited to NP-relatives in Walbiri. It cannot, therefore, be used to support the extraction analysis for NP-relatives; nor can it be used to support any analysis which posits a source for NP-relatives which is syntactically distinct from that of, say, T-relatives and purposives.

1.3. Attraction

The prevailing surface structure fact about Walbiri relative clauses is that they are marginal to, rather than integrated into, the main clause. This is entirely consistent with the adjunction analysis, which directly represents the marginality of the subordinate clause to the main clause by restricting recursion in the phrase structure component to the rule which expands the category $S$.

However, this prevailing surface structure marginality is fully true only in the case of finite relative clauses. Infinitive clauses, by contrast, have the ability to appear within the main clause and to permit with other constituents of it. Consider, for example, the following sentence:

(38) **panka-njabbar-cura $\phi$-na waviri luwa-nu natjulu-lu.**
    *(run-infinitive-comp aux kangaroo shoot-past $\textit{I}$-erg)*
    "I shot the kangaroo while it was running."

This behaviour is observed with particular frequency when the infinitive clause consists, as it does in this instance, of a single word.

It is possible that this reflects an embedded source for infinitive relative clauses. But if so, the embedded source is not exclusive to NP-relatives, since all infinitive types can appear as surface structure constituents of the main clause—in fact, the infinitive in (38–40) belongs to the type which most closely approximates the T-relative in semantic interpretation. Also, the infinitive type which most closely approximates the NP-relative gives no evidence of being embedded under NP—nor does any other type. The degree of embedding which they exhibit is best characterised by saying that they may appear as integrated constituents of the main clause. In any event, there is little evidence one way or the other concerning the deep structure embeddedness of infinitive relative clauses. Since their surface structure position is either marginal to or internal to the main clause, it is possible, in the absence of decisive evidence, to propose at least two hypotheses concerning them: (1) the infinitive relative clause is embedded within the main clause in deep structure, and it may optionally extrapose, normally to the position following the main clause; (2) the infinitive, like the finite relative clause, is adjoined to the main clause in deep structure, but unlike its finite counterpart, the infinitive may move into the main clause, thereby becoming a constituent of that clause for the purposes of such elementary syntactic processes as aux-insertion and constituent permutation. I will refer to the process involved in the second of these alternatives as attraction.

I do not know whether a strong case can be made for deriving infinitive clauses from finite clauses by a process of auxiliary deletion—under appropriate conditions of modality sequencing between the main and subordinate clauses. But this seems a natural suggestion and, if it were the correct analysis of infinitives, it would follow that infinitives are of the same deep-structure status as finite relatives. To maintain this proposal, however, it will be necessary to account, in some natural way, for the fact that infinitives display a much more varied array of complementisers than do finite dependent clauses—although, by and large, for each general finite type there is a corresponding infinitive type.

There are many differences between finite relatives and infinitive relatives. The latter, unlike the former, obligatorily suffer deletion of a noun phrase under appropriate conditions of control; they may be marked for case in agreement with a controller in the main clause, and they may be integrated...
into the main clause. But the most striking difference has to do with their
clausal status. Finite dependent clauses are full sentences in all respects—
they display all of the internal syntactic properties and capabilities character-
istic of main clauses; and they are subordinate only by virtue of the
complementiser, but even this is not enough to prevent them from appearing
as independent clauses, eun complementiser—purposes (in *jyali-.* (yi- ~
yiga-) are used independently to express a desire or a necessity (for example,
*jyi-ja-ya-ya-talalawilinjil 'I should go hunting; I would like to go hunting',),
and clauses in *jyuja-/ (in the present tense) are used independently to render
a presentational sense (for example, *jyuja-ka karli-mi *tapananga*/* 'There
stands *tapananga*'). By contrast, infinitives, if they have a sentential origin,
are severely reduced in structure. In their shallow syntactic behaviour, at least,
they have the characteristics of nominals. This nominal character consists not
only in the abilities of infinitives to accept case inflection, but also in their ability
to dismember and allow their erstwhile constituents to permute with the
constituents of the main clause. As in the case of noun phrases, so in the case
of infinitives, when dismemberment occurs, the endings which formerly
marked the whole appear on each of the separated constituents. In this, the
complementisers behave like case endings. Compare, for example, sentence
(41a) and the alternative rendition (41b):

(41) (a) *parka ka-nja-nji, kali tjanti-ninjinta-kura.*
      (man AUX see-nonpast, boomerang trim-infinitive-COMP)
(b) *parka ka-nja kali-kira nja-nji tjanti-ninjinta-kura.*
      (man AUX boomerang-comp see-nonpast trim-infinitive-COMP)

S

jyulaj

REL

S

S

REL

yula

Subsequently, *jyula* attracts into the main clause—that is, the clause immedi-
ately to its left—and assumes a focused position there.

There is independent motivation for the first step in this derivation—in
particular, the leaving of a trace of an extracted constituent. Walbiri has a
left-dislocation rule which extracts a noun phrase from a finite clause,
leaving *jyuja* behind. Apparently, a left-dislocated noun phrase is Chomsky-
adjoined to the S-node—in any event, it is clearly removed from the sentence
as evidenced both by pausing and by the fact that it is no longer a constituent
of the sentence for the purposes of Aux-Insertion:

(43) *gapiri-yanka, pula ka karli-mi *wulpayi-la.*
      (eucalyptus the, AUX stand-nonpast creek-loc)

'The river red gum; it grows in creeks.'

The second part of the derivation—that is, attraction of *jyula* into the main
clause—is strictly associated with the suggested preposing rule, and its
justification will depend upon the outcome of further research relating to the
proposal as a whole.

My own interest in this proposal is considerably heightened by sentences
like the following:

(44) (a) *maliki kutja-*phi wanti-tja, pula-kura phi-*na *yada-paka-ka *patjpha-*lu.
These contain preposed T-relative clauses. Interestingly, the anaphoric trace, left behind by the preposing operation and subsequently attracted into the main clause, is inflected by precisely the same complementiser that would have appeared on the subordinate clause if it had been an infinitive—that is, the complementiser which appears when the object of the main clause controls the deletion of the subject of an infinitive T-relative. This is very suggestive. It suggests, in effect, that a record of the particular NP-coreferentiality holding between the main and subordinate clauses—including information concerning the grammatical relations which the coreferential noun phrases bear in their own clauses—is encoded in the relative clause, perhaps in the REL-node, or in the relative complementiser, and is, moreover, maintained in the trace left behind in the preposing process. The spelling out of the complementiser then follows a general rule that the case-like suffixal form is used whenever the appropriate 'record keeping' features are present in a category which is less than a full sentence—that is, not only infinitives, but anaphoric elements as well.

A great deal of work remains to be done on the relative clause in Walbiri. My purpose here has been merely to indicate some potentially fruitful topics for investigation. An important area which I have not touched upon in this discussion is the accessibility of a noun phrase to relativisation (cf. Keenan 1972, and other references to his work cited there). If the adjunction analysis is correct for Walbiri, then the accessibility question in Walbiri amounts to the following: In structure (23), under the NP-relative interpretation (assuming this to be a real notion), what grammatical functions and what structural positions may NP occupy? In Walbiri, there are no apparent limits on the grammatical functions of NP, within the immediately subordinate clause, but I have not as yet been able to determine the total range of structural positions which NP, may occupy, though I doubt that they differ in any essential way from the positions which any anaphoric element, construed with an antecedent in the main clause, may occupy.

2. Examples of the adjoined relative in Kaititj

I would like now to turn to a brief presentation of data on the relative clause from another Australian language. I have chosen the Arandic language Kaititj to do this. Although Kaititj is an eastern neighbour of Walbiri, and therefore geographically close to the latter, its relative clause differs in interesting ways, as does that of the Arandic languages generally.

Kaititj, like Walbiri, has a class of finite subordinate clauses which receive a NP-relative interpretation. These are especially marked by means of an enclitic complementiser /-ar/ (j-ar in the other Arandic languages) which attaches to the first constituent of the subordinate clause:

(45) *agiri atj ak, atyili-ar wi-nh.*

(kangaroo:erg sec-pres, man-erg-comp shoot-past past)

'I see the kangaroo that the man shot.'

(Arandic segmental phonology is quite complex and not particularly well understood; and I would like to make a few comments on the orthographic representations. The symbol /h/ represents a high to high-mid central vowel [h] ~ [a], except morpheme-initially, where it is a high-mid front vowel. It tends to front and raise when adjacent to /l/ and to round when adjacent to /w/. Word-final vowels, omitted from the transcription, are predictable entirely—they are the high to high-mid central vowel when unstressed; but they are the low central vowel [a] when stressed. Stress is also predictable, appearing on the first post-consonantal vowel in the word. The symbol /j/ designates an unrounded dorso-velar glide, and the symbol /h/ is used as a diacritic to represent lamino-dental articulation. There also exists a series of nasals with stop-onset—these are represented by upper-case letters. Other symbols have their conventional Australian values.)

The subordinate clause in (45) is presumably reduced from the following:

(46) atyili-agir wi-nh.

(man-erg kangaroo shoot-past)

'The man shot the kangaroo.'

by deletion of /agir/ 'kangaroo' under identity with the object noun phrase in the main clause. Kaititj, and the other Arandic languages as well, differ rather strikingly from Walbiri in that finite relative clauses are inflected for case in agreement with the main-clause noun phrase with which they are construed. This is not apparent in (46), since the relevant main-clause noun phrase there, being an object, is in the absolutive and is, therefore, not overtly marked for case. But in (47) below, the main-clause noun phrase is in the dative case—in conformity with the case government of the main-clause verb /uNthu/ 'to seek'—and the relative clause accordingly, is inflected for dative case. The case ending is suffixed directly to the finite verb:

(47) *agiri-w ayin uNthu-ran, atyi-ar wi-nh-i-w.*

(kangaroo-diat:nom seek-prog, man-erg-comp shoot-past-dat)

'I am looking for the kangaroo that the man shot.'

Further examples of case agreement are presented below:

(48) (a) *agiri-wal ayin api-yir, atj-ar wi-nhiri-wal.*

(kangaroo-dir:nom walk-fut, you:erg-comp shoot-past-dir)

'I will go up to the kangaroo which you shot.'

(b) *agri-wal s agiri, atj-ar ayN Nhiri-wal.*

(kangaroo-dir you:nom walk-imperative, I:erg-comp spear-past-dir)

'You go up to the kangaroo I speared.'

(c) *agiri-w ayin uNhiri-ron, atj-ar ayN Nhiri-a-y-*.

(kangaroo-diat:nom seek-prog, I:erg-comp spear-past-dat)

'I am looking for the kangaroo I speared.'
although it seems to be taken up somewhat less often in Kaititj than in Walbiri):

(a) atuyi-thyi ayin api-nhi-thyi, g-ar uNthu-yayni-thyi.

(b) atuyi-w ayin uNthu-ran, nkir-ar alari-nhi-w.

(c) atuy-ar anki-rani-thyi ayin api-nk.

(d) ulakilyi-l ayin anti-yar, atjir-yj-l-ar atji-g kati-j-npwarai-nhi-l.

(e) utuyi-thyi ayin api-nhi-thyi, g-ar uNthu-yayni-thyi.

(f) atuy-ar anki-rani-thyi ayin api-nk.

Kaititj shares with Walbiri the option of preposing the relative clause, although it seems to be taken up somewhat less often in Kaititj than in Walbiri—in the case of the NP-relative at least. When the relative clause is preposed, the coreferential noun phrase remains undeleted in the subordinate clause, but its main-clause partner is represented by a determiner or by the preposed, the coreferential noun phrase remains undeleted in the subordinate clause. This integration is further evidenced by the position of the main-clause noun phrase with which it is construed.

In (51) and (52), the coreferential noun phrase in the subordinate clause is the subject, and therefore initial in its clause. If the coreferential noun phrase is not the subject, it is apparently fronted, leaving the somewhat unusual surface ordering in which the complementiser [-ar] appears to attach to the second constituent of the subordinate clause. It is quite possible that this apparent fronting is in fact raising, and that it brings the subordinate noun phrase into the main clause as an absolutive constituent of the main clause, not the main-clause coreferent is entirely absent from (51). And finally, the case category associated with the noun phrase [api-], that is, absolutive (or nominative), also indicates that that noun phrase is a constituent of the subordinate clause, not its absolutive marking follows from the fact that it is the subject of the subordinate verb, which is intransitive.

The following are additional examples of this apparent attraction of a relative clause into the position of the coreferential main-clause noun phrase:

(52) (a) atuy-ar aNiti-yani-wal ayin api-nk.

(b) atuy-ar aNiti-rani-thyi ayin api-ak.

In (51) and (52), the coreferential noun phrase in the subordinate clause is the subject, and therefore initial in its clause. If the coreferential noun phrase is not the subject, it is apparently fronted, leaving the somewhat unusual surface ordering in which the complementiser [-ar] appears to attach to the second constituent of the subordinate clause. It is quite possible that this apparent fronting is in fact raising, and that it brings the subordinate noun phrase out of its own clause—in which case the positioning of the complementiser would not be exceptional. The case marking in (53), however, clearly indicates the grammatical relation of the fronted noun phrase within the subordinate clause (that is, dative as opposed to the absolutive appropriate to its main-clause partner (see (48c)):

(53) atuy-w g-ar uNthu-yayni-thyi ayin api-nhi-thyi.

In this example the noun phrase [api-], that is, absolutive (or nominative), also indicates that that noun phrase is a constituent of the subordinate clause, not its absolutive marking follows from the fact that it is the subject of the subordinate verb, which is intransitive.

(54) (a) kayl ngt-ar irki-nhi-w ayin litjar-ni.

(b) kayl ngt-ar irki-nhi-l aaj aNthiluy wi-wi-thi.

(50) (a) kayl nt-ar irki-nhi-w ayin itirari-rin.

(b) kayl ngt-ar irki-nhi-w ayin itirari-rin.

(51) aNTYI-yani-l, antli-l-at atji-g wi-akhr.

'Go up to the kangaroo that died.'
It seems natural to suggest that sentences like (51-2) are derived by means of a transformational rule, following case agreement, which attracts a right-adjoined relative clause into the main clause. Moreover, since the main-clause coreference partner does not actually appear in (51-2), it is possible that it is replaced by the relative clause. One might speculate along these lines, that Kaititj, like Walbiri, has underlying structures of the adjoined type represented in (23). But, unlike Walbiri, Kaititj not only inflects its finite clause for case in agreement with the main-clause noun phrase NP, but it also has the option of attracting the relative clause into the main clause to replace NP, thereby deriving from (23) a surface structure of the form

\[
\begin{array}{c}
S \\
\text{(NP)} \\
\text{REL} \\
S \\
\text{NP}
\end{array}
\]

According to this hypothesis, Kaititj possesses an embedded relative clause—at the surface structure level of syntactic representation, but not at deep structure.

To account for sentences like (53-4) as well, one might speculate further that, if NP—the coreferent in the subordinate clause—is a nonsubject, and therefore noninitial in its clause, it is extracted to the right and, perhaps, Chomsky-adjoined to the subordinate S-node. This extraction, or raising, would convert (55) to:

\[
\begin{array}{c}
S \\
\text{(NP)} \\
\text{REL} \\
S \\
\text{NP}
\end{array}
\]

4. THE ADJOINED RELATIVE CLAUSE

The details of such a proposal must, of course, await further research. It is not clear, for example, whether the attraction rule actually involves replacement of NP, for there are apparent instances of attraction in which NP, with its case marking appropriate to its role in the main clause, remains undeleted while NP is deleted from the subordinate clause:

\[
\text{(57) } \text{atji}-\text{yi}-\text{i}-\text{r atji-gatji}-\text{mpwari-} \text{nhi-wal ayin alpi-nk, } \text{anjtu-wal.}
\]

(brother-my-erg-comp I-obj benefactive-make-make-dir I nom return-pres, shelter-dir)

'I am returning to (that which) my brother made for me, to the shelter.'

But the status of this sentence, and others like it, is not clear. It is possible that the main part of (57) is simply indeterminate with respect to nominal reference i.e., that the nominal is unspecified and, therefore, not overtly represented and that the apparent main-clause noun phrase /anjtu-wal/ 'shelter-dir' is, in fact, merely appended to the sentence as a whole, as an afterthought, to supply specification. This is not an unusual practice in Australian usage, and the intonational break preceding /anjtu-wal/ is consistent with this alternative interpretation.

In considering the details of the attraction proposal, it may prove relevant to study parentheticals as well. Sentences like (58a-b) below show the relative clause inserted in the position immediately following NP (that is, the main clause coreferent):

\[
\text{(58) (a) atuy withi-l-at, atji-y-ar alari-nhi-l, rjki-n ari-mikitj.}
\]

(man the-erg-emph, me-obj-coMP hit-past-erg, you-obj see-admonitive)

'The man, who hit me, is liable to see you.'

\[
\text{(b) atuy, atji-n-ar alari-nh, yki-n unthu-ran.}
\]

(man, me-obj-coMP hit-past, you-obj seek-prog)

'The man, who hit me, is looking for you.'

But parentheticals, unlike attracted clauses of the type represented by (51-2), are set off intonationally by clearly perceptible pausing.

In this brief discussion of Kaititj, I have restricted my attention to clauses receiving the NP-relative interpretation, since these are the most clearly relevant to the issues surrounding the adjunction analysis. It is clear that Kaititj presents a direct challenge to this conception of relatives, since it possesses both the adjoined and the embedded relative clause in surface structure. I have suggested that the clauses are underlyingly adjoined and derivatively embedded. Obviously, of course, there exists the alternative possibility that they are underlyingly embedded and derivatively adjoined.

And a third possibility, certainly worth attention, is that both types exist at deep structure. If the embedded relative is basic in Kaititj, then, to account for sentences of the type represented by (51–2), there must be some provision for eliminating the head noun phrase, since it does not appear in surface structure. But this is not unprecedented—for a discussion of the 'headless' relative clause in Navajo, an American Indian language, see Platero (1973); and, for an alternative account of the phenomenon, see Hale and Platero (1974).
3. Concluding remarks

Although I cannot at this point give definitive arguments in support of the basicness of the adjoined relative in the two languages used to exemplify it in this paper, I have presented the adjunction analysis as a possibility which, I feel, deserves serious consideration.

It is my opinion that, historically at least, the adjoined relative takes priority over the embedded relative in Australia. It has been reported in Island in the Gulf of Carpentaria (see, for example, Klokeid 1973), the basicness of the adjoined relative in the two languages used to exemplify it in Ngarluma of the northwest coast, Warramunga of central Australia, and in Mabuiag of Torres Strait (see Klokeid 1970); and I have found it also in Northern Paman language Linrjithig of Cape York Peninsula (see Hale 1966), and for Kaititj, I am indebted to Mr Lindsay Wood, Mr Bob Ambitjana Johnson, Mr Mick Jupurrula Conhell, and Mr Dinny Japaljarri Anderson.

I am encouraged, further, to speculate that the development of the embedded type, exemplified here by Kaititj, is intimately related to the phenomenon of attraction. The attraction rule itself, in my opinion, has entered the grammars of certain Australian languages for a reason. That is to say, it is functionally motivated.

If it is true that the NP-relative interpretation is achieved by means of an interpretive rule which embeds the semantic reading of an adjoined relative clause into NP, in the main clause, where this noun phrase has a coreferential partner NP, in the subordinate clause, then, subsequent to the interpretive rule, there exists a syntactic/semantic disparity in subordination—the relative clause is syntactically adjoined but semantically embedded. The attraction rule, I propose, exists precisely to eliminate this disparity. (See Hale 1971, for further discussion of this proposal.) If the attraction-rule becomes obligatory at some stage in the historical development of a language, it does not seem unreasonable to imagine that a grammatical reanalysis takes place, giving rise to a deep-structure relative clause of the embedded type. I suspect that the attraction rule, there exists a syntactic/semantic disparity in subordination—the relative clause, rather than of the main clause, is evident not only from the intonational properties of this sentence but also from the fact that the dative NP in question fails to cause dative agreement in the main-clause auxiliary—compare (16), in which the main-clause auxiliary [ka-la] contains the third person singular dative pronominal element [-la], in agreement with [kida-njani-ku].

2. Apparently, case-agreement applies only when the subordinate clause shows verb-final word order. In an alternative rendering of (48c)—in which the subject, not the verb, is in final position—the subordinate clause does not show case agreement:

(48c) agiri-w avin u'xhu-ran, avin-nj-ar att.
(kangaroo-dat I:nom seek-prog, spear-past-compl I:erg)

References

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