On predicate modification in Nte?kepmxcin (Thompson River Salish)*

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In Nte?kepmxcin (Thompson River Salish), relative clauses follow the noun they modify but are preceded by a determiner, resulting in a double determiner structure [determiner NP determiner relative clause]. This paper looks for syntactic movement in the relative clause by examining the determiner structure, arguing that the determiner of the head noun is selected by the matrix predicate while the determiner introducing the relative clause is selected by the predicate inside the relative clause. Syntactic movement parallels the semantic operation of lambda abstraction, allowing for relative clauses to combine with their head noun via predicate modification. However, adjectives, though also always preceded by a determiner, do not provide evidence for movement of the determiner within an adjectival phrase.

1 Introduction

This paper examines the determiner structure in relative clauses in Nte?kepmxcin (Thompson River Salish) and argues that relative clauses are formed on the basis of syntactic movement. The analysis follows Davis (this volume), who argues on the basis of determiner distribution that locative relative clauses in St'at'imcets (Lillooet Salish) are formed via syntactic movement within the relative clause. Kroeber (1997) also suggests that locative relatives in Nte?kepmxcin are formed through syntactic movement, since they are introduced by a preposition generated inside the relative clause. However, as Davis points out, Kroeber questions his own analysis since the determiner following the preposition appears to be generated outside the relative clause.

In this paper, then, I look at nonlocative relative clauses and argue that while the determiner introducing the head noun is selected for outside the relative clause, the determiner introducing the relative clause is selected for inside the relative clause. I take this as evidence that the second determiner has moved from inside the relative clause. Together with Kroeber's evidence for

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preposition movement from inside locative relatives, this makes a strong case for syntactic movement in relative clause formation in N⁴e²kepmxcin. This syntactic movement matches the semantic operation of lambda abstraction, which creates a variable in the relative clause and allows it to combine semantically with the head noun via predicate (or intersective) modification (Heim & Kratzer, 1998).

In Section 2, I introduce the determiner system and the basic structure of relative clauses in Nte?kepmxcin, relying on Thompson & Thompson (1992), Kroeber (1997) and Jimmie (2002-2004). Section 3 introduces language data from a speaker of the Lytton dialect of Nte?kepmxcin, and argues that relative clauses are formed through syntactic movement. Finally, Section 4 discusses the semantics of predicate modification, and looks at the problematic case of adjectives in Nte?kepmxcin: adjectives appear to have the same double determiner structure as relative clauses, but do not readily provide evidence for syntactic movement. Section 5 concludes.

2 Determiners and relative clauses in Nte?kepmxcin

2.1 Determiners

Determiners always introduce arguments, adjectives and relative clauses. Since N⁴e?kepmxcin has a fairly rich determiner system, determiners can provide evidence for where the determiner is selected (matrix or relative clause), and hence whether syntactic movement is involved.

There are four primary determiners (Thompson & Thompson 1992; Kroeber 1997; Jimmie 2002-2004). (*h*)*e* introduces items that are specific, present or visible; often this reduces to /a/ or zero. *f* marks items that are remote in space or time.¹ *te* is an oblique marker, introducing patient arguments of ditransitive verbs and intransitive verbs (what Kroeber 1997 calls "nonlocative obliques"), as well as some adjuncts.² *k* marks elements that are unrealized, for example in negated contexts. Oblique *t* and unrealized *k* can combine to give *tak* or *tk*.³ Table (1) summarizes.⁴

⁴ A final determiner xo ("particularizing") is given by Thompson & Thompson (1992: 151-3). However, the authors note that it "is not very common, and it is elusive in

¹ Thompson & Thompson refer to this as "past," but it apparently need not necessarily refer to entities established in the past (1992: 149). Kroeber (1997: 379) hypothesizes that one of its variants, te (given as the basic form by Thompson & Thompson) is in fact an additional determiner composed of t and e. As it is not clear that there is in fact a separate meaning, I do not count te as an additional determiner.

² Kroeber (1997: 380) hypothesizes that *te* is a combination of oblique *t* and specific (*h*)*e*. Thus, it is also possible to get *t* in combination with remote *t*, though the *t* is often inaudible. Davis (p.c.) also confirms that the *t* oblique is present for some speakers before

f. However, I have been unable to detect any instances of oblique *t* before remote f, by my consultant (including in very slow sound-by-sound speech). It may be that this distinction is lost in the Lytton dialect, or for some speakers. As this does not bear on the arguments in this paper, I set the issue aside for now.

³ Thompson & Thompson (1992: 153) identify *tək* as a single "descriptive" marker, but I follow Kroeber (1997) in separating it into oblique and unrealized.

(1) Determiners in Nte?kepmxcin

he/ə	specific; present, visible (det)
<i>t(e)</i>	remote (in space or time) (det)
te	oblique (obl)
k (often combined with "te" to give "tk")	unrealized/irrealis (irl)

(based on Kroeber, 1997; Thompson & Thompson, 1992; Jimmie, 2002-4)

2.2 Relative Clauses

As Kroeber (1997) has provided a very thorough description of relativization strategies in Nte?kepmxcin, I will have little to say here except to outline the basic structure of relative clauses in the language. As noted by Kroeber (1999) and Davis (2002, this volume), relative clauses in Salish come in a variety of shapes. St'at'imcets (Lillooet Salish) has a particularly rich system, exhibiting three types of relative clauses, as outlined in (2):

(2)	а.	DET [head [DET relative clause]]
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- b. DET [head [relative clause]]
- c. DET [[relative clause] head]

(adapted from Davis, this volume)

In Nte?kepmxcin, only the form in (2a) is attested. That is, the relative clause normally follows the noun it is modifying, and is always preceded by a determiner. This results in a double determiner structure, illustrated in $(3)^5$; in this case, the first determiner is remote t and the second is the oblique te:⁶

(3) wikne t smiyc te x^wuý un see.trans.30.1TS det deer obl FUT 1sg.conj sqaým nom.shoot.intrans
 "I saw the deer that I'm gonna' be shooting."

One final shape not given in (2) but logically possible is [DET relative clause DET head]. This form is possible in Nte?kepmxcin and fairly easily

⁶ See the appendix for a list of abbreviations used in the gloss.

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meaning and function." Indeed, they speculate that it may be a reduction of the progressive marker (w)?ex after another determiner; as the only instances of x = x + 1 have found are consistent with this hypothesis (see (16) for an example), I do not include x = x = a a determiner here.

⁵ I follow Thompson & Thompson 1992 and Jimmie 2002-2004 in orthographic conventions. Unless otherwise noted, all Nte?kepmxcin forms in this paper are from a native speaker of the Lytton dialect.

elicited, though not commonly produced. Here I assume it is derived from the canonical form in (2a), and will have little more to say about it in this paper. Example (4) illustrates a case where the relative clause *t* kancis precedes the sentence-final head noun *smutec*.

(4) wikne t kancis t puti see.trans.30.1TS det help.trans.2sg0.3TS det pretty t smutec det woman
 "I saw the pretty lady that helped you."

Having laid out the determiner structure and basic shape of relative clauses in Nte?kepmxcin, I now argue, based on determiner distribution, that relative clauses are formed by syntactic movement within the relative clause.

3 Relative clauses via syntactic movement

Kroeber (1997) showed that in locative relatives, a preposition generated inside the relative appears at the front of the clause, constituting evidence for syntactic movement. I repeat his (45f) here as (5):

(5)	cutes	n	t	x ^w uỷ un	mice?q
	fix.trans.30.3sgTS	in	det	FUT 1sg.conj	sit
	"S/he fixed what I was	going to s	sit in."	(Kroeber 1997:	397)

Kroeber concludes that "the preposition codes the relation of gap to relative clause predicate, not the relation of the whole relative clause to the matrix predicate...Thus, at least locative relative clauses in Thompson are formed by means of some sort of movement..." (1997: 396-7). However, as Davis (this volume) also notes, Kroeber doubts his own analysis because the preposition appears to move without a relative pronoun, and moves in front of the article introducing the relative clause (*t* in example (5) above). What is needed, then, is evidence that the determiner introducing the relative clause has also been generated inside the clause and moved along with the preposition (as Davis (this volume) shows for St'at'incets).

I start by laying out cases which do not provide evidence for syntactic movement of the determiner in the relative clause, then turn to nonlocative relative clauses where determiner structure does support a movement analysis.

3.1 Where not to look: misleading determiner combinations

Most frequently, relative clauses are produced with the same determiner introducing both the head noun and the relative clause (6-8; see Kroeber 1997 for further examples). Because both determiners are identical (here, the remote †),⁷ they could simply be copies and do not constitute evidence for syntactic movement inside the relative clause.

⁷ Kroeber (1997: 381) finds that *†* is rare as a complementizer in his data; I have found it quite common. This may be a dialectal difference; it may be that its combination with

(6)	k ^w isne drop.trans.30.1TS "I dropped the po	tato that you ate."	pətak potato	1 det	?upinx ^w eat.trans	s.30.2TS
(7)	punmne find.REL.30.1TS "I found the car J		† det	cutes fix.trans	.30.3TS	t John det John
(8)	wikne see.trans.30.1TS	t smuwe? det cougar	t day det sho	es ot.trans.30	.3TS	he John det John

"I saw the cougar that John shot."

In some cases, the initial determiner is specific/present (h)e, while the second is the oblique te (9-11; see Kroeber 1997 for further examples). However, given that te may be composed of oblique t and specific/present (h)e (Kroeber 1997), these cases also do not necessarily provide evidence for syntactic movement. Again, specific/present (h)e may be copied into the second determiner position.

(9)	nexcme give.1sgo.idf "Give me the kni	he det fe that ye	se?lis knife ou fixed.	te obl	cutex ^w fix.30.2sgTS
(10)	?upis eat.trans.30.3TS k sq ^w iyts irl nom.rip "The kids ate the	e.3sgpos	child s	he sqətúx ^w det blackberry weren't ripe."	te təte? obl neg

(11) punmne he se?lis te cutes he John find.trans.30.1TS det knife det fix.trans.30.3TS det John "I found the knife that John fixed."

What is required, then, are cases where the determiner introducing the noun clearly differs from that introducing the relative clause, and where the determiner introducing the relative clause is selected for by the predicate inside the relative clause.

3.2 Determiner combinations that differ

In this section, I present data in which the two determiners in Nte?kepmxcin's double determiner relative clauses differ. I look at three types of cases.

oblique *t(e)* in other dialects make its isolate less common there (see also footnote 2 for further discussion on this point).

3.2.1 Case 1: specific/present (h)e and remote **†**

In the first pattern, the NP is introduced by specific/present (h)e, while the relative clause is preceded by remote f. Consider the example (12): the matrix predicate is marked progressive, indicating that the picking of berries is occurring now. As a result, the berries are present/visible and marked as he sq^{wiyt} .⁸ In contrast, the relative clause predicate is marked as future, indicating that the act of berry-eating will take place at a time distant from the present. As a result, the object of the subordinate predicate ?upis "eat" can be introduced by remote f; and indeed, the relative clause as a whole is introduced by f; consistent with an analysis in which the determiner has been fronted from a position inside the relative clause.

(12)	?ex	xe?	(c?eyt)	q ^w iỷwes		he	sq ^w iyt			
	prog	dem	(now)	pick.trans.30	.3sgTS	det	fruit			
	4	x ^w uỷ	?upis	-	†	skixze	?s			
	det	FUT	eat.trans	.3o.3sgTS	det	mothe	r.3sgposs			
	"She is	"She is picking the berries that her mother's gonna' eat."								

The same pattern holds in (13), but here the subordinate predicate is past tense. The NP $sq^{w}iyt$ "fruit" takes the determiner *he*, selected for by the (progressive) matrix predicate since, as the consultant notes, "you can see the berries [or fruit] right there." In the subordinate clause, the gap for $sq^{w}iyt$ "fruit" as an object of the past tense predicate $sq^{w}iywene$ "pick" is marked by remote $\dot{\tau}$, which fronts to introduce the entire negated relative clause. (14) to (16) are further examples where the head NP is introduced by the determiner *he* while the relative clause is preceded by remote $\dot{\tau}$.

(13)	?ex	xe?	q ^w iywes	; 1	he smutec	he sq ^w iy	yt
	prog	dem	pick.trai	ns.3o.3sgTS d	let woman	det fruit	
	† təté?)	k	sq ^w iywene		4	spi?xewt
	det NEC)	irl	nom.pick.tra	ans.30.1sgTS	det	day
	"The wo	oman's pi	cking the	berries that I	didn't pick yes	sterday."	-

(14)	?ex	x ^w i?ne	(ə)	sk ^w uley	t
	STAT	look-for.30.1sgs	(det)	teacher	
	4	kncems	n	1	sk ^w ul
	det	help.trans.1sgo.3sgs	at	det	school
	"I'm loc	oking for the teacher that	helped me	at school.'	1

(15)	w?ex	cutene	÷ə	citx ^w
	prog	fix.trans.30.1TS	det	house
	ł	scuetx ^w	ł	John
	det	nom.make.house	det	John
	"I'm fiz	king the house that John	built."	

⁸ The consultants comments were particularly insightful here. On introducing the head NP, she noted that "if you use he [with sq^{wiyt}], it means she's picking it right there and now; if you use t, then she's done it already, it's already been picked."

(16) ŧ nskixze? w?ex xe? kantes 1sgposs.mother help.trans.30.3TS det prog dem cwum he Xu?sqayx^w tex t n tewn det det man det.prog work in town "My is helping the man that is working in town."

3.2.2 Case 2: remote *†* and oblique *te*

A second pattern occurs when the matrix predicate has a past tense interpretation while the relative clause predicate is an intransitive (middle). In (17), matrix wikne "I saw" selects for an NP smiyc "deer" introduced by the remote determiner f, since this occurred in the past. The subordinate predicate, on the other hand, is the intransitive (or middle) squym "shoot," which selects for objects introduced by the oblique marker te. And indeed, the relative clause is introduced by oblique te, again consistent with the analysis that it is moved from the gap inside the relative clause.

(17)	wikne	4	smiyc	te	x ^w uỷ	un				
	see.trans.30.1TS det deer obl FUT 1sg sqaym									
	nom.shoot.intran	nom.shoot.intrans(middle)								
	"I saw the deer that I'm gonna' be shooting."									

(18) provides a further example akin to (17). In (19) we have a logical reversal of this pattern. Since now the matrix predicate is intransitive fa?xans "eat," the first determiner introducing the NP *səplil* "bread" is oblique *te*. On the other hand, the relative clause predicate is transitive $x^wi?es$ "look for," which does not select an oblique determiner – and as expected it is introduced by the fronted remote determiner t.

(18)	punmne		t sqyeytn	te	x‴uỷ		
	find.trans.30.1TS		det salmon	obl	FUT		
	sta?xans	4	nsqacze?				
	nom.eat	i.eat det lsgposs.father					
	"I found the salm	n					

(19)	ta?xans		kn	xe?ə	te	səplil
• •	eat		1sg	dem	obl	bread
	4	x ^w i?es	-		4	nsinci?
	det	look.fo	r.trans.3	o.3TS	det	1 sgposs.brother
	"I had so	ome of th	ne bread	l that my b	prother w	as looking for."

3.2.3 Case 3: oblique/irrealis tk and remote f

A third combination has oblique/irrealis tk introduce the NP while remote t introduces the relative clause. This can occur in questions (an irrealis context). In (20), the NP is introduced by the oblique/irrealis determiner tk, selected for by the matrix question environment. However, the relative clause is marked by remote t, selected for by the past tense subordinate predicate $k^w ciyx^w$ "leave." Interestingly, remote t introduces both $k^{w}ciyx^{w}$ and the aspectual predicate *nwen*.

(20)swet χэm (xe?) tk smutec 4 nwen perf who (dem) obl.irl woman det already ŧ k^wciyx^w det leave "Who is the lady that already left?"

Two further examples similar to (20) are given in (21-22):

tk ∦u?sqayx^w (21)xe? swet who det obl.irl man ŧ cuxitc te? citx^w fix.benef.trans.2sg.3sgTS det.2sgposs det house "Who is that man that fixed your house?" skwukwmi?t (22)swet xe? tk who obl.irl child dem ł ?upixcms ł nsqyeytn eat.benef.trans.1sgo.3sgTS det det 1sgposs.salmon

"Who is the kid that ate my salmon?"

A second type of the tk/t case is given in (23). Here, the "emphatic introductory predicate" $\dot{c}e$ (Thompson & Thompson 1992) selects for the oblique/irrealis determiner tk ("if the man is not present" – consultant comment). Meanwhile, the remote t that introduces the relative clause is licensed by the past tense subordinate predicate *?upixcms* (literally "he ate it for me"). Again this is consistent with t having moved from a gap position inside the relative clause. The pattern with remote t introducing the relative clause repeats again in the second half of the sentence.

(23)	će	tk	Xu?sqay	х ^w	4	?upixcms	
	emph.in	t obl.irl	man		det	eat.benef.1sg	o.3sgTS
	4	nsqyeyt	n	će		?ex	Xu?
	det	1sgposs	salmon	emph.in	t	prog	emph
	4	?upixcm	IS	-	ł	nsmiyc	•
	det	eat.bene	f.1sgo.3s	gTS	det	lsgposs	deer.meat
	"The sar	ne guy th	at ate my	salmon ı	now	is eating my	deer meat."

3.3 Summary

I have given here three different patterns of subordination in which the determiner introducing the relative clause differs from that introducing the head NP. In each case, the determiner marking the relative clause is consistent with an analysis where the determiner is fronted from inside the relative clause, marking a gap. These three combinations are: specific/present (h)e and remote ‡, remote ‡ with oblique te; and oblique/irrealis tk and remote ‡.

In the next section, I discuss how this theory bears on the semantics of predicate modification in relative clauses, and how adjectives in Nte?kepmxcin (another type of predicate modifier) do not show evidence for this type of movement.

4 Predicate modification in N⁺e?kepmxcin: the semantics

Nouns can be modified with adjectives, prepositional phrases or relative clauses. Semantically, this amounts to the intersection of two predicates of type $\langle e,t \rangle$ in an operation called predicate modification (or intersective modification) (Heim & Kratzer 1998). When these two predicates are immediately adjacent in the syntax, direct predicate modification creates a mother node of type $\langle e,t \rangle$ out of two sisters that are both of type $\langle e,t \rangle$:

 (24) Predicate Modification (PM) If α is a branching node and {β,γ} the set of its daughters, then, for any assignment a, if [[β]]^a and [[γ]]^a are both functions of type <e,t>, then [[α]]^a = λ x ∈ D.[[β]]^a(x) = [[γ]]^a(x) = 1 (Heim & Kratzer, 1998: 95)

An English adjective, of type $\langle e,t \rangle$, combines with a noun, also of type $\langle e,t \rangle$, via direct predicate modification as in (25). Thus, (25) means that Bert belongs to the set of things that are red and the set of things that are snakes; the node "red snake" is the intersection of these two sets, and thus also a semantic predicate of type $\langle e,t \rangle$.

(25)

4.1 Relative clauses

On the other hand, if a modifier is not immediately adjacent to the noun it modifies, (24) does not immediately apply. This is the case with relative clauses in English. Since a clause is not of type $\langle e,t \rangle$, the semantic operation of predicate (or lambda) abstraction first creates a variable in the relative clause, rendering it of type $\langle e,t \rangle$.

(26) Predicate abstraction If α is a branching node whose daughters are a relative pronoun and β , then $[[\alpha]] = \lambda x \in D$. $[[\beta]]^x$. (Heim & Kratzer 1998: 96)

The rule in (26) turns a relative clause into a predicate of type $\langle e,t \rangle$. Then predicate modification can apply. Crucially, it is "the moved relative pronoun" that "affects the calculation of the semantic value for the next higher constituent" (Heim & Kratzer 1998: 98). Thus, in (27), the movement of the relative pronoun *who* creates a variable in the relative clause, allowing lambda abstraction to turn the clause into an <e,t> predicate. The syntax and semantics coincide nicely.

(27) Bert is [the [snake] [who everyone loves t]]. <e,t> <e,t> (via lambda abstraction)

If the analysis of Nte?kepmxcin relative clauses in Section 3 is correct, then the syntax of relativization in Nte?kepmxcin also matches the semantics of predicate abstraction (26). The fronting of the determiner from a position inside the relative clause creates a variable which, semantically, turns the relative clause into a type <e,t> predicate. A structure for the DP *the deer I'm gonna' be shooting* in (17), repeated below, is given in (29); the oblique determiner *te* moves from inside the relative clause, leaving a gap.

(28) wikne ¹/₁ smiyc te x^wuý un see.trans.30.1TS det deer obl FUT 1sg.conj są dym nom.shoot.intrans(middle)
"I saw the deer that I'm gonna' be shooting."



4.2 Adjectives in Nte?kepmxcin

Unlike English adjectives, which modify their nouns directly (i.e. are immediately adjacent in the syntax), adjectives in N[‡]e?kepmxcin look more like relative clauses. That is, a determiner always intervenes between the adjective and the NP it modifies. The examples below illustrate. The intervening determiner can be either te (30), tk (31) or \ddagger (32), and is usually identical in the case of stacking adjectives (30-31), though it is not a copy of the determiner marking the initial adjective (cf. the determiner e in example (30)).

(30)	wikne see.trans.30.1TS "I see a big fast c	÷	im	te obl	pməp fast	te obl	kah car
(31)	Χaxt tall "He's a big tall m	tk obl.irl nan."	xəlúm big		tk det.irl	⊀u?sqay man	'X ^w

(32)	wikne	•	he	xəlum	4	snkyap	
. ,	see.tra	ans.30.1TS	det	big	det	coyote	
	t	keykeyatc		•		-	
	det red.chase.trans.2sg0.3TS						
	"I saw the big coyote that chased you."						

Since a determiner intervenes between adjective and NP, direct predicate modification cannot apply. It is tempting to treat adjectives like relative clauses, with determiner movement creating a variable that turns the [det adjective] into an $\langle e, t \rangle$ predicate. However, unlike relative clauses, adjectives are usually produced prenominally (example (32) show s both a prenominal adjective and a postnominal relative clause). That is, the determiner introducing the adjective seems to be selected for by the matrix predicate; at least, I have found no way to distinguish selection by the matrix predicate and selection from within an AP. Furthermore, the determiner marking the NP appears not to be selected for by the matrix predicate; for example, transitive *wikne* in (30) does not select for oblique *te* to mark its arguments. The same process apparently takes place in Shuswap (Secwepemctsin), possibly for all modificational structures (adjectives as well as relative clauses; see Gibson 1972: 73, 106-108).

Thus, adjectives, though superficially similar to relative clauses in Nte?kepmxcin, seem to be structurally different; a unified syntactic and semantic treatment of adjectival predicate modification remains to be developed. However, the ordering effects – adjectives being prenominal while relative clauses tend to be postnominal – may turn out to support a case for a lexical distinction between adjectives and verbs in Nte?kepmxcin (as argued for by Davis 2002 in St'at'imcets).

Of note also is that direct predicate modification does not occur with adjectives in Nte?kepmxcin. In fact, the only cases of direct predicate modification (where the modifying <e,t> predicate sits immediately adjacent to the head noun in the syntax, without an intervening determiner) that I have found are with prepositional phrases. An example is given below. The prepositional phrase we səpyep "in the forest" is of type <e,t> and immediately modifies smuwe? "cougar."⁹

(33)daves he John he smuwe? shoot.trans.30.3TS det John det cougar we syapyep toward.det forest/trees "John shot a cougar out in the forest."

5 Conclusion

This paper argues that relative clauses in N⁺te²kepmxcin are created through syntactic movement of a determiner from inside a relative clause to a

⁹ That the prepositional phrase modifies *smuwe*? "cougar" and not the VP *qayes* "shoot" is indicated by the consultant comment: "John could be close to the house, it doesn't mean he was in the forest...." That is, John shot a cougar that was in the forest rather than one that was in his field.

position introducing the relative clause. I provide evidence from three determiner combinations: (*h*)*e* preceding the head noun while \ddagger marks the relative clause; \ddagger introducing the NP while *te* introduces the clause; and *tk* marking the noun while \ddagger marks the relative.

This is preliminary evidence which may be supplemented by further tests. As Davis (this volume) notes, if determiners in Nte?kepmxcin relatives do move akin to WH-questions, we should be able to apply the diagnostics of WHmovement (Chomsky 1977) and find, for example, island effects. In addition, Davis (2003) argued that A' movement in St'at'imcets leaves a gap; in particular, the 3pl morpheme *wit* is a pronoun. Whether the 3pl marker *iyxs* in Nte?kepmxcin behaves similarly remains to be seen.

In any case, the evidence presented here for N⁴e²kepmxcin supports work by Davis (this volume), who argues that relative clauses in neighbouring St'at'imcets (Lillooet Salish) are similarly formed through syntactic movement of the determiner. As Davis points out, other languages, like German, also form relative clauses through use of a determiner (the d-pronoun in German) which also serves as a relative pronoun (Wiltschko 1998). In fact, the structure of German relatives looks very similar to N⁴e²kepmxcin, with the same [det head det relative clause] order.

This syntactic movement matches the semantic operation of predicate abstraction (Heim & Kratzer 1998), which turns a relative clause into a type $\langle e,t \rangle$ predicate that combines with the head noun via predicate modification.

In addition, the case of adjectives needs to be further explored. Though they superficially look like relative clauses, their double determiner structure appears to be quite different since they are prenominal, unlike the canonical postnominal relative clause. An analysis that matches the syntax and semantics of adjectives has yet to be developed.

benef	benefactive	nom	nominative	
conj	conjunctive	0	object	
dem	demonstrative	obl	oblique	
det	determiner	poss	possessive	
emph	emphatic	prog	progressive	
FUT	future	Q	y/n question marker	
idf	indefinite	REL	relational transitivizer	
int	introductory predicate	red	reduplicant	
intrans	intransitive	trans	transitivizer	
irl	irrealis	TS	transitive subject	
neg	negation			

Appendix

List of abbreviations (Thompson & Thompson 1992, Kroeber 1997)

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