

A history of metatypy in the Bel languages

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1 Introduction

The title of this paper invites two definitions: of ‘metatypy’ and of ‘Bel languages’. Metatypy, as its etymology suggests, denotes a change in (morphosyntactic) type which occurs when speakers are bilingual and restructure the morphosyntactic constructions of one of their languages on the model of constructions from their other language (Ross 2006, 2007a).

The Bel languages are a small eight-member group of Oceanic Austronesian languages. Figure 1 shows a Bel genealogy, based on shared phonological and morphological innovations which are very unlikely to have been transmitted by contact (Ross 2007b). One of the Bel languages is Takia, which I have described in various publications, principally Ross (1994) and Ross (2002). The Bel family is part of a larger Oceanic group, the Ngero-Vitiaz network, and the map in Figure 2 shows the locations both of the Bel languages and of other Ngero-Vitiaz languages referred to in this paper.

The case study of contact-induced change which is briefly described here has arisen out of one of the central concerns of my work, reconstructing the history of Austronesian and Papuan languages. In previous work I have compared Takia with its Karkar Island neighbour, Waskia, a member of the Madang subfamily of the Trans New Guinea family of Papuan languages,¹ to show that much of the grammar of Takia can be explained as the outcome of metatypy on the model of a Madang language (Ross 1987, 1996, 2003, 2007a).

Here I look at the other side of the Takia coin. Taking metatypy on a Madang model as a given, I have reconstructed aspects of the internal history of the Bel family in order to find out how clause-chaining in Takia and other Bel languages came into being.

In order to outline the hypothesis which this reconstruction was intended to test, a fragment of Takia description is first needed. The Ngero-Vitiaz languages, and therefore also the Bel family, belong to the large Western Oceanic grouping of Oceanic languages. Western Oceanic languages typically have SVO clause order and prepositions. But like a number of Oceanic languages spoken in New Guinea which reflect metatypy on a Papuan model (Lynch 1981), Takia and the other Bel languages have copied SOV clause order and postpositional phrases from their Madang neighbours. Takia and some other—but not all—Bel languages have also adopted clause-chaining from their neighbours. Even in Oceanic languages of New Guinea that show signs of metatypy, clause-chaining is rare, and the only known case outside the Bel family is Maisin in southeast Papua (Ross 1996). The passage in

¹ The Madang subfamily of the Trans New Guinea family is briefly described by Pawley (2006).

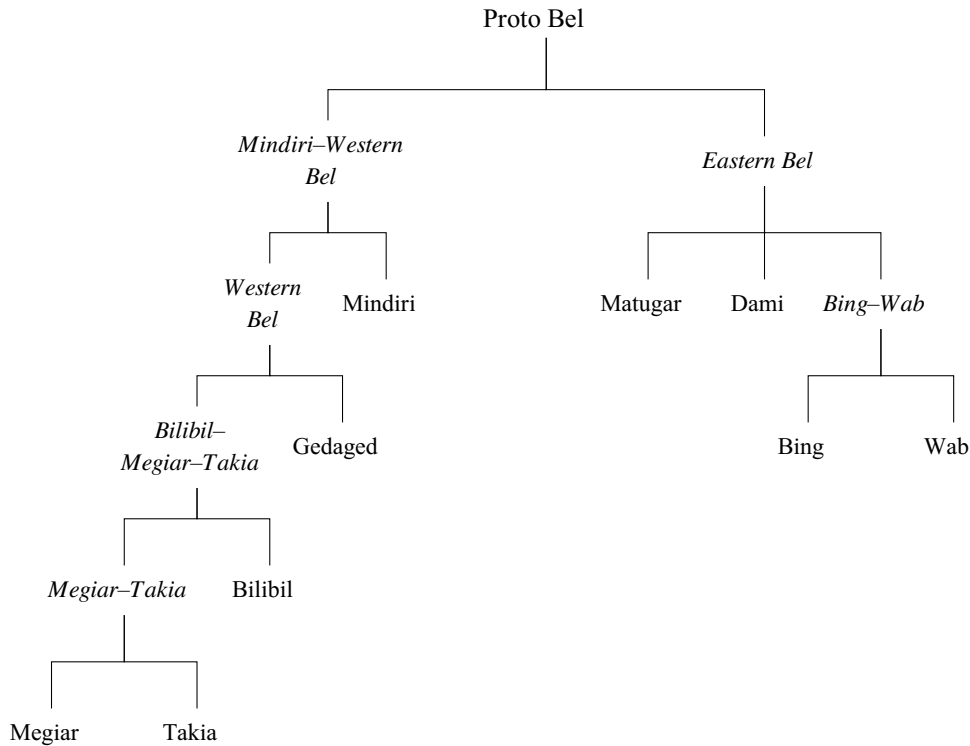


Figure 1: A genealogy of the Bel languages

(1), from Ross (1994), provides a nice illustration of Takia clause-chaining. The chain has six dependent clauses and a final independent clause. The speaker is explaining how canarium nuts are dried.²

(1) Takia:

- a. *Ago=p parapar=na mi-diri=p*
 PRO=IRR:D platform=POSTP S:1EP-put=IRR:D
 Then we will put it on the smoke bed
- b. *y-en=do=p*
 S:3S-lie=CONTIN=IRR:D
 it will lie [there]
- c. *teik w-ao=p*
 brother-P:1S S:2S-go=IRR:D
 my brother, you will go
- d. *∅-ma=na=p*
 S:2S-stay=DUR=IRR:D

² Deictics form sets of three: D1 ‘near speaker’, D2 ‘near hearer’ or ‘neutral’, D3 ‘not near speaker or hearer’. Pronominal abbreviations have the format *A.nB*, where *A* is one of F free, s subject prefix, o object suffix, p possessor suffix and FP free possessor; *n* is 1, 2 or 3 (person); *B* is s singular, d dual or p plural; and d or p is usually preceded by e exclusive or i inclusive. Other abbreviations in glosses are: ADD additive; BDRY boundary; CJ conjunction; COMPLET completive; CONTIN continuative; D dependent; DEF definite; DESID desiderative; DUR durative; EMPH emphatic; FUT future; I independent; IMM immediate; IMPF imperfective; INTENT intentive; IRR irrealis; NEG negative; PF perfective; POSTP postposition; PREP preposition; R realis; RDP reduplication; REPET repetitive; SEQ sequential; TERMIN terminative.



Figure 2: The Ngero-Vitiaz family, showing languages referred to in this paper

stay [away] for a while

e. *u-mul=do=p*

S:2S-return=CONTIN=IRR:D

when you return

f. *man aŋar parapar=na y-en=do=p*

TPC canarium platform=POSTP S:3S-lie=CONTIN=IRR:D

the canarium will lie on the platform

g. *u-le=wa.*

S:2S-see=IRR:I

you will see it

‘Then we will put it on the smoke bed, and it will stay, and, my brother, you will go and stay [away] for a while, and when you return, you will see canarium here on the platform.’

The six dependent clauses describe a sequence of actions. Each has the potential structure SOV but a clause often has no noun phrases, as every verb has a prefix indicating the person and number of the subject, and transitives often have a suffix indicating the same for the object. Each clause in (1) ends with the irrealis dependent (IRR:D) enclitic *=p*, which gives an incomplete specification of mood. The full specification is provided by the enclitic *=wa* ‘irrealis independent’ (IRR:I) on the final clause, which clarifies that all the clauses in the chain are to be interpreted as future. This is not quite such an academic consideration as it might seem. In (2), which happens to have as its dependent clause the same clause as the first in (1), the final enclitic *=da* ‘imperfective’ (IMPF:D) shows that the chain is to be interpreted as the generalised habitual, typical of procedures.

(2) Takia:

Ago=p, parapar=na mi-diri=p kalam sikis i-gos=da

PRO=IRR:D platform=POSTP S:1EP-put=IRR:D moon six S:3S-dry=IMPF:I

‘Then we put them on the smoke bed and they dry for six months.’

In four of the clauses in (1) the enclitic *=p* (IRR:D) follows another enclitic. In (1d) it is *=na* DUR, glossed here as ‘for a while’. In (1b), (1e) and (1f) it is *=do* indicating that the event encoded by the clause to which it is attached overlaps temporally with the following clause.

There can be almost no doubt that the model for Takia clause-chaining is its Madang neighbours. They are Trans New Guinea languages, which are well-known for their clause-chaining constructions, whereby clauses in spoken discourse may form long chains in which only the final clause is fully specified for information such as tense, aspect, mood and sometimes person and number of the subject, whilst non-final clauses in the chain lack much of this information but are specified for their relationship with the next clause (Longacre 1972, Foley and Van Valin 1984:241–244, Foley 1986:177). In Trans New Guinea languages this relational specification usually includes two kinds of information: (i) whether the event denoted by the current clause overlaps the event of the next clause or whether the relationship between the two events is sequential—the so-called simultaneous/sequential distinction; (ii) whether or not the subject of the current clause has the same referent as the subject (or in some languages, the topic) of the next clause, often referred to as ‘switch-reference’. As (1) and (2) illustrate, Takia encodes the simultaneous/sequential distinction, but not switch-reference.

As in Madang languages, the information typical of both non-final and final clauses in Takia is specified right at the end of the clause by enclitics attached to the predicate, usually the verb.

Metatypy typically progresses from larger structures to smaller. Several Austronesian languages (examples include Tagalog and Chamorro) have borrowed Spanish conjunctions, thereby either augmenting or replacing earlier interclausal constructions. These changes usually interpolate conjunctions borrowed from the model language between independent-clause constructions of the language undergoing change. Changes of this kind resulting from bilingualism in a European colonial language, are quite common around the world, and many of these are apparently the first and only metatypic changes in the language. At the opposite end of the scale, metatypy involving internal word structure is rare, but it is seen in the famous case of Kupwar, where three languages have arrived at morpheme-for-morpheme intertranslatability (Gumperz and Wilson 1971).

We might thus expect metatypic changes to form a chronology:

- (3) a. interclausal constructions change before clausal constructions
- b. clausal constructions change before phrasal constructions
- c. phrasal constructions change before word-internal structures

Takia approaches word-for-word intertranslatability with Waskia, but not morpheme-for-morpheme intertranslatability: it shows no sign of metatypy in word-internal structures.³

It is clear, however, that the ordering of syntactic changes in metatypy is not so easily predicted. Recent work on metatypy in Sri Lankan Malay shows that (i) metatypic syntactic changes in noun phrases are complete; (ii) change from SVO to SOV is ongoing; (iii) verb phrases have undergone calquing but no syntactic change (Slomanson 2006). Together, these findings show the inadequacy of the generalisation in (3b). In Ngero-Vitiaz languages the possessor noun phrase has shifted from after the possessum, its Proto Oceanic position, to before it.⁴ This was probably a metatypic change, and preceded the Proto Bel changes from SVO to SOV and the replacement of prepositions by postpositions, i.e. change in a phrasal construction preceded change in a clausal construction

A moment's thought also suggests that the statement in (3a) is most unlikely to be true of Takia, even though (3b) is possibly true and (3c) is clearly true. Takia must have undergone the clause-level change from SVO to SOV **before** it underwent the changes in interclausal relations that resulted in clause-chaining, since the latter entailed the innovation of enclitics at the end of the clause, usually hosted by the verb. It is fairly easy to guess in broad terms where the clitics came from: they were presumably adverbial modifiers and conjunctions that became grammaticised as enclitics. However, to guess is one thing. To find out if this is true is another, and requires reconstruction of the history of clause-chaining in the Bel languages using the comparative method. This was the goal of the work reported here.

To cut a long story short, the hypothesis in the previous paragraph appears to be correct. I assume that the fact that change in the smaller unit—the clause—preceded change in the larger unit—the sentence— exemplifies the generalisation that a contact-induced morphosyntactic change only occurs if the grammatical structure of the recipient language is ready to accommodate it. However, the examples in the previous paragraph indicate that 'ready to accommodate' is sorely in need of definition. The reconstruction of this fragment of Proto Bel history is doubly interesting for what it implies about contact **among** the Bel communalects during the innovation of clause-chaining. Some of the evidence for this contact is reported here, the remainder in Ross (2007b).

³ This statement needs qualification. The grammatical word is meant here. If we look at phonological words, which include enclitics, these do reflect metatypy.

⁴ Possessor noun phrases introduced by prepositions are an exception: they follow the possessum.

2 The history of Bel metatypy

The major innovative features of Bel languages are listed in (4).

- (4) a. SOV, postpositions: all Bel languages
b. Clause-chaining: Western Bel languages, Matugar, Dami
c. Mindiri and Bing have no clause chaining.⁵

Dami clause-chaining constructions are quite different from Western Bel — Dami doesn't encode mood but it does encode switch-reference—and apparently represents an independent metatypy which is not discussed further here.

The verb in all Bel languages has these structural features:

- (5) a. a prefix encodes the person and number of the subject.
b. if the verb is transitive, a suffix may encode the person and number of the object

Up to this point, the Bel verb is typical of many Oceanic languages.

Of the Bel languages, Bing preserves more Western Oceanic features in its clause and verb-phrase structure than do the Western Bel languages. Oceanic languages tend to encode tense, mood (realis/irrealis) and some aspectual information in the form of preverbal morphemes before or after the subject marker (like future *ya* in 6a and irrealis *be* in 6b) and sometimes before the subject noun phrase (like future *to* in 6c) (examples are from Ngero-Vitiaz languages):

- (6) a. Bariai:

yairua ya a-luku kua toa
F:1EP FUT S:1EP-apprehend dog DEF

'The two of us will catch the dog.' (Gallagher and Baehr 2005:110)

- b. Arop-Lokep:

tina-k be i-dowai p-on
mother-P:1S IRR S:3S-COOK PREP-F:2S

'My mother will cook for you.' (D'Jernes 2002:262)

- c. Rondi:

osa to Abetaŋ 0-piri ma-na waga-n-o
tomorrow FUT Abetaŋ s:3S-board PREP-3S canoe-P:3S-S

'Tomorrow Abetang will board his canoe.'

Imperfective/continuous aspect is often encoded in Oceanic languages by reduplicating the verb stem, as in (7).

- (7) Bariai:

na-ma-mado tuŋa-i
S:1S-RDP-stay village = POSTP

'I live in the village.'

Aspectual information is sometimes encoded after the verb: this is especially true of the completive, seen in (8).

⁵ Mindiri data are limited. Relevant data for Wab are not available.

(8) Rondi:

Maikel θ-siga lo
Michael s:3S-dance COMPLET

‘Michael has already danced.’

Bing is the only Bel language for which data are available which retains preverbal tense/aspect marking, illustrated in (9a) and (9b). However, in (9a) it also marks mood on the end of the verb phrase with the enclitic =*an*, a strategy that is atypical of Oceanic but typical of the Bel languages.

(9) a. *in oi buom θ-pis=an*
F:3S FUT sago s:3S-wash = IRR
‘He will wash sago.’ (Bennett and Bennett 1998:207)

b. *un mou gan niyoum ahailabni aban θ-gimim?*
F:2S HAB where FP:2S paper things s:3S-buy
‘Where do you usually buy your stationery?’ (Bennett and Bennett 1998:212)

Bing also retains the Oceanic strategy of reduplication for continuous aspect, shown in (10).

(10) *nam ran ya-lη-uy*
F:1S water s:1S-drink = RDP
‘I am drinking water.’

2.1 Takia

Takia represents the opposite typological extreme in Bel verbal morphology from Bing. All preverbal markers of tense, aspect or mood have been lost. Instead the verb is followed by one or sometimes a cluster of enclitics, exemplified in (1) and (2) above. In (11), for example, there are two independent clauses in a coordinate relationship.

(11) Takia:

ηai pein η-le=la=ya=k e oη pein ta u-le=o
D:3P woman S:1S-see=TERM=R:I=BDRY D1 D:2S woman INDEF S:2S-see = INTENT

‘I have already met a girl, and so you should meet a girl too.’ (Ross 1994:63)

The cluster at the end of the first clause ends in the clausal enclitics =*ya* R:I and =*k* BOUNDARY, indicating that the clause is realis and independent. The boundary marker simply indicates the end of the clause and is used at an interclausal boundary and, on occasion, at the end of an utterance. These two clausal enclitics are preceded by the terminative (‘already’) predicate enclitic. The second clause ends in a single intentive predicate enclitic.

In (12) there is a three-clause chain, this time with realis enclitics.

(12) Takia:

an bos η-mado=du=go you an ηai sa-g na you
D2 boss S:1S-stay=CONTIN=R:D water DM2 D:1S PCL-P:3P POSTP water
d-dad=du=go d-luk=θ
S:3P-buy=CONTIN=R:D S:3P-drink=R:I

‘So I stayed there as boss and they bought the beer from me and drank it.’ (Ross 1994:69–70)

The verb of the last clause, *d-luk* ‘they drank’ has no clausal enclitic, indicating that it is realis and independent. The two preceding clauses end in the two clausal enclitics *=du=go*.⁶ The enclitic *=go* R:D indicates that the clause is realis and dependent, chained to the next clause. The enclitic *=do* CONTINUATIVE indicates that this event continues for an indefinite timespan and, by implicature, that it overlaps with or is simultaneous with the event of the following clause. In this case the overlap is complete as the events are habitual: the speaker lived there, sold beer to his customers, and they drank it.

Table 1: Takia postverbal enclitics

Predicate morphology		I ₀		I ₁
\emptyset		$\emptyset, =i, =ya$ R:I		
<i>=se</i> REPET		$=u, =wa$ IRR:I	<i>=k, =ak</i> BOUNDARY	
<i>=la</i> TERM		$=da$ IMPF:I		
<i>=na</i> DUR			D ₋₁	D ₀
<i>=[w]o</i> INTENT		D ₋₂		
		\emptyset	\emptyset	$=g, =go$ R:D
		<i>=do</i> CONTIN	<i>=gu</i> SEQ	$=p, =pe$ IRR:D
			<i>=ta</i> REASON	$=d, =de, =di$ ADD:D

Table 1 shows the full paradigm of Takia postverbal enclitics. It shows that Takia clausal enclitics are divided into two sets, which differ according to whether the clause is independent or dependent. The enclitic bundle typically includes a ‘main enclitic’, marked I₀ in the tables if it is independent and D₀ if it is dependent. Main enclitics are shown in bold. The most common function of a main enclitic is to mark the mood (realis or irrealis) of its clause.

The enclitic bundles of independent and dependent clauses differ from each other in structure. In an independent clause the main enclitic is the first or only clausal enclitic in its bundle (*=ya* in the **first** clause of 11, zero in the last clause of 12). In a dependent clause the main enclitic is the **last** or only clausal enclitic in its bundle (*=go* twice in 12).

To reflect the difference in the position of the main enclitic, the enclitic slots which follow the independent clause main enclitic are labelled (counting from left to right) I₁ and I₂, whilst the slots which precede the dependent clause main enclitic are labelled (counting from right to left) D₋₁ and D₋₂.

One feature of Table 1 demands particular attention: the distinction between *=g, =go* R:D and *=p, =pe* IRR:D on the one hand and *=d, =de, =di* ADD:D on the other. The events in (13a) are from the autobiography of a paraplegic, are immediately sequential and are joined by *=g* or *=go* R:D, whereas the first event in (13b), from another autobiography, is not the immediate precursor of the second, and this looser relationship is marked by *=de* ADD:D.

(13) Takia:

- a. *ŋa-du=go tini-g tatu ŋ-lusuni=∅*
s:1S-fall=R:I body-P:1S bone s:1S-break=R:I
‘I fell and broke all the bones of my body.’ (Ross 1994:72)
- b. *ŋai misin d-ŋli-ag=de skul=lo ŋ-ao=∅*
F:1S missionary s:3P-take-O:1S = ADD:D school = POSTP s:1S-go = R:I
‘The missionaries took me and I went to school.’ (Ross 1994:55)

⁶ The form *=du* is the allomorph assumed by *=do* CONTIN when it is concatenated with *=g, =go* R:D.

2.2 Bing

In contrast, Bing has no clause-chaining constructions and thus no formal contrast between independent and dependent verbs

The prerequisite step before metatypy can occur is the calquing of grammatical contrasts (Ross 2007a). Bing has calqued from one or more Madang languages the distinctions between continuative, sequential and additive interclausal relationships, but it does so using the free (and inherited) morphemes shown in Table 2. These morphemes, mainly conjunctions, mark both the realis/irrealis contrast and the sequential/additive distinction in interclausal relations. Thus in (14) the conjunction *di* SEQ:R encodes the clauses before and after it as realis and the relationship between them as sequential. I take it that Bing preserves the kind of situation that prevailed in an ancestor of Eastern Bel, and perhaps in Proto Bel, before the innovation of clause-chaining.

(14) Bing:

Nen Tanuoŋ=an ma-bdi di ma-par teet daseg daseg=an ma-yn-ien
 here Biliau = POSTP S:1EP-arise SEQ:R S:1EP-walk village one one = POSTP S:1EP-sleep-RDP
di ma-l
 SEQ:R S:1EP-go

‘We set off from Biliau here, then we walked, then we slept (a night) at each village, then went on.’ (Finamor 2006)

In (15) the conjunction *bi* SEQ:IRR encodes irrealis sequential events (irrealis is again also marked by the postverbal enclitic =*an*).

(15) Bing:

yoi mun ma-psul ma-l mun ma-daŋan bi Renat Ø-si naŋ Tago
 FUT again S:1EP-return S:1EP-go again S1:EP-see = IRR SEQ:IRR Renate S:3S-come D2 Tago
tam yam yoi du-fui-uoi bi abaŋ samaŋ ma-rāw miniid naŋ yoi
 DUAL FUT door S:3P-open-RDP SEQ:IRR thing what S:1EP-remove.O:P-RDP FP:1IP D2 FUT
ma-rāw bi mun Yamay=an ma-si=an
 1:EP-remove.O:P-RDP SEQ:IRR again Yamai = POSTP S:1EP-come = IRR

‘...we will go back again and look and if Renate comes, Tago and she will open the door and we will remove our things and return to Yamai.’ (Finamor 2006)

Example (16) nicely illustrates the contrast between *bi* SEQ:IRR, marking a sequential relationship between two habitual events (irrealis is regularly used for habitual events in Bel languages; cf 2) and *de* ADD:R, which loosely adds a single realis event after the habitual sequence.

(16) Bing:

kumbar peen nalalu, in mou di-siri di-si mās du-sug-ug bi
 coral.tree woman young, F:3S HAB S:3P-descend S:3P-come sea S:3P-bathe-RDP SEQ:IRR
di-bdei de tamuol makāi teet mini bad naŋ in laŋ sag Ø-yiel
 S:3P-stay ADD:R man youth village F:1S INDEF D2 F:3S beach only S:3S-go

‘The nymphs, they habitually come down to the sea and bathe, and a young village man went there to the beach.’ (Finamor 2006)

In (17) the two irrealis events ‘get the message out’ and ‘tell’ refer to the same event and are joined with the additive conjunction *be* ADD:IRR.

(17) Bing:

...*biŋ niŋ wit=an ate-i be tamuol-peen Teteri=an Yamai=an*
 talk D1 outside=POSTP chest-P:3S ADD:IRR man-woman Teterai=POSTP Yamai=POSTP
naŋ a-buol-ad du-luŋ in rān bad du-luŋ=an tiyām
 D2 S:2P-tell-O:3P S:3P-hear F:3P water NEG1 S:3P-drink=IRR NEG2

‘...get this message out and tell the people of Teterai and Yamai so they will know they can’t drink the water.’ (Finamor 2006)

The continuative particle *i* occurs at the end of a clause and is always followed by one of the sequential conjunctions *di* or *bi*. Functionally, *i* corresponds roughly to the continuative enclitic *=do* in Takia and marks the event of the preceding clause as overlapping with the event of the following clause, as in (18).

(18) Bing:

peen naŋ taan batu Ø-fuŋ-uŋ i di tamuol naŋ in wil taan
 woman D2 earth egg S:3S-beat-RDP CONTIN SEQ:R man D2 F:3S yam ground

‘The woman was beating clods of earth and (at the same time) the man planted yams.’ (Finamor 2006)

Table 2 shows the Bing morphemes that are functionally comparable to the Takia morphemes in Table 1.

Table 2: Bing postverbal morphemes

Predicate morphology				Conjunctions	
\emptyset	R			<i>di</i>	SEQ.R
rdp	IMPF	= <i>i</i>	IMM	<i>i</i>	CONTIN
= <i>an</i>	IRR			<i>bi</i>	SEQ.IRR
				<i>de</i>	ADD.R
				<i>be</i>	ADD.IRR

2.3 Reconstructing the history of Western Bel clause-chaining

Significantly, Bing conjunctions are cognate with Takia dependent-marking enclitics, and this allows the reconstruction of PBel **de* and **be* in (19). The Proto Bel morphemes were conjunctions: they first became clause-chaining enclitics in Western Bel.

(19)	PBel		Bing		Takia
	<i>*de</i>	ADDITIVE	<i>de</i>	ADD:R	= <i>d</i> , = <i>de</i> ADD:D
	<i>*be</i>	IRREALIS	<i>be</i>	ADD:IRR	= <i>p</i> , = <i>pe</i> IRR:D
	<i>*ga</i>	REALIS	—		= <i>g</i> , = <i>go</i> R:D

The Takia set has a third member, =*g*, =*go* R:D (Table 1). It has no Bing cognate, but both **ga* REALIS and **be* IRREALIS can be reconstructed as conjunctions as far back as Proto Western Oceanic (Ross and Lithgow 1989), so Proto Bel must also have had **ga* REALIS as its third member.

We are now in a position to reconstruct the sequence of events that resulted in the clause-chaining constructions of Takia. There were two main stages. At Stage 1, Proto Bel, there were at least the three inherited interclausal coordinating conjunctions, shown in (19). The realis/irrealis distinction in both verbs and conjunctions was inherited from an earlier Oceanic interstage. At Stage 2, early Western

Bel (the precursor of Takia) the encliticisation of post-verbal morphemes and conjunctions became increasingly frequent, until it was the rule. At the same time, a distinction between independent and dependent coordinate clauses emerged. Mood-marking enclitics were displaced from chain-medial clauses because they were redundant: mood was encoded in the new enclitics descended from the old conjunctions, and new chain-medial constructions—coordinate-dependent in Foley’s (1986) terms—emerged. The clause at the end of a clause chain kept its aspect- and mood-marking enclitics, but a chain-medial coordinate clause replaced them with a bundle of enclitics marking the relationship of the preceding clause to the next. The final, and often the only, enclitic in the chain-medial bundle was a reflex of one of the Stage 1 conjunctions *ga, *be and *de.

Table 3: Gedaged postverbal enclitics

Predicate morphology		I ₀		I ₁
∅	=e PAST	∅	R:I	∅
		=lak	R:I :PAST	=[y]e EMPH
		=[w]oi	IRR:I	
			D ₋₂	D ₋₁ D ₀
		∅		∅
		=ma, =me	CONTIN	=la SEQ
				=g, =ga, =ge R:D
				=p, =pa, =pe IRR:D
				=ta REASON

There is a problem with the reconstruction of Stage 2, however. Megiar and Bilibil have enclitic paradigms very similar to the Takia paradigm in Table 1, but the fourth Western Bel language, Gedaged, has a paradigm, shown in Table 3, which is similar in **structure** to the Takia, Megiar and Bilibil paradigms but different in a number of its **forms**. Forms which **are** cognate are shown in Table 4 and the paradigm reconstructable for Proto Western Bel is in Table 5. The reconstructed paradigm has gaps, marked ‘??’, in the D₋₁ and D₋₂ cells. However, all four Western Bel languages reflect *=g, *=ga R:D and *=p, *=pe IRR:D as main dependent (D₀) clausal enclitics, so these were present in early Western Bel. Takia also reflects *=d, *=de ADD:D.

The fact that Gedaged and Takia differ in the enclitics that occur in the D₋₁ and D₋₂ cells but agree on those in the D₀ cell (see Table 7) is diachronically problematic. I assume that encliticisation proceeded from left to right. It does not make sense to suggest that different enclitics of orders D₋₁ and D₋₂ were inserted **after** the encliticisation of D₀. Thus D₋₁ and D₋₂ must either have been encliticised before or at the same time as D₀. We must therefore conclude that encliticisation of D₀ occurred separately in Gedaged and in the interstage shared by Bilibil, Megiar and Takia. But what does the word ‘separately’ imply here? Given the degree of structural similarity between the four languages, I infer that encliticisation was happening simultaneously in all of them. Their speakers were members of a common social network, understood each others’ speech and continuously imitated each other’s constructions. Their lects differed enough to have differing sequences of postverbal morphemes, but they all used the same morphemes at the end of the cluster in dependent clauses (D₀). The grammaticisation of these morpheme sequences as enclitic clusters proceeded, it seems, more or less simultaneously in all Western Bel lects. In other words we are compelled to reconstruct ongoing contact, as this is the only way in which the present situation can have arisen, namely that the constructions are parallel, have the same cluster-final morphemes, but different cluster-internal morphemes.

One small anomaly gives a little support to this analysis. Proto Bel *be has irregularly become =p, =pV in all Western Bel lects (Gedaged, Bilibil, Megiar and Takia), yet Proto Bel *ga has regularly remained Western Bel =g, =gV. The regular reflex of Proto Bel *b in Western Bel languages is b, both word-medially and word-finally. I have no explanation for this devoicing, beyond the generalisation

Table 4: Western Bel postverbal enclitics: cognate sets

	PWBel		Takia		Gedaged	
pred	* = la	TERM	= la	TERM	=la =la(k)	SEQ R:I:PAST
I ₀	*∅ * = ui	R:I IRR:I	∅ = w(a)	R:I IRR:I	∅ =woi	IRR:I
I ₁	* = a	EMPH	= (w)a = (y)a	IRR:I R:I	= (y)e	EMPH
I ₂	* = [a]k	BDRY	= [a]k	BDRY	= (la)k	R:I:PAST
D ₋₁	* = ta	REASON	= ta	REASON	=ta	REASON
D ₀	* = ga * = pe * = de	R:D IRR:D ADD:D	= g, = go = p, = pe = d, = de	R:D IRR:D ADD:D	=g, =ga, =ge =p, =pa, =pe —	R:D IRR:D

Non-cognate parts of reflexes are shown in parentheses.

Table 5: Proto Western Bel postverbal enclitics

Predicate morphology		I ₀		I ₁		I ₂	
		∅	R:I	∅		∅	
		* = ui	IRR:I	* = a	EMPH	* = k, * = ak	BDRY
*la	TERM	D ₋₂		D ₋₁		D ₀	
		∅		∅		* = g, * = ga	R:D
		??	CONTIN	??	SEQ	* = p, * = pe	IRR:D
				* = ta	REASON	* = d, * = de	ADD:D

that if voiced stops undergo devoicing, [b] tends to devoice before [g] (Foley 1977:107). The point here, however, is that the same sound change affects all Western Bel languages, implying that Western Bel speakers formed a common social network when it occurred.

3 Matugar

Table 6: Matugar postverbal enclitics

Predicate morphology		I ₀		I ₁	
		∅, = [η]e	R:I	∅	
		=ba	IRR:I	=kai	EMPH
∅		= [a]go	IMPF:R		
=al	TERMIN	D ₀			
		=do	R:D		
		= [do]p	IRR:D		

Among Eastern Bel languages only Matugar has a system of postverbal enclitics that resembles Western Bel systems, but its forms differ, as the comparison in Table 7 of Matugar forms (from Table 6) with Takia and Gedaged forms (from Tables 1 and 3) shows.

Table 7: A comparison of Matugar, Takia and Gedaged clausal enclitics

		Matugar	Takia	Gedaged
I ₀	R:I	$\emptyset, =[\eta]e$	$\emptyset, =i, =ya$	\emptyset
	R:I:PAST	—	—	$=lak$
	IRR:I	$=ba$	$=u, =wa$	$=[w]oi$
	IMPF:I	$=[a]go$	$=da$	—
I ₁	EMPH	$=kai$	—	$=[y]e$
	BDRY	—	$=[a]k$	—
D ₋₂	CONTIN	—	$=do$	$=ma, =me$
D ₋₁	SEQ	—	$=gu$	$=la$
	REASON	—	$=ta$	$=ta$
D ₀	R:D	$=do$	$=g, =go$	$=g, =ga, =ge$
	IRR:D	$=[do]p$	$=p, =pe$	$=p, =pa, =pe$
	ADD:D	—	$=d, =de$	—

This approximate match in paradigmatic structure but mismatch in form is characteristic of metatypy. Matugar is a genealogically Eastern Bel language whose speakers have found their way into Western Bel territory, and it seems that they became bilingual in a Western Bel language and imitated its constructions, but using inherited morphological material.

Some Matugar forms in Table 7 resemble Takia forms that have different functions. If this is indeed metatypy, it is likely either that these are chance resemblances, or that inherited forms have been co-opted into different functions in the two languages.

4 Conclusions

A number of conclusions follow from the larger study in Ross (2007b), part of which is reported above. The first substantive finding is that the hypothesis about the sequence of metatypic changes proposed in §1 is confirmed: SVO had already been replaced by SOV in Proto Bel, then the simultaneous/sequential distinction was calqued in Proto Bel (or some Bing-like interstage), and this led to the innovation of clause chaining in early Western Bel. Secondly, Matugar reflects metatypy probably on the model of its Western Bel relatives. Thirdly (not reported here), Dami reflects metatypy independent of and quite different from Western Bel.

In the theoretical dimension, the investigation confirms the assertion made by scholars of language contact that the change processes that are triggered by metatypy are not different in kind from those apparently triggered internally (Heine and Kuteva 2005). The innovation of clause-chaining reported here is a normal piece of grammaticisation, but it was triggered by speakers' bilingualism in a clause-chaining language or languages.

Interestingly for an unrepentant practitioner of the comparative method, contact sometimes results in sequences of innovations which do not make sense in terms of the orthodoxy of the method. Reconstructing Western Bel clause-chaining forces us to reconstruct ongoing contact. The larger study also supports the claim that ongoing contact gives rise to patterns of overlapping innovations such

that languages A and B reflect one set of innovations, C and D another, and B and C (or A and C) a third set that overlaps with the first two. This is reflected in my reinvestigation of Lincoln's (1973) work on the spread of *-l-* as a reflex of Proto Oceanic **-t-* through certain lexical items and across Bel languages.

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