

**Exploring metatypy:
how does contact-induced typological change come about?**

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1 What is metatypy?

The term 'metatypy' in the title of this talk is probably unfamiliar to most of you.¹ It is a term that I coined in a paper on contact-induced change (Ross 1996a:182) to label a phenomenon for which no other term seemed to be available. The phenomenon, with a first attempt at a definition, is:

- (1) *Metatypy*. The change in morphosyntactic type which a language undergoes as a result of its speakers' bilingualism in another language. Usually, the language undergoing metatypy (the *modified language*) is *emblematic* of its speakers' identity, whilst the language which provides the *metatypic model* is an *inter-community language*. Speakers of the modified language form a sufficiently tightknit community to be well aware of their separate identity and of their language as a marker of that identity, but some bilingual speakers, at least, use the inter-community language so extensively that they are more at home in it than in the emblematic language of the community.²

In (1) several expressions which I will use as technical terms in this talk are italicised.

Many of you will be aware of Thomason and Kaufman's 1988 book *Language contact, creolization and genetic linguistics*. I share their view that the effects that contact has on a language are largely determined by the sociolinguistic parameters of that contact (1988:35 and passim.). There is a whole sociolinguistic range of language contact situations, and I will only be talking about the kind of situation described in (1).

The language which I have investigated most extensively with regard to metatypy is Takia, a member of the large Oceanic subgroup of Austronesian.³ Takia is spoken by about half the 45,000 people who live on Karkar Island, a volcanic island about 65 km north of the town of Madang, on the north coast of Papua New Guinea. Takia speakers occupy the southern half of the island, as well as nearby Bagabag Island and two villages on the mainland coast. The inhabitants of the northern half speak Waskia, a Papuan language belonging to the Madang family of the Trans New Guinea phylum.⁴ Locations are shown on the map.

The available evidence suggests that Takia has undergone metatypy on the model of Waskia, so that Takia can be described as a 'papuanised' Oceanic language. Waskia, on the other hand, seems not to have been influenced by Takia in any significant way. The outcome of this

metatypy is that there is generally word-for-word (but not always morpheme-for-morpheme) intertranslatability between Takia and Waskia, as (2) illustrates:⁵

- (2) a. Takia: *tamol an ŋai i-fun-ag=da* 'The man is hitting me.'
 man DET me he-hit-me=IMPF
- b. Waskia: *kadi mu aga umo-so*
 man DET me hit-PRESENT.he

Both languages have SOV phrase order.

As we will see in (4), Takia belongs to the Bel group of languages, descended from an earlier dialect network. These languages are scattered along the coast to the east and west of Madang, interspersed with Papuan languages related to Waskia. All the Bel languages show signs of papuanisation, and it is probable that metatypy began in Proto Bel and continued in the daughter languages after their dispersal.

There is a small embarrassment to the hypothesis that Waskia was the model for Takia metatypy: namely, that few Takia speakers are today bilingual in Waskia. Today Tok Pisin is the *lingua franca* between the two halves of the island, as it is throughout much of PNG. But we can make inferences about the sociolinguistics of Karkar before European contact in the 1880s. McSwain (1977:17-21) reports that the males of the island were linked in trading partnerships which passed from father to son, and which often crossed the Takia/Waskia boundary. If a village conducted hostilities with its neighbour, men would call on their kinsmen and their trading partners to come to their aid. As a result, the men fighting on *behalf* of a particular village could readily include speakers of both languages, even if the warring villages were both Takia or both Waskia. One of the languages must have been used in these partnerships. The linguistic data imply that it was Takia men who were bilingual in Waskia, and that they spoke it so often and were so at home in it that over generations Takia was gradually restructured on the Waskia model. That is, I infer a pre-1880s social network in which Takia speakers had frequent interactions with their Waskia partners, but were a sufficiently tightknit community and sufficiently aware of their separate identity to maintain their emblematic vernacular. It is in just such cases that metatypy (rather than, say, language shift) occurs.⁶

I have written about metatypy in various articles (Ross 1996b, Ross 1997, Ross 1998a), and I first want to summarise some that research and then to address a problem that arises out of it. The problem, in brief, is that all languages modified by metatypy also show lexical calques (= 'loan translations') from the language which is their metatypic model. Some modified languages have also borrowed discourse markers and interclausal conjunctions from their metatypic model. It is not immediately clear if and how these changes are connected, and I have in the past written as if lexical calques were a component of metatypy (Ross 1996a:203-206). I want to argue here that there is no direct causal connection between phenomena listed in (3).

- (3) a. Metatypy (change in morphosyntactic type)
 b. Lexical calques (= 'loan translations')
 c. Borrowing of discourse markers and interclausal conjunctions

Instead, all three are driven by the fact that bilingual speakers using their languages in more or less the same cultural context seek to use the same discourse organisation and to express the same meanings in both languages.

The term 'discourse' means various things to various people, and I will indicate what I mean by it later.

2 Metatypy in Takia

An advantage that an Oceanic language like Takia brings with it for the student of metatypy and of other kinds of change is that we are able to reconstruct a good deal of the prehistory of the Oceanic subgroup.⁷ Obviously, this helps us more readily to see where change has occurred. Takia belongs to the Bel subgroup, and stages of its prehistory since the break-up of Proto Oceanic some 3500 years ago down to the present are at least roughly reconstructable (Ross 1988:160-189). They are shown in Figure 1 and are repeated below with an indication of their constituent orders:⁸

- (4) Proto Oceanic (probably V-initial)
 Western Oceanic dialect network (SVO)
 North New Guinea dialect network (SVO)
 Ngero/Vitiaz dialect network (SVO)
 Bel/Ronji/Mato dialect network (SVO)
Ronji, Mato
 Bel dialect network (SOV)
Wab, Awad Bing, Mindiri, Dami, Bilibil, Gedaged, Matukar, Takia

The indenting convention here is intended to convey that the (early) Western Oceanic dialect network was one of the ‘daughters’ of Proto Oceanic, that the Western Oceanic network broke up into the North New Guinea dialect network and other daughters not shown here, and so on. The names of present-day languages are italicised.

The members of the Bel/Ronji/Mato network uniquely share several phonological innovations,⁹ so I take them to be quite closely related. Their locations are shown on the map. Ronji has SVO phrase order:

- (5) a. Takia: *ŋai fud ŋ-ani=wa* ‘I shall eat banana’
 I banana I-eat=IRR
- b. Ronji: *ŋa to ŋa-yaŋ saula*
 I IRR I-eat banana

Since a well distributed majority of Western Oceanic languages also has SVO order (Lynch, et al. In press: Ch. 3, §4.2), we may infer that this was the canonic order in the dialects of the early Western Oceanic network and that it remained so in the Bel/Ronji/Mato network. All the Bel languages, however, have SOV order, suggesting that the SVO > SOV change occurred in the Bel network. The clauses in (5) also illustrate another Takia innovation: Ronji, like many Oceanic languages, places the irrealis mood marker before the verb word, whereas Takia encliticises it to the verb word, apparently in imitation of Waskia suffixes like the suffix *-so* in (2b), a portmanteau marker of tense and subject coreference.

Shown in Table 1 are major structural features reconstructable for the early Western Oceanic dialect network and for modern Takia and Waskia. The shaded cells in the Takia column show features apparently due to papuanisation, that is, features which resemble those of Waskia rather than those of early Western Oceanic. A number of the Takia features in Table 1 are illustrated in (2) and (5): SOV phrase order, postposed determiner, prefixed subject referencing pronouns, enclitic mood markers, and suffixed object referencing pronouns. Two of the Western Oceanic features which Takia has lost are exemplified in the Ronji example in (5): SVO phrase order and preverbal mood marking.

Other features which mark Takia as papuanised are illustrated in (6) with their Waskia

equivalents. Again there is word-for-word intertranslatability. Example (6a) shows a preposed attributive noun, (6b) a postposition governing a noun phrase that contains the alienable possession construction, and (6c) the conjoined noun phrase construction:

- (6) a. Takia: *Waskia tamol an* ‘the Waskia man’
 Waskia: *Waskia kadi mu*
 Waskia man DET
- b. Takia: *Kai sa-n ab lo* ‘in Kai’s house’
 Waskia: *Kai ko kawam te*
 Kai CLASS-his house in
 POSTP
- c. Takia: *ηai tamol an ida* ‘the man and I’
 Waskia: *ane kadi mu ili*
 I man DET with.him

You may notice that the examples in (2) and (6) betray no borrowing of *forms* from Waskia into Takia. A modified language may retain much of its lexicon, and Takia certainly does so, showing regular sound correspondences with other Oceanic languages (Ross 1988:167-173). Thus in the examples we have looked at, we find the reflexes of reconstructed etyma that are listed in (7):

- (7) Takia *tamol* ‘man’ Proto Oceanic **tam^wata*
 Takia *-fun-* ‘hit’ Proto Oceanic **punuq*
 Takia *-ani* ‘eat’ Proto Oceanic **kani*
 Ronji *-yan* ‘eat’ Proto Oceanic **kani*
 Takia *fud* ‘banana’ Proto Oceanic **pudi* (Ronji *saula* is of unknown origin)
 Takia *ηai* ‘I’ Ngero/Vitiaz **ηa(i)*
 Ronji *ηa* ‘I’ Ngero/Vitiaz **ηa(i)*

We can also observe that intertranslatability between Takia and Waskia does not penetrate below the level of the word. Takia retains its inherited morphological material and morpheme sequence in *i-fun-ag* ‘he hit me’ (2). Takia *η-ani* and Ronji *ηa-yan* ‘I eat’ in (5) both reflect the earlier Ngero/Vitiaz subject pronominal prefix **ηa-*. In the alienable possession construction in (6b) and the inalienable in (8a), the possessor is coreferenced with the suffix *-n*, reflecting the Proto Oceanic suffix **-ñā*, listed in (9). The adjective in (8b) is also suffixed, marking agreement with the noun it modifies.¹⁰ Waskia morphology is quite different: in (8a) *n<u>et* has an infixed possessor morpheme, and in (8b) reduplication marks the adjective as plural.

- (8) a. Takia: *ij tama-n* ‘her/his father’
 s/he father-his/her
- Waskia: *nu ko n<u>et*
 s/he POSTP <his/her>father
- b. Takia: *tamol tubu-di en* ‘this big man’
 man big-PL this
- Waskia: *kadi bi-biga amu*
 man big-PL this
- (9) Takia *i-* ‘3SG subject’ Western Oceanic **i-*
 Takia *-ag* ‘1SG object’ Proto Oceanic **-gu* ‘1SG possessor’

Takia <i>ŋa-</i>	‘1SG subject’	Ngero/Vitiaz	* <i>ŋa-</i>
Takia <i>-n</i>	‘3SG possessor’	Proto Oceanic	* <i>-ñā</i>

The metatypic changes I have noted thus far have all been simple syntagmatic changes, that is, changes that affect the ordering of constituents. But metatypy entails more fundamental changes in the organisation of the language. These are grammatical calquing and paradigmatic reorganisation.

Just as lexical calquing entails borrowing a complex lexical item from Waskia and translating it element for element into Takia (for examples see (20) and (21) below), so grammatical calquing means copying the Waskia structure for a particular constructional meaning, but adapting inherited Oceanic material. There are a number of grammatical calques in Takia. For example, monologues in Trans New Guinea languages like Waskia often contain chains of clauses. The final clause in the chain is an independent clause, but all the clauses before the last are what Foley (1986:175-205) calls coordinate-dependent clauses. Unlike a subordinate clause, a coordinate-dependent clause is not embedded in another clause. Instead, it is dependent on the final clause of the chain for tense/aspect/mood marking and sometimes for subject coreferencing. Sometimes the verb of a coordinate-dependent clause also encodes information about the following clause.

The most important distinction a coordinate-dependent verb encodes in Waskia is whether the subject of the next clause has the same subject, as in (10a) (where the verb *baga* is unsuffixed), or a different subject, as in (10b) (where the verb *kai-* takes full independent marking, plus the different-subject enclitic =*se*):

(10) Waskia:

- a. *Ane na kami бага yu na-em.*
 I food cook stay water eat-PAST:I
 ‘While I was cooking the food I drank some water.’
- b. *Ane ulaŋ kai-em=se ni na-em.*
 I yam cook-PAST:I-DS you.SG eat-PAST:you.SG
 ‘I cooked the yam but you ate it.’

Western Oceanic languages normally do not have constructions of this kind, but Takia has adopted the chaining pattern, and has created a category of coordinate-dependent clauses whose postverbal enclitics encode a variety of interclausal relations. However, they do not make the Waskia same-subject/different-subject distinction. Instead, their most ubiquitous distinction is between realis, encoded by the enclitic =*g*, and irrealis, encoded by =*p*.¹¹ Both are shown in (11):

(11) Takia:

- a. *Mait fud ta i-ani-gu-g you i-luk-a*
 Mait banana a he-eat-SEQ-RD water he-drink-PF
 ‘Mait ate a banana and then he drank some water.’
- b. *ŋai ŋ-ani-gu-p panu na ŋ-au-wa*
 I I-eat-SEQ-IRR village POSTP I-go-IRR
 ‘I shall eat and then go to the village.’

Grammatical calquing may also entail paradigmatic reorganisation (or even the creation of a paradigm). As (6b) shows, Takia has postpositions like Waskia. Western Oceanic, on the other hand, had prepositions, some of which survive in Ronji. We can attribute the history of at least

two Takia postpositions to calquing. The postpositions of Takia and Waskia are set out in (12):¹²

(12)	Takia	Waskia	
	location	<i>na, te</i>	<i>se, te</i>
	location ‘in’	<i>lo</i>	<i>i, nuŋi</i>
	location ‘on’	<i>fo, fufo</i>	<i>kuali</i>
	ablative	—	<i>ko</i>
	instrument	<i>nam (= na-mi)</i>	<i>se</i>
	referential	<i>o</i>	<i>ko</i>
	manner	<i>mi</i>	<i>wam</i>
	accompaniment	<i>da</i>	<i>karo</i>

The meanings and uses of Takia postpositions match those of Waskia with one exception. Two of the Takia postpositions, *lo* ‘in’ and *fo/fufo* ‘on’ have their origins in inalienably possessed Western Oceanic relational nouns, e.g. ‘inside’, ‘side’, or ‘top’. A possessive noun phrase with an inalienably possessed head noun had the structure in (13) in Western Oceanic (cf Ross 1998b):

(13) Early Western Oceanic:

**ŋuju-ña a manuk*
 beak-its DET bird
 ‘the bird’s beak’

Locations were often expressed by a preposition governing a possessive noun phrase (as they still are in many Oceanic languages):

(14) <i>*i lalo-ña a Rumaq</i>	<i>*i papo-ña a Rumaq</i>
PREP inside-its DET house	PREP top-its DET house
‘inside the house’	‘on top of the house’

In languages like most of those of the North New Guinea network, where the article was lost and the possessor preposed, the first outcome was apparently this structure:¹³

(15) <i>*Rumaq i lalo-ña</i>	<i>*Rumaq i papo-ña</i>
house PREP inside-its	house PREP top-its
‘inside the house’	‘on top of the house’

The Takia reflex of **lalo-ña* is *i-lo-n*, with fossilised *i-*, reflecting the preposition **i*.

With the shift in the Bel network to verb-final syntax, this structure underwent a further change: the preposition lost its function, and the first syllable of the relational noun was (optionally ?) deleted, resulting in structures somewhat as in (16):

(16) <i>*yaba ilo-n</i>	<i>*yaba [fu]fo-n</i>
house inside-its	house top-its
‘inside the house’	‘on top of the house’

Finally, the relational nouns were grammaticised as postpositions, with accompanying erosion of form, so that Takia has:

(17) Takia:

<i>ab lo</i>	<i>ab [fu]fo</i>
house in	house on

‘in the house’

‘on top of the house’

Thus we can see that the postpositions *lo* and *[fu]fo*, at least, are derived from inherited Takia material.

It is self-evident from (12) that even if we can track the histories of only two Takia postpositions in detail, grammatical calquing has occurred across the system, so that the constructional meanings of Waskia prepositional phrases have been copied into Takia, with the result that Takia now has a paradigm of postpositions which virtually match those of Waskia.

These observations bring us back full circle to the syntagmatic changes illustrated in (2), (6) and (8). If the syntagmatic changes involved in clause-chaining and postpositional phrases were motivated by grammatical calquing, copying from Waskia the structures for certain constructional meanings, then it is reasonable to infer that this may also have been true of the syntagmatic changes we observed earlier, albeit sometimes in a less obvious way. And we have also just observed that paradigmatic reorganisation may be part and parcel of grammatical calquing. This is true in less obtrusively, for example, of clause chaining, where realis =*g* and irrealis =*p* form a new paradigm, and of aspect/mood marking, where the paradigm of perfective =*a*, imperfective =*da* and irrealis =*wa* is innovatory.

Maisin, an Oceanic language in another part of PNG, has reorganised its adpositions on the model of its Papuan neighbour Baruga (Ross 1996a:194). On the other side of the world, the Mixe dialect of Basque has reorganised its case-marking categories and its tense/aspect/ mood system to match their Gascon equivalents quite closely (Haase 1992:66-80, 91-111). In (Iranian) Northern Tajik dialects, tense/aspect/mood categories have been reorganised on the model of (Turkic) Uzbek (Soper 1996:59-79), whilst (Turkic) Qashqay tense/aspect/mood categories have been reorganised on the model of Persian (Soper 1996:239-277).

In view of this examination of metatypy, we need to add to our earlier definition in (1). The sociolinguistic observations in (1) stand, but the definition of the process of metatypy needs to be expanded as follows:

- (18) **Metatypy.** The change in morphosyntactic type and grammatical organisation which a language undergoes as a result of its speakers’ bilingualism in another language. This change is driven by grammatical calquing, i.e. the copying of constructional meanings from the modified language and the innovation of new structures using inherited material to express them. A concomitant of this reorganisation of grammatical constructions is often the reorganisation or creation of paradigms of grammatical functors.

The phenomenon of syntactic restructuring illustrated by Takia in this section is labelled ‘grammatical interference’ by Weinreich (1963 [1953]) and is subsumed under ‘borrowing’ by Thomason and Kaufman (1988). Neither of these terms captures the profound nature of the contact-induced typological change summarised in (18) which has occurred in Takia (and many other languages): hence the term ‘metatypy’.

Once one has defined the phenomenon of metatypy, it is reasonably easy to find cases of it in the literature (and to distinguish between these and other kinds of contact-induced change). Cases which are well enough documented to be recognised include those in (19), which are listed with their metatypic model and source:

(19) Language	Metatypic model	Source
Maisin (Oceanic)	Korafe (?) (Papuan)	Ross (1996a)
Anêm (Papuan)	Lusi (Oceanic)	Thurston (1987)

Cham (Austronesian)	Vietnamese	Thurgood (1996) ¹⁴
Kupwar Kannada (Dravidian)	Marathi (Indo-Aryan)	Gumperz & Wilson (1971)
Tariana	Tucanoan languages	Aikhenvald (1996)
Ilwana (Bantu)	Orma (Cushitic)	Nurse (1994)
N. Tajik (Iranian)	Uzbek (Turkic)	Soper (1996)
Qahqay (Turkic)	Persian	Soper (1996)
Arvanitic (Albanian)	Greek	Sasse (1985)
Asia Minor Greek	Turkish	Thomason & Kaufman (1988:215-23)
Western Armenian	Turkish	Sasse (1992)
Macedonian Turkish	Macedonian (Slavic)	Friedman (1996)
Kosovo Turkish	Albanian	Friedman (1996)
Kormatiki Arabic	Cypriot Greek	Newton (1964)
Rhaeto-Romance	German or Italian	Haiman (1988)
Sauris German	Rhaeto-Romance, Italian	Denison (1968, 1977, 1988)
Mixe Basque	Gascon	Haase (1992)

Some of the languages listed in (19) are located in the Balkans, reminding us of the *Sprachbund* or ‘linguistic area’ (convergence area) concept, which has often been applied to the Balkans. A *Sprachbund* is a region in which metatypy has operated in various directions at various times, so that it is no longer easy (and sometimes no longer possible) to figure out which language served as a metatypic model for what. This is the only reason why the canonical member languages of the Balkan *Sprachbund* are not listed here.

3 Accompaniments of metatypy

As if metatypy were not already a complex enough set of processes, when we look more closely at Takia or at some of the accounts listed in (19), we find two accompanying phenomena, one major and one minor.

The major accompaniment of metatypy is lexical calquing, or ‘loan translation’. In terms of the conventional compartments of linguistic theory, calquing occurs in two places: in the grammar and in the lexicon. I have already shown that grammatical calquing is a part of metatypy. Lexical calquing has received much more attention in the literature, under the rubric ‘loan translation’ (for example, Weinreich 1963 [1953]:50-53), simply because it is much easier to detect than grammatical calquing. Takia examples, repeated from Ross (1998a), include parallel compounds of a kind common in Trans New Guinea languages but not normally found in Oceanic:

(20)	“literal” meaning	Takia	Waskia
	‘person’	<i>tamol-pein</i>	<i>kadi-imet</i>
	‘animal’	<i>bor-goun</i>	<i>buruk-kasik</i>
	‘his parents’	<i>tinan-taman</i>	<i>niam-niet</i>
	‘(do) first’	<i>malan-malan</i>	<i>motam-motam</i>

There are also numerous examples of parallel idioms:

(21)	“literal” meaning	Takia	Waskia
	‘the palm of my hand’	<i>bani-g</i>	<i>a-gitiŋ gomaŋ</i>
	‘my hand’s liver’	<i>ate-n</i>	
		hand-1SG liver-3SG	1SG-hand <3SG>liver

'I am dizzy'	'my eye goes round'	<i>mala-g i-kilani</i>	<i>motam gerago-so</i>
		eye-1SG 3SG-go.round	eye go.round-3SG
'I disobey him'	'I cut his mouth'	<i>awa-n ŋu-tale</i>	<i>kuriŋ batugar-so</i>
		mouth-3SG 1SG-cut	3SG.mouth cut-1SG
'I am angry'	'my guts are bad'	<i>ilo-g saen</i>	<i>a-gemaŋ memek</i>
		inside-1SG bad	1SG-liver bad
'I am waiting'	'I am putting my eye'	<i>mala-g ŋi-ga</i>	<i>motam bete-so</i>
		eye-1SG 1SG-put	eye put-1SG

Thurston (Thurston 1987) lists many such examples for the northwest New Britain linguistic area in PNG, and examples can easily be multiplied from all over the world.

Note that lexical calquing entails a reorganisation of semantic categories. Thus Proto Oceanic had the unitary morphemes **tau* 'person, body' and **palac* 'palm of hand, sole of foot' (see 22). These has disappeared in Takia, and been replaced respectively by the compound *tamol-pein* 'man-woman' in (20) (with a different semantic range), and by a term that transparently says 'liver of hand'. Indeed, the analytical meaning of Waskia *a-gitiŋ gomaŋ* (21) had to be recognised before calquing could take place. Unless one wishes to argue that the organisation of meanings in the mind is completely independent of the organisation of the forms that express them, we cannot avoid the conclusion that lexical calquing means semantic reorganisation.

- (22) Proto Oceanic **tau* meaning 'person, body'
 Proto Oceanic **palac* 'palm of hand, sole of foot'

The other accompaniment of metatypy is that languages modified by metatypy or in a sociolinguistic situation ripe for metatypy have often also borrowed discourse markers and interclausal conjunctions from their metatypic model.¹⁵ Here I am using the term 'borrowing' advisedly, because the *forms* are borrowed along with their functions. As a teenager I occasionally heard radio discussions in Welsh, understanding nothing except *well* and *now* in their sentence-initial (or perhaps I should say 'pre-sentence') discourse-marking functions. Haase (1992:153) notes the adoption into Mixe Basque of French *mais* 'but' as a discourse marker. Chamorro has retained the Spanish discourse marker *entonses* (Spanish *entonces*) 'well then' (Topping 1973:153). Along the north coast of Papua New Guinea and all the way down through the islands as far as the western Solomons (Palmer 1999), one comes across the discourse marker *aria*, which works like English *all right* to indicate that the previous discourse transaction is complete and a new one is beginning. Around Madang, certainly, it is used in both Papuan and Austronesian languages, and I am unsure of its origin.

Both coordinating and subordinating conjunctions are borrowed from Tok Pisin into Oceanic languages in PNG. The examples in (23) are from Sera on the Sandaun (West Sepik) coast (Ross 1985). Tok Pisin borrowings are underlined:

- (23) Sera (Sandaun [West Sepik] coast, PNG):

- a. *Ese nou purun sia tasol nou wau se sein Soken.*
 this house big my but house new COP his Soken
 'This big house is mine, but the new house is Soken's.'
- b. *Sopos uik n-oter-pei, bai rei pe tu na-ker-pei.*
 if weIRR-we-go FUT they self too IRR-they-go
 'If we go, they will go too.'

Thomason and Kaufman (1988:80) report the borrowing of the Spanish interclausal conjunctions *pero* ‘but’, *como* ‘as, since’, and *porque* ‘because’ into Mexican American languages. Tagalog (Austronesian, Philippines) has borrowed from Spanish the conjunction *pero* ‘but’ and the subordinators *miyentras* ‘while’, *oras* ‘immediately when’, *porke* ‘just because’ and *para* ‘so that’ (Schachter & Otanes 1972:470-471, 477, 544). Chamorro (Austronesian, Guam) has a substantial collection of Spanish-derived sentence-introducers — *despues/pues* ‘then’, *estaba* ‘it used to be’, *puede* ‘hopefully’, *tieneki* ‘surely, certainly’ (< Spanish *tener que*) (Topping 1973:153) — and subordinators, among them *antes ki/di* ‘before’, *asta di* ‘until’, *desde ki* ‘since’, *komo* ‘if’, *kosa ki* ‘so that’, *mientras ki* ‘while’, *para ki* ‘so that’ (Topping 1973:151). Mixe Basque has borrowed the French conjunctions *parce que* ‘because’ and *mais* ‘but’ to relate independent clauses (Haase 1992:153). Haig (1998) discusses the borrowing of the conjunctive morpheme *ki* from Persian by Turkish, and thence by a dialect of Laz (Kartvelian) in east Anatolia, as well as the borrowing of the Turkish conditional marker *-sal/-se* by (Iranian) Zazaki and Kurmanjî Kurdish.

4 The sequencing of metatypy and its accompaniments

It seems that metatypy, that is, morphosyntactic remodelling as described in §1 and §2, and its accompaniments — lexical calquing and the borrowing of discourse markers and conjunctions — in some sense belong together. The troubling question is, how are the changes in this mixed bag related to each other? Before we can address this, we need to see whether we can recognise a sequence in which these changes occur. The answer is happily ‘yes’. The sequence appears to be as in (24):

- (24) a. lexical calquing
 b. borrowing of discourse markers and conjunctions
 c. metatypy

4.1 Lexical calquing

Lexical calquing is remarkably common across the world’s languages, and apparently occurs in languages where none of the other changes are in evidence. I say ‘apparently’, because there are not many really systematic descriptions of contact, and the fact that something is not mentioned in a description does not mean that it does not occur. However, Gregersen (1977:4) lists numerous items of “common African idiomatology” which appear over a large area, apparently as the result of lexical calquing over a long period. After culling items which occur outside Africa and could easily have arisen independently in different parts of the continent, we are left with the possible calques in (25):

- (25) “Common African idiomatology” (Gregersen 1977:4)
- a) Comparison is expressed with a verb *surpass*: *the man surpasses the boy in height* or *the man is tall, surpasses the boy*.
 - b) *thing of eating* for food;
 - c) *he and his head* for *he himself*; *he killed his head* for *he killed himself*;
 - d) *don’t touch my ear* for *great-grandchild*.
 - e) *son/child of* as agent (*son of law* for *lawyer*)
 - f) *child of tree* for *fruit*
 - g) *male hand* or *hand of eating* for *right hand*; *female hand* for *left hand*.

Maltese provides us with a case where extensive lexical calquing has occurred, but almost no metatypy (Drewes 1994). Maltese is an Arabic dialect (apparently descended from the

otherwise defunct Sicilian Arabic) which has had centuries of contact first with Italian, then with English.¹⁶

Conversely, no language for which we have reasonably detailed evidence displays metatypy without lexical calquing. Most of the descriptions listed in (19) at least mention lexical calquing. Haig (1998) remarks, for example, that the languages of eastern Anatolia (Turkish, Laz, Zazaki and Kurmanjî Kurdish) “share a considerable body of ... common idioms, shared extensions of core meanings, ... formulaic expressions in traditional narratives, and many situation-bound expressions.” It seems then that there is an implicational relationship such that a language that reflects metatypy will also reflect lexical calquing (although not necessarily lexical borrowing).

The listing of three steps in (24) looks disingenuously simple, but there is a qualification to be made. Although lexical calquing always seems to *start* before metatypy and grammatical calquing, there is no reason to think that it *stops* before metatypy begins.

4.2 *Borrowing of discourse markers and conjunctions*

The borrowing of discourse markers and conjunctions evidently follows the beginnings of lexical calquing, in that there are plenty of languages displaying lexical calques without borrowing these elements. This borrowing, however, precedes metatypy. Of the languages cited in (19), neither Tagalog nor Chamorro, with borrowed Spanish discourse markers and conjunctions, shows any obvious sign of Spanish-based metatypy. We cannot establish an implicational relationship between borrowing and metatypy, however, since there are modified languages for which there is no evidence of the borrowing of discourse markers and conjunctions.

4.3 *Metatypy*

It is, I hope, obvious from my account of Takia metatypy that metatypy is itself a long and complex process. This raises the question, is there a sequence of stages that we can distinguish *within* metatypy? The answer, I think, is again ‘yes’. Thurston (1987) gives an excellent account of metatypy in the Papuan language Anêm, where the model is the Oceanic language Lusi. We see in (26) that metatypy has occurred at the ranks of both sentence and clause:

- (26) Anêm: *kmî e-mên da-ko uas*
 Lusi: *ziŋa i-nama ŋa-tunu uasi*
 fire it-come I-light tobacco
 ‘Pass me a lighter to light my cigarette’ (Thurston 1987:69)

But what we have here is intertranslatability phrase-for-phrase, not word-for-word. When we examine the noun phrases in (27), we see that lexical calquing has occurred, but that the constituent orders within the phrase differ: in Anêm the possessed precedes the possessor, in Lusi vice versa:

- (27) Anêm: *gêt-î ia*
 ear-his fish
 Lusi: *iha ai-taŋa*
 fish his-ear
 ‘lateral fin of a fish’
 Anêm: *eil-îm te*
 eye-his knife
 Lusi: *uzage ai-mata*

knife his-eye
 ‘knife blade’

Anêm: *agîm-k-i* *tiga*
 neck-LIGATURE-his foot

Lusi: *ahe-gu* *ai-gauli*
 foot-my his-neck
 ‘my ankle’

In Anêm, metatypy has affected the sentence and the clause, but not the phrase. This suggests that metatypy affects relations among larger syntactic units first, then relations among progressively smaller units. Takia has progressed a step further than Anêm, as metatypy has affected the phrase in Takia. But I have noted that Takia intertranslatability is word-for-word, not morpheme-for-morpheme. The only case of morpheme-for-morpheme intertranslatability that I know of is the famous case of Kupwar, an Indian village on the Indo-Aryan/Dravidian border, whose speech varieties are briefly described by Gumperz and Wilson. Here the local varieties of (Indo-European) Marathi and Urdu have undergone metatypy on the model of (Dravidian) Kannada. (28) is just one example from Kupwar Urdu (Gumperz & Wilson 1971:165):

(28) Kupwar Urdu:	<i>o</i>	<i>gæ</i>	<i>t-a</i>	<i>bhæs</i>	<i>carn-e-ko</i>
Kupwar Kannada:	<i>aw</i>	<i>hog</i>	<i>id-a</i>	<i>yæmmi</i>	<i>mes-Ø-k</i>
	he	go	PAST-MASC	buffalo	graze-OBLIQUE-to
Standard Hindi-Urdu:	<i>wo</i>	<i>bhæs</i>	<i>cārane-ke</i>	<i>liye</i>	<i>gāy-a</i> <i>th-a</i>
	he	buffalo	graze-OBLIQUE	to	go-MASC PAST-MASC
	‘He went to graze the buffalo.’				

The only other case I know of that approaches this are the Albanian dialects of Greece, known as Arvanitic, where Arvanitic categories have come increasingly to match Greek (Sasse 1985:84).

If the chronological sequence I am inferring here — that metatypy affects larger units before smaller — is correct, then it is perhaps not surprising that we know of few cases of morpheme-for-morpheme intertranslatability, since they would represent the furthest progressed form of metatypy.

There is one apparent caveat to the principle I have just outlined. In Takia, for example, we saw in (11) that metatypy has resulted in the creation of coordinate-dependent clauses with special morphology, and that these permit clause-chaining. However, this special morphology, like all aspect/mood morphology in Takia, is attached to the verb, which in its turn is at the end of the clause. As far as I can see, in any language that allows clause chaining, its coordinate-dependent clauses must either be verb-initial, with chaining morphology prefixed or procliticised to the verb (as happens, e.g., in the Oceanic languages of south Vanuatu **check**), or, like Takia and many Trans New Guinea languages, they must be verb-final, with chaining morphology suffixed or encliticised to the verb. This means that Takia must have shifted to SOV order *before* it acquired chaining morphology. In other words, metatypy affected the constituents of the clause *before* it affected the construction of sentences. This internal reconstruction is supported by comparative evidence. All Bel languages have SOV constituent order, and we have noted that this reflects a Proto Bel innovation. But not all Bel languages have clause chaining. Awad Bing does not appear to have coordinate-dependent clauses or chaining morphology, so we may infer that this innovation postdates Proto Bel.

However, this caveat may be more apparent than real. If SOV order was a Proto Bel innovation, then it predates contact with Waskia and is not an immediate part of the metatypy which resulted from this contact. On the other hand, it illustrates the point that certain metatypic changes cannot take place if the structural prerequisites do not exist. In this case, clause-chaining cannot arise directly in a verb-medial language.

5 Addressing the problem

I have taken a long time to get around to the problem I want to address in this talk, and that is because metatypy and its accompaniments are quite complex. This puzzle is in the relationships between the processes listed in sequence in (24), and we can break it down into three questions:

- (29) a. Grammatical calquing is simply a dimension of metatypy and inseparable from it. But both grammatical calquing and lexical calquing entail reorganisation of semantic categories. Are they *separate* processes or parts of the *same* process?
- b. Lexical calquing always *precedes* metatypy, but does it *cause* it?
- c. Borrowing of discourse particles and interclausal conjunctions precedes metatypy. There is no implicational relationship between these borrowings and metatypy. Are they related at all?

5.1 Lexicon, lemmas and lexical forms

Before I try to address these questions, there is a more straightforward matter I need to mention. Where there is intertranslatability morpheme-for-morpheme, as at Kupwar, or word-for-word as in Takia and Waskia, we can say that when speakers switch languages, they simply exchange one lexical form for another for another. I owe this observation to Grace (1981). Grace's point is that the lexicon consists of form–meaning pairings, and that the substitutable components at Kupwar are only the *forms* of words: their meanings remain intact across the languages, along with the grammar.¹⁷ This division of form from meaning meshes well with the psycholinguistic model proposed by Levelt (1989). He distinguishes between 'lemmas', the meanings of words, and 'lexical forms', suggesting that they are not only stored independently of each other, but accessed in sequence. One piece of evidence for this is the "tip-of-the-tongue" phenomenon (Levelt 1989): 231), all too common among the middle-aged, of "knowing" the word you are looking for but not being able give it its form.

5.2 Speech acts, constructions and complex lemmas

I suggested in §1 that all the phenomena I have been discussing here eventuate when bilingual speakers use their languages in more or less the same cultural context and seek to use the same discourse organisation and express the same meanings in both languages. In order to get some kind of a handle on what this means and on the questions in (29), let us try to see what is involved in speaking.

A week or so ago my colleague John Bowden stopped by my open door, as he sometimes does, and we became involved in conversation. After a number of minutes I felt a little embarrassed that I was sitting comfortably in the chair at my desk while he was still standing in the doorway, so I interrupted the conversation, and, gesturing to the seat just inside the door, said something like, "Look, do have a seat," whereupon John sat down. Let us look more closely at what happened. My analysis owes a good deal to Levelt (1989):

- (30) a. I conceived the intention to invite John to sit down.
- b. I decided on a speech act type or types and a gesture to achieve this intention.

- c. I formulated the speech acts. This formulation potentially involved
 - i) accessing
 - a construction which would express the speech act type;
 - the lemmas I needed;
 - ii) building the clause in accordance with
 - the chosen construction;
 - the valences of the lemmas;¹⁸
 - the appropriate information structure;
- d. I accessed the lexical forms successfully;
- e. I articulated them so that John heard and understood.

What I would like to examine more carefully is (30c). Most analysts would regard my utterance as two speech acts: *Look* and *Do have a seat*. Stenström (1994:39-43, 74) would call *Look* an ‘alert’, *Do have a seat* an ‘offer’, an ‘invite’, a ‘suggest’, or a ‘request’.¹⁹

Although *Look* is superficially the imperative of the verb, I did not use it in a way that had anything to do with sight or perception. Instead, it is a conventionalised one-word speech act, similar in function to *Hey*.

The formulation of *Do have a seat* obviously involved building a clause, and under (30c ii) I have listed three factors which determine how a clause is built. One of these is the chosen speech act type, and the ‘offer’ (or whatever we choose to call it) is expressed by placing imperative *do* in front of the VERB + OBJECT collocation *have a seat*. This construction is again an arbitrary choice for a conventional function: in conjunction with appropriate intonation, it renders what might otherwise be a command a little more friendly.

It has often been noted that there is no one-to-one correspondence between syntactic construction and speech act type (see Clark 1996:137 for a recent summary). In most situations *Why didn't you come?* is a request for information, but *Why don't you come?* is a suggestion that one's interlocutor act in a certain way. But speakers do have procedures for encoding a given speech act type in a particular construction in the given situation and converse procedures for decoding a construction as a particular speech act type, as Sinclair and Coulthard (1975:29-33) show.

Although the associations between syntactic constructions and speech acts are regulated by procedures, they are ultimately arbitrary and conventional (Zwicky 1994:617). The speech act is the smallest unit of what, following Sinclair and Coulthard (1975) and Stenström (1994), I will call discourse.²⁰ A speech act may take the form of a conventionalised word or phrase like *look (here)*, *hey*, *no*, *yes*, *thank you*, or a syntactic construction, or even part of a syntactic construction²¹. That is, the relationship between discourse and syntax is analogous to the relationship between syntax and phonology, and the three constitute different *levels*, in the terminology of Halliday (1961) or Sinclair and Coulthard (1975:20). The three levels operate simultaneously. When I said *Do have a seat* to John, I made a speech act by presenting him with a grammatically constructed signal by uttering a sequence of phonological forms (cf Clark 1996:149-150, 153).²²

Returning to (30c ii), one of the factors which determines how a clause is built is the valences of the lemmas. *Do have a seat* entails clause-building, but in this case I doubt whether this building actually involves lemma valences. Rather, *have a seat* is what Pawley (1985, 1983) has called a ‘sentence stem’ or ‘speech formula’ which is lexicalised, that is, it is a complex lemma

that is stored and accessed as a whole. Evidence of lexicalisation is that it is a somewhat arbitrary choice for a conventional expression (*have* is used non-literally) and that it labels a conventional concept (it is less peremptory than the more literal *sit down*) (cf. Pawley 1986). Like many (most?) sentence stems, *have a seat* is limited in its transformational possibilities. It cannot be passivised, and, at least in my idiolect, I cannot ask plural addressees to *have seats*.

The point of this example was to demonstrate four things:

(31) a. A speech act is expressed by either

- a conventionalised word or phrase like *look (here), hey, no, yes, thank you*: it has no semantic content in that there are no further choices about meaning to be made once the speech act has been selected; or
- a conventionalised syntactic construction like
Do + VERB (+ COMPLEMENT(S)) or
Why don't you + VERB (+ COMPLEMENT(S)),
Who (the EXPLETIVE) do-PRES NP_i think PRO_i be-PRES
What's NP_i doing PP²³
 interpreted according to situation; or
- part of a syntactic construction.

b. a stored lemma may be a single word, a sentence stem (e.g. *have a seat, tell the truth*), a lexicalised clause (*be that as it may*), or even a full sentence (e.g. *Long time no see, A stitch in time saves nine*) (Pawley and Syder 1983)

c. a sentence stem like *have a seat* has its own mini-grammar (Pawley and Syder 1983, Kay & Fillmore 1999);

d. a construction like the one with *Do* here has an arbitrary constructional meaning.

Let us now try to place ourselves in the position of a bilingual. I will assume that our bilingual uses English and German. Although the two languages are quite closely related, they show striking dissimilarities in the details when our speaker sets out to perform speech acts corresponding to the ones above. A choice corresponding to *Look, do have a seat* would be something like

(32) <i>Bitte,</i>	<i>setz'</i>	<i>Dich</i>	<i>doch!</i>
please	seat.IMPER:SG	you.SG	PARTICLE

The alert cannot be translated as a verb meaning 'look': it must be replaced by something that serves a similar function, in this case *Bitte*, an expression (actually the first person singular form of the verb *bitten* 'ask, request') corresponding very roughly to English *please* but having a different functional range.²⁴ Whereas *Look* marks topic change, *Bitte* signals the beginning of a request. The sentence stem in *setz' Dich doch* is the singular imperative form of the reflexive verb *sich setzen* 'sit down' (more literally 'seat oneself').

The speaker could instead choose *Nimm' Platz* 'take a seat' (more literally 'take place' or 'take seat'), the imperative of *Platz nehmen*, which is in word-for-word translation terms closer to English *have a seat*, but *Platz nehmen* seems a little more formal than *have a seat*. (Note, incidentally, that *Platz* never takes an article before it in this sentence stem.)

Where the English utterance has the imperative verb *Do*, German chooses the imperative *setz' dich*, where English *sit down* would sound peremptory, and softens it with *doch*, a particle about whose range of uses a book could be written. Finally, the German user is faced with a

choice that is not available to the English speaker: whether to address his interlocutor with the familiar or the polite pronoun, a choice which is strictly determined by convention and mutual agreement. In this case he chooses familiar *Dich*.

Perhaps half the differences between the English and German versions of this speech act have to do with the sentence stems that are central to them. Pawley and Syder (1983:210) estimated that the ordinary mature speaker of English probably knows only a few thousand lexical morphemes, but has a stock of lexicalised sentence stems running into hundreds of thousands. Human beings utilise their enormous memory capacity to store ready-made chunks of language, thereby saving processing effort when they speak and listen (Pawley and Syder 1983:217-218).

This brief list of German/English differences barely touches the surface of issues relating to speech acts across languages and cultures (see, e.g., Thomas 1983, Wierzbicka 1991). The syntactic constructions that realise corresponding speech acts even in different European languages often differ much more than the ones I have just described, where both English and German use an imperative. For example, Wierzbicka (Wierzbicka 1985) points out that, whereas English *Would you like ...* may introduce an offer or a suggestion that one's interlocutor act in a certain way, its Polish translation only introduces a 'genuine question', that is, a request for information.²⁵

This list of differences is also deficient in another respect. To (30c ii) one could add a third determinant of clause building, namely information structure. This plays a more obvious part in determining the choice of construction in declarative clauses (as Lambrecht 1994, has demonstrated for English and French) and I will simply note here that, in conjunction with intonation, German may use fronting both to topicalise and to focus:²⁶

(33) a. *Ich sah Johann gestern.*
I saw John yesterday

b. *Johann sah ich gestern.*
'John I saw yesterday'/'(As for) John, I saw him yesterday'/'It was John I saw yesterday'

c. *Gestern sah ich Johann*
'Yesterday I saw John'/'It was yesterday that I saw John'

English has a rather different set of constructional possibilities for topicalisation and focus, and decontextualised glosses cannot do justice to the German.

5.3 Lexical calquing, grammatical calquing and metatypy: a thought experiment

Obviously, English/German bilinguals simply have to live with these differences between the two languages, as there is usually a high degree of norm enforcement in the speech communities where they are used. But if the two languages were used in the same speech community in much the same cultural context, it would greatly reduce the memory burden if (i) speakers could express corresponding speech acts and corresponding information structure in the two languages by using corresponding constructions and (ii) the two languages *shared* a single set of lemmas and differed only in their lexical forms. Or, putting it another way, it would help if a speaker could express the same *meanings*, both constructional and lexical, in corresponding ways in both languages.²⁷

Let us perform a small thought experiment and imagine for a moment that English and German are, like Takia and Waskia, languages spoken in PNG villages where norm

enforcement is minimal. Then there would be no reason to resist the natural pressure to lighten the burden by making one's English, the emblematic language, more similar to German, the inter-community language. What would our speakers do? Their first step would perhaps be to replace the sentence stem *have a seat* with *seat oneself* or *take a place* or *take a seat* (*take a seat* being acceptable in English anyway, even if its social overtones are marginally different from *have a seat*). This is the step which we call lexical calquing. If this first step were applied to a large number of sentence stems, this Modified English would also contain the lexical items in (34).

(34) Modified English	German	English
<i>seat oneself</i>	<i>sich setzen</i>	<i>sit down</i>
<i>wash oneself</i>	<i>sich waschen</i>	<i>have a wash</i>
<i>remind oneself</i>	<i>sich erinnern</i>	<i>remember</i>
<i>interest oneself for s.t.</i>	<i>sich für etwas interessieren</i>	<i>be interested in s.t.</i>
<i>anger oneself over s.t.</i>	<i>sich über etwas ärgern</i>	<i>be annoyed about s.t.</i>
<i>joy (?) oneself onto s.t.</i>	<i>sich über etwas freuen</i>	<i>look forward to s.t.</i>

In other words, English would acquire a category of reflexive verbs, matching those in German, with an appropriate grammar to go with them (*I seat myself, you seat yourself* etc). As the last three examples show, the conventional uses of English prepositions would also begin to change, i.e. grammatical calquing would occur.

The noteworthy point here is that lexical calquing has already brought certain grammatical changes to our Modified English: there is a new category of reflexive verbs (English of course has reflexive pronouns, but there are relatively few cases in which they are conventionalised as part of the lemma), and the semantic reorganisation of prepositions has begun. These are inevitable consequences of the collocations which make up sentence stems. There is no reason to suppose that our speakers will have stopped here. If they have selected *take a place* for *Platz nehmen*, then the next generation may well bring the mini-grammar of English *take a place* (still modelled on *have a seat*) into line with *Platz nehmen* by dropping the indefinite article. The result will be *take place*, which, confusingly, already exists in English but with the very different meaning of 'happen, occur'.

The way is now open for changes at higher levels of generality. For example, the German non-third person accusative pronouns *mich* and *dich* are used reflexively in (35), but they are not marked for reflexivity. They are the normal accusative pronouns, as one can see in (36). So the next step is to modify the grammar of English reflexives to use ordinary accusative pronouns, in other words by calquing the German pronouns. What would our speakers do in the third person singular, where the German pronoun *sich* is reflexive, and is not specified for gender? English has no equivalent, so they might either extend the first- and second-person pattern to the third, using *him* and *her*, or devise a new pronoun corresponding to German *sich*: Modified English *self* seems a possible choice:

(35) German	Modified English 1	Modified English 2
<i>er setzt sich</i>	<i>He seats himself</i>	<i>he seats him or he seats self</i>
<i>sie setzt sich</i>	<i>She seats herself</i>	<i>she seats her or she seats self</i>
<i>ich setze mich</i>	<i>I seat myself</i>	<i>I seat me</i>
<i>du setztst dich</i>	<i>you seat yourself</i>	<i>you seat you</i>

(36) German:
Er sah mich.

he saw me

Lexical calquing thus brings with it modifications to the mini-grammars of sentence stems, and these in turn lead to modifications at higher levels of generality, i.e. to elements of metatypy.

It is worth noting that the grammatical modifications in (35) are undramatic in comparison with those that might occur if the two languages were more different. In various articles, Pawley has noted the radical differences between ways of saying things in English and in Kalam, a language spoken in a small part of the PNG Highlands (Pawley 1987, 1991, 1998). If a Kalam speaker wishes to say something roughly corresponding to *I shot some game and ate it*, he is obliged by convention to give a much more detailed account, along the lines of *I went, killed some game, carried it and came, baked it and ate it*. That is, the sentence stems of Kalam are far more detailed than those of English, and are enshrined in serial-verb constructions (which are presumably the grammaticised outcome of attention to component events). One can imagine that if the metatypic model for Modified English were Kalam rather than German, then lexical calquing would lead to complex English sentence stems and eventually to verb serialisation.

So far, so good. Lexical calquing has occurred first, following the order in (24), and it has led to the grammatical calquing of prepositions and reflexive pronouns. So we have an answer to the question in (29a): lexical and grammatical calquing *are* parts of the same process. I observed earlier that grammatical calquing and metatypy are inseparable, and our thought experiment resulted in a small piece of metatypy — the creation of a category of reflexive verb and changes in reflexive pronoun use — in (35).

But our thought experiment is not quite complete. The sentence stem *setz Dich* in *Bitte, setz Dich doch!* has become *seat you*, but what about *Bitte* and *doch*? I will assume that the most transparent equivalent of *Bitte* is *Please*, and that *doch* is perceived by our speakers as corresponding to the colloquial Australian end-of-clause use of *but*. So our speaker of modified English would say *Please, seat you but!* as the sequence of speech acts corresponding to *Bitte, setz Dich doch!*

(37) *Please, seat you but!*
Bitte, setz Dich doch!

Notice that these changes have nothing to do with the lemma *setz Dich* or *seat you*. They are driven entirely by the push to express the same speech act in a similar way in both languages.

My experiment has not involved any major changes in constituent order, since English and German imperatives both have VO order. However, it is easy enough to devise an example where constituent orders differ. In another context I might have asked John *Do you want to have coffee?* with VO order in *have coffee*. In German, our bilingual might have said:

(38) German:

Willst Du Kaffee trinken?
want you coffee drink
'Do you want to have coffee?'

Modified English:

Do you want to coffee drink? or Want you to coffee drink?

where the subordinate clause has OV order. Let us imagine again that our bilinguals first modify the English lemma, taking modified English *drink coffee* to match *Kaffee trinken*. Then they go on to bring their interrogative construction into line with German, asking *Do you want*

to coffee drink? or, a step further, *Want you to coffee drink?* The crucial point here is that this change — and it is clearly a metatypic change — is not driven by lexical calquing but by a pressure to express constructional meanings with similar constructions in the two languages.

It seems that metatypy, or much of it, anyway, is a means of reducing the number of constructions speakers must know by increasing the constructional equivalences between their two languages. In other words, it is also a way of reducing memory burden.

I remarked in (29b) that lexical calquing always *precedes* metatypy, and asked if the one also *causes* the other. The answer is ‘no’. Instead, both are stimulated by a natural pressure to reduce the mental burden by expressing meanings, lexical and constructional, in the ‘same’ way. Lexical calquing precedes metatypy simply because it operates on one lemma after another, proceeding incrementally such that no single change has a radical effect on the language, although there may be emergent grammatical changes like the new reflexive verb category in our hypothetical modified English. Metatypy, on the other hand, entails the remodelling of constructions which may be fundamental to the system of the language, and therefore takes longer to happen.

5.4 Metatypy observed

A thought experiment is a means of presentation, not an empirical procedure. Is there any *evidence* that metatypy occurs because speakers equate constructions across languages and render them more similar? In other words, are there any recorded (as opposed to reconstructed) cases of metatypy. I know of very few that have been subjected to careful analysis, but some have been provided by Prince in her studies of the history of Yiddish (1997, 1998). I have time only for a short summary of one of these. Yiddish is a language of European Jews. It is descended from a mediaeval dialect (or dialects) of High German, but a significant feature of eastern Yiddish is that its speakers were for centuries out of contact with other Germanic speakers, lived among Slavic speakers and were bilingual in the local Slavic communalect. This led to some metatypic changes in Yiddish on Slavic models. One outcome is that eastern Yiddish has a focus construction with no correspondent in any Germanic communalect nor in mediaeval western Yiddish.²⁸

(39) Yiddish:

Dos hot Leyb gezen Eriken
 that has L. seen E.-ACC
 ‘It’s Leonard who saw Erica.’ (Prince 1998)

The model was evidently a Slavic construction illustrated in the Russian sentence in (40):

(40) Russian:

Eto Leonid uvidel Eriku
 that L. saw E.-ACC
 ‘It’s Leonard who saw Erica.’ (Prince 1998)

Unlike the English translation, neither of the two constructions is a cleft. However, Prince (1998) points out that there are important differences between them. In Russian, the object can also occupy the focus position immediately after *Eto*, giving:

(41) Russian:

Eto Eriku Leonid uvidel
 that E.-ACC L. saw

‘It’s Erica that Leonard saw.’ (Prince 1998)

This cannot happen in Yiddish (**Dos Eriken hot Leyb gezen*). On the other hand, the Yiddish construction can occur in a subordinate clause, whereas the Russian construction cannot. In other words, the remodelling was somewhat indirect. Medieval Yiddish presumably had the German fronted focus construction:

(42) Medieval Yiddish (manufactured hypothetical examples):

- a. *Leyb hot gezen Eriken*
L. has seen E.-ACC
‘It’s Leonard who saw Erica.’
- b. *Eriken hot Leyb gezen*
E.-ACC has L. seen
‘It’s Erica that Leonard saw.’

However, in (42a) a focus subject is differentiated from a non-focus subject only by intonation, and in both sentences only intonation differentiates between topic and focus. Later on, isolated from German, speakers sought a construction which would make these distinctions syntactically on the Slavic model. Prince argues that Yiddish-speakers took the zero-topic (detopicalising) German/Yiddish *es* construction in (43), which is used when the subject referent is not discourse-active as a sentence-focus construction answering ‘What happened?’:

(43) Yiddish:

- Es hot Leyb gezen Eriken*
it has L. seen E.-ACC
‘It happened that Leonard saw Erica.’ (Prince 1998)

They equated this syntactically with the Russian *eto* construction but adapted it, replacing *eto* by its translation equivalent *dos*, and using the adapted construction in (39) as the equivalent of the Russian *eto* focus construction.

This suggests that metatypy does not necessarily consist of the direct copying of a construction. Rather, it may consist in speakers seeking to express a particular constructional meaning by using a construction which they perceive as matching the construction in the model language. They may find a ready-made construction in their emblematic language and extend or change its constructional meaning to the meaning of the model language construction, as in the case of “Yinglish” Yiddish movement, also described by Prince (1998). Or they may *adapt* an existing construction in the direction of the model language construction, as in the case of the Yiddish *dos* construction in (39).²⁹

This brings me back to Takia metatypy. We know that one of the most general constructions in the language, the SVO phrase order of non-imperative clauses, was changed to SOV. Can we explain *how* this happened? In the light of Prince’s work, can we reconstruct constructions at an earlier SVO stage which speakers might have matched with the SOV construction of their Papuan inter-community language and used as the basis for their own SOV construction?

I believe we can. As illustrated in (2), Western Oceanic languages typically coreference the person and number of their subject with a proclitic or a prefix, and of their object (if there is one) with an enclitic or a suffix. This means that many clauses consist only of the verb word. Where noun phrases occur, it is typically at the rate of one per clause. If that noun phrase is an object, then in an SVO language the ‘unmarked’ order is VO. However, many SVO Oceanic languages often front the object if it is a newly introduced referent. Since there is a strong

tendency to introduce new referents in object position, this means that in practice OV sequences occur quite frequently. In the following Takia example from a narrative in which the speaker recounts how he came to be paraplegic,³⁰ we have a sequence of clauses where the only noun phrases are objects:

(44) Takia:

<i>ηadu</i>	=g,	<i>tinig</i>	<i>tatu</i>	<i>ηulusuni.</i>	<i>ηeg</i>	<i>ηulusuni</i>	=g,
<i>ηa-du</i>	=go	<i>tini-g</i>	<i>tatu</i>	<i>ηu-lusuni=∅</i>	<i>ηe -g</i>	<i>ηu-lusuni</i>	=go
I-descend	=RD	skin-my	bone	I-break =PF	leg-my	I-break	=RD
I fell		I broke the bones of my body			I broke my legs		
<i>patug</i>	<i>tatu</i>	<i>ηulusuni</i>	=g,				
<i>patu-g</i>	<i>tatu</i>	<i>ηu-lusuni</i>	=go				
back-my	bone	I-break	=RD				
I broke my backbone							

Takia, of course, has SOV order. But it is easy to see that this story could have been told in an SVO language with each object fronted because it introduces a new referent. It is also not difficult to perceive how speakers could have taken the fronted object construction and extended its use, probably with a change of intonation pattern,³¹ so that it became the general non-imperative construction. We can also see from (44), incidentally, how earlier **ga* ‘realis conjunction’ has become =*g(o)* ‘realis coordinate=dependent enclitic’.

This, of course, would provide for OV and SV clauses, the vast majority of clauses in which noun phrases appear. It does not account directly for much lower-frequency SOV clauses, and we must assume that they emerged at a stage by which neither OV nor SV clauses represented a special focus or topicalisation construction.

Obviously Prince’s account raises all kinds of questions about metatypy. How, for example, do speakers equate syntactic constructions across their two languages? What constraints are there on constructional change?

5.5 *The borrowing of discourse particles and interclausal conjunctions*

In (29c) I asked if the borrowing of discourse particles and interclausal conjunctions is related to metatypy. Although neither is a *necessary* accompaniment of metatypy, I believe the answer is ‘yes’.

I have observed that a discourse particle is often a conventionalised one-word speech act. There can be no calquing of these words, as they have no denotative meaning to calque. If one wants to use the “same” speech act in both languages, one must use the same word, and this seems to be one reason why discourse markers are often borrowed.

On Prince’s account, metatypy entails finding a construction in one’s emblematic language which matches the relevant construction in the inter-community language, and extending the meanings of the emblematic construction (with or without structural modifications). This depends on speakers being able to establish equivalence between the inter-community language construction and an emblematic language construction. But what happens if constructional equivalence cannot be established? The Chamorro sentences in (45) illustrate:

(45) Chamorro:

a.	<i>Debidi</i>	<i>un</i>	<i>choco</i>	<i>antesdi</i>	<i>un</i>	<i>hanao</i>	<i>para i</i>	<i>eskuela</i>
	must	you.SG	eat	before	you.SG	go	for	the school

‘You must eat before you go to school.’

b. *Desdeki un li'e' i palao'an haduku hao.*
since you.SG see the woman crazy you

‘Since you saw the woman, you’ve been crazy.’ (Topping 1973: 151; interlinears mine)

In European languages temporal, conditional, concessive, purposive and other ‘adverbial’ relationships are generally denoted by subordinate clauses initiated by an adverbial subordinator. In Austronesian languages, they are generally denoted in other ways: sometimes by simple parataxis, sometimes by parataxis with a clause-initial marker of the relationship, e.g. *and then, for this reason*. There is nothing corresponding to the English paradigm of subordinators that includes *before, after, since, until, while, if, although* and *so that*, and nothing corresponding to the syntactic subordination which allows an adverbial subordinate clause to occur *before* its main clause. As a result, for this construction meaning bilingual speakers find it impossible to establish constructional equivalence between their two languages and instead devise a new subordinating structure in their emblematic language, modelled on the lingua franca. Having no native source of subordinators, they borrow them from the lingua franca. On this interpretation, the sentences in (45) do not simply reflect the borrowing of morphemes. They reflect the (partial) copying of a construction, and grammatical calquing in that the borrowing of the paradigm of conjunctions also entails the copying of a set of semantic categories. Since Chamorro shows few other signs of metatypy, incidentally, this reflects the fact that, other things being equal, metatypy first affects interclausal relationships.

Lest the argument I have just made sounds a bit facile, let me reinforce it with another set of data. The grammatical calquing involved in the borrowing of the conjunction paradigm occurs precisely because the conjunctions form a paradigm for which pre-Spanish Chamorro evidently had no equivalent. I am not saying that ancient Chamorro could not express the relationships which it now expresses with Spanish subordinators, but that the ancient Chamorro ways of expressing them did not form a paradigm. What I have called ‘grammatical calquing’ entails creating a paradigm modelled on a paradigm in the other language. Where the morphemes for such a paradigm are not readily created by the grammaticisation of native material, there is some tendency to borrow them and to create a new construction. A number of languages in PNG have borrowed the Tok Pisin modals *inap* ‘be able’, *ken* ‘may’, *laik* ‘want to’, *mas* ‘must, be going to’, *save* ‘be in the habit of’, themselves once imported from English. Thus we find them in Harua, a dialect of Bola spoken on the oil palm plantations in the Hoskins area of New Britain and therefore in intense contact with Tok Pisin. For example (for more examples, see Ross 1985):

(46) *E Maikel i laik raulo mule.*
ART Michael he want dance again
‘Michael wants to dance again.’

6 Conclusions

In conclusion, I have proposed a unified answer to the three questions posed in (29). The three processes of lexical calquing, metatypy and the borrowing of discourse markers are all triggered by the natural pressure to relieve the bilingual speaker’s mental burden by expressing meanings in parallel ways in both languages. In the case of lexical calquing, the outcome is one set of lemmas and two lexical forms for each lemma (or one if the form itself is borrowed). In the case of metatypy and the borrowing of discourse markers, the result is more similar ways of

expressing the same speech act in both languages.

The account of metatypy and its accompaniments that I have given here is similar in a number of ways to the one outlined briefly by Labov and developed at greater length by Grace (1981). Labov (1971:460), looking at the Kupwar materials of which I gave a sample in (28), writes: ‘One can hardly doubt, after Gumperz’ research, that the lexical components of a language can be divorced from the underlying grammatical sub-structure.’ (Labov 1971:460) The point that Labov is making is that because contact-induced change has led to morpheme-for-morpheme intertranslatability, the three languages at Kupwar have a common grammar but separate lexicons. He talks about the ‘notion that there are ... “dotted lines” in a language, and that one can tear out one component and throw it away ...’ ((Labov 1971:459-460). His suggestion is that at Kupwar, the languages have converged so that they have a single grammar but tear-out, replaceable lexicons.

Grace (1981:24) gently criticises Labov, saying that the idea that the two components are the grammar and the lexicon is misleading. ‘I will argue that of the two components distinguished by the dotted line, the first consists of everything concerned in the conceptualization of the message while the second consists just in the forms of the actual words.’ (Grace 1981:24)

Actually, Grace’s interpretation of Labov is perhaps not quite accurate. Labov says, ‘Gumperz finds that the two languages, Dravidian Kannada and Indo-European Marathi have become practically identical in their deep structure and semantics, on the one hand, and in their phonetic output on the other, whilst they have consistently remained distinct in lexicon and grammatical formatives.’ (460). Since Labov puts semantics with deep structure, separating “lexicon” from it, it is a legitimate inference that what he meant by “lexicon” was the same as Grace’s lexification.

Grace argues, on this and on other grounds, that the traditional grammar–lexicon division represents a misleading perception of language. Instead, he says (Grace 1981:5-6): ‘Although I will not attempt to design a new descriptive model, I have attempted to develop a view of the make-up of a language that assumes that its two main components are precisely those that separate out in contact situations, i.e., one component consisting of just those parts that are subject to convergent change and the other of just those parts that resist such change.’

My account differs somewhat from Labov’s and Grace’s. Both of them based their accounts on the Kupwar material, and concluded that language could effectively be treated as having just two major components. I agree that there is a ‘dotted line’ between lemmas and lexical forms, but my analysis of metatypy and its accompaniments suggests that the other component, ‘everything concerned in the conceptualization of the message’, is in fact divisible. Although lexical calquing and metatypy are driven ultimately by the same forces, they operate on different components of the language: lexical calquing operates on lemmas, metatypy on grammatical constructions. There is certainly a close connection between lemmas and syntactic constructions, in that each sentence stem has its own mini-grammar, and this will be affected by lexical calquing. But at the most abstract level of syntax, there are constructions which do not seem to be affected by lexical calquing.

Essentially, Grace challenged the grammar–lexicon model, and it seems to me that his challenge stands, even if in somewhat modified form. The ‘dotted line’ between lemma and lexical form is certainly there, and the relationship between lemma and syntax cannot be fully pulled apart. The proponents of Construction Grammar have observed (Kay & Fillmore 1999) that a full description of a grammar needs to account for the mini-grammars of each lemma. Under the Construction Grammar approach, the most general and basic constructions of the

language are described first, followed by successively more specific constructions which inherit constructions above them in the hierarchy until we reach the mini-grammars of individual lemmas.

Table 1: A typological comparison of the early Western Oceanic dialect network, Takia and Waskia

	early Western Oceanic network	Takia (Oceanic Austronesian)	Waskia (Trans New Guinea)
Unmarked phrase order	SVO	SOV	SOV
Noun phrase			
non-deictic determiner	preposed article distinguishing common from personal	postposed determiner	postposed determiner
adjective syntax	postposed	postposed	postposed
adjective agreement	none, or ADJ-PRON, where PRON = possessive pronoun agreeing in person and number with noun	<i>as early Western Oceanic</i>	none
attributive noun	postposed	preposed	preposed
conjoined noun phrase	NP + conjunction + NP	NP + NP + postposition	NP + NP + postposition
Possession system	alienable vs. inalienable with subcategories of alienable	alienable vs. inalienable	alienable vs. inalienable
possessor NP	postposed	preposed	preposed
possessor pronoun: with inalienables	suffixed to possessed noun	suffixed to possessed noun	prefixed or infix to possessed noun
possessor pronoun: with alienables	suffixed to classifier	suffixed to classifier	independent, preposed
Verb complex			
subject referencing pronoun	prefix or proclitic	prefix	portmanteau suffix
tense/aspect/mood	prefix or proclitic; reduplication for continuative	enclitic	
object referencing pronoun	suffix or enclitic	suffix	independent
Pronoun system	inclusive/exclusive distinction	inclusive/exclusive distinction	no inclusive/exclusive distinction
Adpositional phrases	prepositional	postpositional	postpositional
Clause linkage	coordinate, subordinate	coordinate, cosubordinate, subordinate	coordinate, cosubordinate, subordinate
clause-linking devices	parataxis, conjunctions	enclitic to verb	part of portmanteau suffix to verb

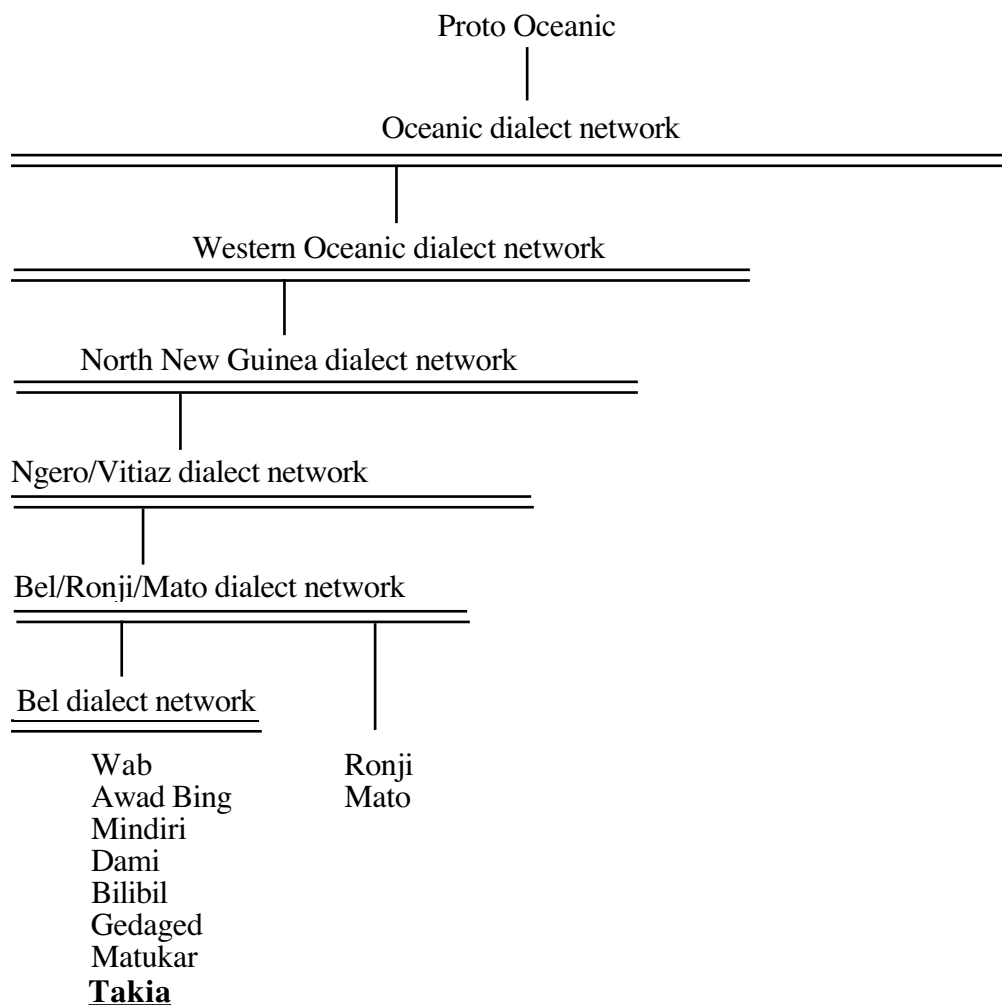


Figure 1: The position of Takia in the Oceanic subgroup of Austronesian

¹ I have benefitted greatly from comments made by Alexandra Aikhenvald, John Bowden, Andrew Pawley and Hans-Jürgen Sasse at an earlier presentation, although I am of course responsible for the outcomes.

² Calvert Watkins suggested at a symposium in Canberra in 1999 that *metátypy* should be pronounced thus, with stress on the second syllable, by analogy with *metáthesis*.

³ For recent accounts of Austronesian and Oceanic subgrouping, see Pawley and Ross (1995) and Lynch, Ross and Crowley (In press, Ch. 4).

⁴ The reconstruction of Papuan linguistic prehistory is in its infancy, but the pronominal morphemes of Waskia show that it belongs to the Madang family of the Trans New Guinea phylum (Ross 1995a, 1996c).

⁵ An equals sign in an example indicates a clitic boundary. Abbreviations used in the examples are as follows:

ACC	accusative	IRRD	irrealis dependent	PP	postpositional phrase
CLASS	classifier	MASC	masculine	PRES	present
DET	determiner	NP	noun phrase	RD	realis dependent
DS	different subject following	PF	perfective	SEQ	sequential

IMPF	imperfective	PL	plural	SG	singular
IRR	irrealis	POSTP	postposition		

⁶ Aspects of this topic are dealt with by Thomason and Kaufman (1988) and by Ross (1996b, 1997, 1998a).

⁷ A good deal of Proto Oceanic lexicon has been reconstructed (see, e.g., Pawley and Ross, eds 1994, Ross, Pawley and Osmond eds 1998), and so have a number of features of the grammar (Pawley 1973, Lynch, Ross and Crowley In press, Ch. 4).

⁸ As a result of research by members of the Summer Institute of Linguistics (Papua New Guinea branch), certain languages are now known by different names from those used by Ross (1988). The new names, with the old in parentheses, are: Awad Bing (Biliau), Dami (Ham), Ronji (Roinji) and Mato (Nenaya).

My own fieldnotes cover a large majority of the languages descended from the Western Oceanic dialect network. Takia materials include Hubers (n.d.), Ross (1994), Ross (1995); Ross (forthcoming), and Waters, Rehburg and Tuominen (1993). Awad Bing is described by Bennett and Bennett (1998), Ronji by McHenry (1996) and in my fieldnotes. There is extensive material for Gedaged (Dempwolff n.d., Mager, 1952), a published grammar of Mangap-Mbula (Vitiáz network; Bugenhagen 1995), and an unpublished description and a short in-press sketch of Arop-Lokep (Vitiáz network; D'Jernes and D'Jernes, n.d., D'Jernes, In press). Waskia materials are Ross (1978) and Barker and Lee (1985).

⁹ As evidenced by the sound correspondences in Ross (1988:167-171).

¹⁰ Adjective morphology in Western Oceanic languages is discussed by Ross (1998b).

¹¹ An examination of these Takia constructions lies beyond the scope of this paper. They are described in Ross (1994), and are also sketched in Ross (In press). This calquing of this construction is discussed in more detail in Ross (1987). As I noted there, the two coordinate-dependent markers reflect Western Oceanic coordinating conjunctions **ga* and **be*. However, since the 1987 account was written, I have found that in certain Western Oceanic languages of the Papuan Tip area the distinction between these conjunctions is that the reflex of **ga* joins realis clauses, of **be* irrealis clauses (Lithgow 1975). It is now clear that this distinction occurred in early Western Oceanic, and that it has survived the calquing process in Takia.

¹² The account I am giving here is an abbreviated version of (Ross 1996a:188-190).

¹³ This structure may appear odd, but it occurs, for example, in Tawala, a papuanised Oceanic language of southeast Papua.

¹⁴ Thurgood argues for the sociolinguistic circumstances associated with metatypy. Cham metatypy on the Vietnamese model is clearly visible in the data in Moussay's (1971) Cham-Vietnamese-French dictionary.

¹⁵ That these items are easily borrowed is noted by Appel and Muysken (1988:171-172), but they have very little to say about the phenomenon I call metatypy.

¹⁶ It is tempting to infer that it is the radical structural differences between Arabic and Standard Average European that have blocked Maltese speakers from restructuring their language on the model of Italian (or English), but this cannot be the whole story, as some restructuring has occurred in the Kormatiki Arabic, a variety of Lebanses Arabic spoken by Maronite Christians in Cyprus (Newton 1964).

¹⁷ Gumperz and Wilson (1971:165) evidently saw their data in much the same way, although their formulation is a bit obscure: 'For many Kupwar residents, especially men, a model of linguistic competence must comprise a single semological, a single syntactic, and a single phonetic component, and *alternative* sets of rules for the relation of semantic categories to morphemic shapes.'

¹⁸ The valence of a lemma may be overridden by the requirements of the cstrn (Michaelis 2000).

¹⁹ Stenström's system of analysis should allow us to label each speech act unambiguously, but I am unable to do so. Whilst this may represent inexperience or lack of understanding on my part, I am more

inclined to believe that it reflects a fundamental conceptual fault in the system. Clark (1996) holds that the construal of a speech act is a joint activity. If I say to John, 'Do have a seat', he needs to construe it as a request or whatever and to show his construal by his response. Once I accept his construal, this becomes our joint construal. Hence it is not sensible to talk of "what the speaker means" but rather "what the speaker is to be taken to mean" (1996:212-213). This means that categories of speech act based on speaker's meaning simply do not have a valid basis. At best, it makes sense to label a speech act only retrospectively on the basis of joint construal. And even then, it is difficult to choose between labels. Our joint construal is that I proposed that John act in a certain way and he acted in that way.

- ²⁰ The term 'discourse' has been used in a number of mutually exclusive ways, including (i) as I am using it here; (ii) to denote information structure; (iii) to denote syntactic constructions.
- ²¹ One may say to a colleague, *Wednesday's a good day for lunch, because I don't have to teach*. Each clause is intonationally complete in itself, and there is a pause between the two. In Stenström's ({, 1994 #191}) terminology, the first is an 'inform', the second a 'justify', and *because* marks the second as a justification of the content of the first.
- ²² Just as at the level of syntax one can distinguish the ranks of sentence, clause, phrase, word and morpheme, so ranks can be distinguished at the level of discourse. *Look, do have a seat* consists of two speech acts, i.e. units at the lowest discourse rank, but *Look* marks the opening boundary of a transaction, a higher-rank unit devoted to a single discourse topic.
- ²³ As in *Who (the hell) do you think you are!* (Pawley and Syder 1983) and *What's that fly doing in my soup?* (Kay and Fillmore 1999).
- ²⁴ *Bitte* is used not only with requests in the sense of 'please', but also in response to thanks, in the sense of 'not at all, don't mention it'.
- ²⁵ Matters are actually more complicated than this. My discussion assumes that one *can* compare speech acts across languages and cultures: the criteria for this are not entirely clear. And if one can, then the differences go beyond those I mention: what Wierzbicka (1994) calls the 'cultural scripts' of different groups of speakers may lead to the use of quite different speech act types in what seem to be corresponding situations. Happily, these issues do not directly affect the process of metatypy, so I do not pursue them here.
- ²⁶ The possible permutations are considerably greater in clauses with an auxiliary verb or with more arguments.
- ²⁷ I am indebted to Hans-Jürgen Sasse, whose comments led me to this formulation, although the responsibility for it is entirely mine.
- ²⁸ In these constructions, everything that follows the focus constituent is assumed to be already salient in the speaker's mind.
- ²⁹ Thus in our thought-experiment English, a construct like *coffee drink* (in *Do you want to coffee drink?*) might have its basis in nouns like *coffee-drinker*, and *Want you...?* a basis in *Will you...?* and *Would you...?*
- ³⁰ A larger portion of this text is given with commentary in Ross (1994).
- ³¹ I owe this observation to John Bowden.

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