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Typology: prototypes, item orderings and universals

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Preface

The LP'96 Conference was oriented towards the solution of topics of contemporary linguistic typology. This includes problems of universalism, prototypes, topics related to GB and minimalist theories (scrambling), various aspects of item ordering such as NP structures, clause and sentence structures, the role of diachrony in linguistic typology, various semantic aspects. The aim of the organizers was not to limit the contributions to any single theory seen as dominant, but rather to look for bridges among different theories and conceptions. The endeavour was to provide a platform for new ideas and approaches in the relevant fields.

The contributions to this volume include data from a vast number of languages typologically classified in various ways. With the exception of several contributions, this volume also shows that phonetic aspects of typology are not so widely popular as linguistic analysis. A bright exception was the keynote speech of Osamu Fujimura (The Ohio State University), which revealed new tendencies in phonetic typology. The present volume contains a selection of papers which were not previously published and which met the required linguistic standard.

The aim of this and future LP conferences is to contribute to the analysis of linguistic phenomena both from the phonetic and grammatical point of view, i.e. to provide a platform for both linguists and phoneticians. The established advisory board for LP Conferences proposed holding LP Conferences every two years, retaining the Prague venue every four years. Its members also agreed on regular publishing of the results of these conferences. The Conference was co-organized by the Department of Linguistic and Finno-Ugric Studies and the Institute of Phonetics of the Faculty of Art and Philosophy of Charles University. The conference was also made possible thanks to Charles University Grant No. 58/96.

I am grateful to the postgraduate students of linguistics who helped to organize the Conference and to Daniela Lazarova for helping with the editing of this volume.

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Prague, May 1997

Bohumil Palek

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Polysynthesis and polysynthetic languages in comparative perspective

Werner Drossard

University of Cologne

1. Prior approaches to the problem

In his well-known *Introduction to the Handbook of American Indian Languages*, Franz Boas characterizes polysynthetic languages as follows:

a large number of distinct ideas are amalgamated by grammatical processes and form a single word, without any morphological distinction between the formal elements in the sentence and the contents of the sentence

As an example of polysynthesis he analyses a one-word sentence in Tsimshian:

1) t - yuk - ligi - lo -d'Ep -daL - Et
he-begin - somewhere - in -down - put down - it
“He began to put it down somewhere inside”

When discussing the differences between various Amerindian languages, however, Boas arrives at a decisive point in his argumentation:

On the other hand the Athapaskan and the Haida and Tlingit may be taken as examples of languages which, though polysynthetic in the sense here described, do not readily incorporate the object, but treat both pronominal subject and pronominal object as independent elements.

Thus, whereas in Tsimshian pronouns are normally integrated into the verb as bound morphemes, the following Haida example (taken from Swanton 1911: 267) presents us with an example of contrasting behavior:

2) Lan dAñ † qîñ-ga
stop thee I see-DECL
“I cease to see thee”

In Haida the pronouns remain independent and are not morphologically integrated into the verb in bound form. A brief survey of polysynthetic languages around the world shows that there are a number of languages outside the realm of Amerindian that behave similarly to Haida (Awtuw, among other languages from Papua-New Guinea), whereas numerous other North American languages behave similarly to Tsimshian. If we removed the pronoun in example 2), we would be left with an incomplete sentence. At the same time, however, we can attach a whole range of other affixes to the Haida verb, thus making the verb polysynthetic, but due to the lack of subject and object references within the verbal complex, we would still end up with an ungrammatical sentence. In this case we are dealing with “non-sentential” polysynthesis, as opposed to the “sentential” polysynthesis of Tsimshian, Eskimo (and other languages), for which an often cited characteristic becomes evident: one word represents one sentence. The first distinction we must thus make when talking about polysynthesis is between:

non-sentential vs. sentential

A second distinction can be made on the basis of an observation made by Comrie. A comparison of Chuckchee with Eskimo leads him to the following conclusion:

Although both Chukchee and Eskimo share the facility for forming long words incorporating a wide range of semantic categories (polysynthesis), the typical mechanisms in the two languages are distinct. Chukchee uses primarily incorporation, whereby two or more root morphemes are combined into a single word. Eskimo never uses this device, but rather attaches affixes, in Eskimo always suffixes, to a single root.

Thus, for Chukchee, we have the following example:

- 3) tumʏ - ət kopra - ntəvat - ʏʔat
 stop - ABS:PL net - put - 3 PL
 lit: “The friends net-put”

(In this paper we will disregard the discourse function of this sentence). In example 3) we find the element *kopra-*, meaning “net”, which appear as *kupre*, when independent. In Comrie’s example taken from Siberian Yup’ik (ibid:257), there is also a root morpheme (*anja* “boat”), but this root may only be integrated into the verb by way of derivation:

- 4) anja - kɫa - ŋ -juʏ - tuq
 boat- big - acquire -want - 3 SG
 “He wants to acquire a big boat”

In keeping with the results of Eskimo linguistics (cf. esp. Fortescue 1984), the element -η-, “acquire” may be considered a derivational element and, as a general rule, roots may only be integrated into verbal complexes by way of such derivational (bound) morphemes.

Thus, with regards to the means of incorporation employed we may distinguish between the

direct vs. indirect

integration of nominal concepts. Further below, however, we will see that additional distinctions must be made. Eskimo and Chukchee nevertheless do share the common feature that nominal concepts (mainly as syntactic objects) are integrated into the verb and (in addition) the verbal complex is sentential.

As far as the syntactic integration of elements goes, we must remember that the integration of adverbial concepts represents one of the fundamental principles of polysynthesis, whereas nominal incorporation can not be found on a regular basis. Thus, we can put up minimal condition for polysynthesis:

A language has polysynthetic traits, if at least one semantically definable category occurs exclusively in bound form.

On the basis of what has been said thus far and further considering that adverbial semantics are regularly integrated into the verbal complex, we may distinguish THREE major types, characterized by the following features:

A)	-sentential	+adv. Integr.	-Integr. of nominal concepts
B)	+sentential	+adv. Integr.	-Integr. of nominal concepts
C)	+sentential	+adv. Integr.	+Integr. of nominal conce

Table 1

(We begin to see that in the domain of non-sentential polysynthesis there is no integration of nominal concepts, obviously due to the lack of a pronominal marker of the object within the verbal complex.)

We thus find that by means of a brief survey and with the help of a rough framework based on evidence found in Boas and Comrie, polysynthetic languages may be divided up into three major types.

In the following paper we will present and discuss our three main types in more detail. In the course of this discussion further subgroups within these types will be introduced and distinguished, especially when dealing with Type C, where we will refer back to the comments Comrie made about Eskimo and Chukchee.

2. Non-sentential polysynthesis

When representing agglutinative and polysynthetic languages it has become standard practice to put all morphemes that are affixed to the verb in numbered positional classes. The most well-known example of this procedure can be found in descriptions of Athapaskan languages (which we will return to later). As an example of a sub-group of Type A, i.e. non-sentential polysynthesis, we will choose a Papuan language, Awtuw. The author of the standard work on this language, H. Feldman (1986: 53 ff), has described it similarly to the way Navaho, Santee, Slave, etc., are usually described, i. e. with the help of preverbal and postverbal slots:

-8	-7	-6	-5	-3	-2	-1	root	+1	+2	+3	+4	+5	+6
			-4										
MOD	REAL	LOC	ADV	DU	IMPF	RECI		COMP	ASP	PL	COND	TNS	PL

Table 2

Some of these classes are **inflectional** and thus obligatory, whereas others are **derivational** and thus optional. To the latter belong positions -4 and -5, which contain only two elements (*taw-* "yet" and *owra-* "again"). The COMPOUND position +1, however, contains 30 items, so that we are mainly dealing here with an "open class". The author divides the 30 items into 7 subgroups:

- 1: "grammatical suffix" (benefactive)
- 2: "pretend" - AUX - suffixes (incl. "try")
- 3: "aspectual suffixes" (begin, finish)
- 4: "quantitative suffixes" (all, much)
- 5: "adverbial suffixes" (wrong, in vain)
- 6: "consecutive suffixes" (and go away)

7: "obstructive suffixes" (to detain, to block)

Choosing one of Feldman's numerous examples, we have:

5) ka- d- ma- taw- owra- t- akla- kow- kay- e
 - 8 -7 -6 -5 -4 -3 root +1 +2 +5
 NG FA MT YET AGN DU dig BEN PF P

"(two) hadn't gone and dug again for someone yet"

With the exception of PL and DUAL marking, no direct references to person appear in the verbal complex, and even though 5) may be interpreted sententially, the general rule still applies that marking for person may only occur with the help of free pronouns. This means that as a rule the author has to gloss the verb forms non-sententially, as in the following example:

6a) ka -w -alow -te
 NG -NF -speak -FU

"can't/ won't speak"

By adding a free personal pronoun we get:

6b) wan ka - w - alow - te
 'I can't/ won't speak"

Haida, as seen above in example 2), behaves analogously. This Amerindian language, however, is more complex than Awtuw, since the position classes relevant to the verb are relatively "open". Thus, there are 30 instrumental prefixes, 36 classificatory prefixes, 12 locative suffixes, 8 temporal suffixes, 7 modal suffixes, and a few unclassified suffixes (Swanton 1911: 219ff).

The following examples are taken from Swanton (ibid.:277ff.):

7) Gien l' L -gī -gîl -gAn
 then he shape of man -swim -motion landward -PRET

"Then he swam landward"

8) L! Lu -îs -L!xa -gîl -gAn
 they by canoe -come -motion toward -motion landward PRET

"They come shoreward by canoe"

In each and every case, the personal pronouns appear independently before the verbal complex. The non-sentential verb form, however, may still be considered polysynthetic to the extent that lexical information (as well as inflectional categories) is added in the form of bound morphemes (“by canoe”, “shoreward”, etc.).

3. Sentential polysynthesis (SP)

3.1 SP without the explicit incorporation of object nouns

The simplest examples of this phenomenon are provided by those languages in which pronouns, still independent in Awtuw and Haida, are now integrated into the verbal complex. In addition, each language possesses adverbial slots (to varying degrees), and nominal concepts (when appearing as objects) are not explicitly integrated into the verbal complex. Our first candidate that meets these criteria is *Yimas*, a Papuan language, well described in Foley 1991.

The subject of polysynthesis is dealt with by Foley in a separate subchapter of Chapter Six, “The Verb Theme”. In addition to providing a wealth of material on the derivational morphology of a wide variety of agglutinative languages, this chapter also includes an important point about “Adverbial Incorporation” (6.3.2), i. e. an especially interesting example of derivation. Basically, we must distinguish between obligatorily incorporated and non-obligatorily incorporated adverbs. In the first category we find the morpheme *pay-* “at first, right now”, as in the following example:

- 9) na -n -pay -ir a -wampunkra -ntut
 3s:0 -3s:A -first -ALL -angry -RM PAST
 “He was angry right then at her”

In general, there are 10 adverbs which must be obligatorily incorporated, whereas the number of optionally incorporated adverbs is theoretically unlimited, since an adverb may be derived from every adjective. When looking at these 10 obligatory adverbs and the 7 local (elevational/directional) morphemes dealt with in Chap. 6.3.3, we could say that polysynthesis is comparatively limited. We must not, however, forget the important factor of serialization, typical for Papuan languages, which leads to very complex verbal forms, as in the following example:

- 10) arm pay -l -ap -mi -awura -n
 water first -down -put in -SEQ -gather -IMP
 "Fetch water down there first"

We will now turn our attention to the Athapaskan languages, which probably possess the most highly complex verb forms found in any language. As already described above, Athapaskan linguists have a simple system of numbers for denoting the positional classes of morphemes relative to the verb.

Eung-Do Cook (1984:126) provides the following system for Sarcee prefixes:

12	11	10	9	8	7	6	5	4	3	2	1	0
INC PP	ADV	Iter	INC ST	Dist	DO	3 SUBJ	THEME	ASP	Mod	1,2 SUBJ	CLF	ST

Table 3

As with the example of Awtuw (see above), we are dealing here with a broad range of various categories, where position 11 contains a relatively heterogenous number of lexically based elements (comparable to the Awtuw position COMPOUND). For Navajo, Young/Morgan list approx. 60 prefixes which, if divided up into Indo-European-like word classes or semantic groups (as Feldman does for Awtuw), could be placed into the categories local (away, upward), local + classifier (into hole, into space, surface), manner adverbial (pointed, sickly, sloping), aspectual (cessative, start), verbal (wash, suffer, think, acquire, use), etc.

An important point to notice here is that these heterogenous elements may only appear in **one** position and are not distributed, as in Haida, over several different positions.

3.2 SP with the additional integration of "nominal" objects

3.2.1 Bound "nominal" concepts (=C 1)

From a purely morphological point of view, all the languages we have dealt with so far are characterized by the fact that their verbal complex consists of a stem which has been expanded by means of inflectional and (obligatorily as well as facultatively) derived **bound** morphemes, i.e. morphemes which can not stand alone. Whereas the languages discussed thus far have always integrated verbal or adverbial concepts into

the verb, we will now look at languages in which nominal concepts are integrated into the verb in bound form.

For **Quileute**, Andrade (1933: 193) says that:

Many of the concepts which are commonly expressed by nouns in other languages are represented in Quileute by the postpositive morphemes, although they can also be expressed by independent words. (...) However, this duplicity of form is not available for all nominal concepts ... For some nominal concepts the language has no morphologically independent word.

As an example of the first case Andrade (ibid.: 194) provides the following examples:

lexeme	free	postpositive (bound)
arrow	haetát	-k'i

In this case, according to Andrade, there is the tendency for bound forms to be more generic and the free forms to be more specific. Furthermore, he confirms that postpositive, bound *-qa* functions as a general term for all kinds of transport vehicles (canoes, wagons, automobiles), so that it is comparable to the Haida prefix classifiers. Unfortunately, Andrade can not give us the ultimate reason for the distribution of free and bound forms in discourse. Nevertheless, he presents us with a list (ibid: 194 -196) of bound nominal postpositives (of about 180 items) which (as was to be expected) contains several relational terms, for example body part terms (navel, nose, skin, leg, shoulder, etc.), but also a great number of terms taken from nature (river, tree, beach...)

Taking another example from Andrade's text (279 ff):

- 11) Ki't -a -x xab -á' la ha'yéq^m -bay -i -l -i
 go -VC-CONT all -CLF AFF carry -basket -CV -VC -SO
 "They went on, each one carrying a basket"

Although the third person plural is not directly manifest in the verb (since the subject of discourse does not change) Quileute integrates person marking into the verb, i. e. verbal forms are sentential. In 11), the nominal concept for "basket", *-bay*, appears in the subordinated verb form as a bound element.

Whereas in Quileute nominal concepts are integrated into the verb as such, i. e. without the help of any additional morphosyntactic means, in Eskimo an independent root can only be integrated into the verb by means of derivation (cf. the comment made by Comrie above). We thus come to

3.2.2 *Integration of nouns by means of derivation (=C2)*

As we could see in ex. 4) given at the beginning of this paper, polysynthesis is a highly developed feature of Eskimo languages in general. Before continuing with further examples, we will first assume, on the basis of what was already said in Chap. 3 above, that the amount of lexically bound affixes on verb stems varies along a scale of weaker to stronger. For Eskimo it generally applies that derivation as a means of integrating nominal concepts occurs with the help of a broad range of elements, whereas the same process in Abkhaz (NW Caucasus) is very limited.

Hewitt (1979: 108, 109 & 247) treats the combination of nouns and “become” verbs in Abkhaz as being subject to derivation. Thus, the verbs *-xa* and *-t^o* are the only means, according to Hewitt, with which the incorporation of a noun into the verbal complex can occur:

12) wəy də -r+c'a+y^o -xè -yt'
 that one he -teacher -become -FIN
 “He became a teacher”

13) sara s -ahə -r -t^oə -yt'
 me me -king -they -turn into -FIN
 “They made me king”

By contrast, an analogous type of derivation, for instance in West Greenlandic, is extremely developed, since in this language, according to Fortescue, a whole range of suffixes exists which may also integrate free nominal roots into the verbal complex. The Abkhaz lexemes, of course, are also found in Greenlandic, i. e. those in Fortescue's Group 1 (Being and Becoming, eight lexemes). In addition we have :

2. Lacking (7 items), 3. Feeling (6), 4. Having (16), 5. Acquiring (14),
6. Movement (7), 7. Acting and Seeming like (10), 8. Doing and Providing (24),
9. Judging and Saying (15), 10. Wishing and Waiting (9),

11. Causation and Request (9), 12. Striving and Intending (12)

The subsequent classes Fortescue lists gradually become part of the TAM domain (13: Potentiality), the domain of adverbiality, etc.

In his grammar of Greenlandic Eskimo (1984: 313 ff) Fortescue gives an exact representation of the derivational possibilities and the affix ordering in the verbal complex. Here a simplified example:

- 14) atuakkiurtu -nngur -tussaa -vutit
 writer -become -should -2sg:IND
 "You should become a writer"

-nngur functions here, similar to the lexemes of the other groups listed above, i. e. as a verbalizer of nominal bases and derived nouns (such as the ones for "writer" and "notebook"). Thus, in the following example, *-ssaaliqi* (from Group 2) functions in the same way as *-nngur* above:

- 15) allatuivvi -ssaaliqi -sar -sim -qa -anga
 notebook -lack -ITER -PF -very -1sg:IND
 "I was really short of notebooks"

It becomes obvious that the elements used for integrating roots into the verbal complex are bound morphemes. In the following variants of nominal incorporation (our subgroup C 3), roots are integrated into the verbal complex without the help of any additional morphology. This reminds us again of what Comrie said with reference to Eskimo and Chuckchee. We shall now turn to this latter language.

3.2.3 "direct" nominal incorporation

We have to find here languages with bound adverbial morphology, polypersonal verbs and direct nominal incorporation. One candidate (among others) for this is for instance Takelma (Sapir 1922). In his introduction (§25) Sapir says:

"Takelma conforms to the supposedly typical morphology of American languages in that it is thoroughly incorporating both as regards the pronominal, and, though somewhat less evidently, the nominal object. If by "polysynthetic" is merely meant the introduction into the verb-complex of ideas generally expressed by independent elements (adverbs or the like), then Takelma is also "polysynthetic",

yet only moderately so as compared with such extreme examples of the type as Eskimo or Kwakiutl."

In

- 16) han waya- swilswa'hi
 with an- knife- -he:tore:him
 "he tore him open with a knife"

we have one of 16 local (bound) prefixes (*han*), and, standing before the verb, an incorporated (instrumental) noun that otherwise occurs independently. Takelma also has about 17 body part prefixes that appear in their basic meaning, but also can be grammaticalized to locatives (e.g. "head">>>"above" and the like).

If we thus wanted to take Takelma, Eskimo, and Quileute as typical examples of the integration of nominal concepts into the verb and compare them with each other with reference to the status of their morphemes we would wind up with the following framework:

	integrating	integrated
	verbal concept independent	nominal concept independent
Quileute	+	-
Eskimo	-	+
Takelma	+	+

Table 4

4. Summary

All languages discussed up to now fulfil the minimal condition for polysynthesis. Although we have laid stress on incorporation phenomena in the context of Eskimo languages, we have to mention that West Greenlandic has at least about 100 exclusively bound adverbial elements. The same holds for Quileute, where we have (besides the aforementioned 180 bound nominal morphemes) around 70 bound forms with verbal character and around 20 bound elements with adverbial character (a lot of "adverbial" information can also be given by stems). Thus, we finally come to the conclusion that

1. there are polysynthetic languages without incorporation
2. there are polysynthetic languages with incorporation
3. there are a lot of languages with incorporation phenomena without being polysynthetic at the same time
4. there also are a lot of languages with polypersonal verbs without being polysynthetic at the same time

In general we obtain the following display for all that has been discussed in the previous sections:

-sentential	+sentential			
no integration of nominal concepts		+"nom. integration"		
A	B	C ₁	C ₂	C ₃
integration of adverbial concepts <i>only</i>	integration of adverbial concepts +polypersonal verbs	about 180 nominal concepts only occur in bound forms	derivational verbal morphemes integrate free nom. concepts into verbal complex	independent verbs can integrate free nom. concepts
(Haidu) (Awtuw)	(Yimas)	(Quileute)	(Abkhaz) (Eskimo)	(Takelma)

Table 5

5. Further implications

The issues that we have come to in the previous typological survey are preliminary, of course, because we have included a relatively small part of polysynthetic languages, so that we must assume that there could be more strategies that would have to be added to our five-piece-scheme A, B, C₁, C₂ and C₃. In Kwakiutl, for instance a GROUND component (in the sense of Talmy 1985) is coded into orientational suffixes (beach, river, mountain, forest). It is impossible to find independent nouns with a similar morphological shape, but nevertheless this could be a special type of "covert" and "inherent" (local) noun incorporation that could be inserted left of C₁ in our scheme. Similar cases have been reported for Athapaskan languages as pointed out in section

3.1 for position 11 (ADV) in Sarcee: there are among others some combinations of local orientation + GROUND (into hole, into space, and so on.)

Abbreviations

ABS=Absolutive, ADV=adverbial, AFF=affirmative, AGN=again, ALL=allative, ASP=aspectual, BEN=benefactive, CLF= classifier, COMP=compound, COND=conditional, CONT=continuative, CV=connective vowel, DECL=Declarative, DEM=demonstrative, DIST=distance, DO=direct object, DU=dual, FA=factive FIN=finite, FU=Future, IMPF=imperfective, INC=incorporated, IND=indicative, ITER=iterative, LOC=location, MOD=modality, MT=motion, NG=Negative, NF=non-factive, PF=perfect, PL=plural, PP=preposition, PRES=present, PRET=preterite, REAL=reality, RECI=reciprocal, RM=remote, SBJ=subject SEQ=sequential, SO=subordination, STM=stem, TNS=tense VC=verbal classifier

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