Converging Evidence in the Typology of Purpose Clauses

Overview: Purpose clauses

Positioning patterns of purpose clauses

Argument structure in avertive constructions

1. Overview: Purpose clauses

SCHMIDTKE (under review, a): first comprehensive typology of purpose clause constructions in the world's languages

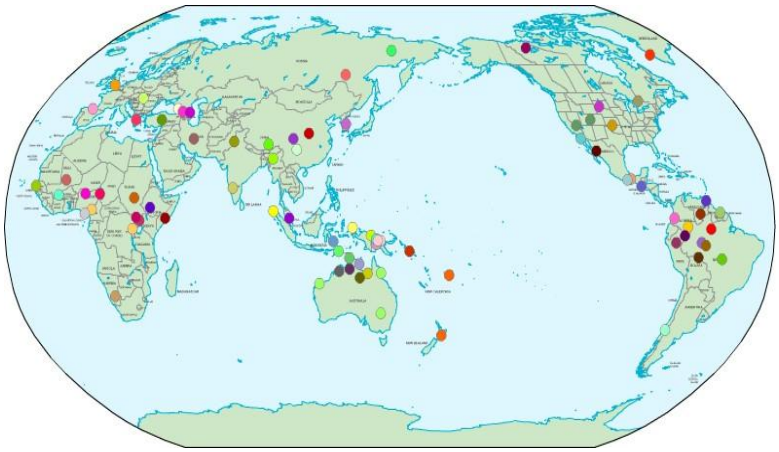
► *functional definition*: purpose clause as a part of complex sentence constructions which encode that one verbal situation, that of the matrix clause, is performed with the intention of bringing about another situation, that of the purpose clause
(with clauses being agreed upon as a universally applicable level of linguistic organisation, cf. THOMPSON and COUPER-KUHLEN 2005, VAN VALIN and LAPOLLA 1997: 25-27):

(1) Gulf Arabic (Semitic; Holes 1990: 28)
tiTarriʃ *naas* *ʕalaʃaan* *yixaTbuunha*
2M.SG-send people PURP 3PL-ask.in.marriage-her
'You send people to ask for her hand.'

(2) Yurakaré (isolate: Bolivia; van Gijn 2006: 301)
bali-jti-ø=w=ya *pëpë-shama=w* *arroyo=la* *ajuyja-ni-shta=ya*
go.PL-HAB-3=PL=NVR grandfather-PST=PL creek=INS fish-INTL-FUT=NVR
'Our ancestors went along the creek to fish:'
(NVR = non-veridical (uncertainty); INS = instrument; INTL = intentional mood)

(3) Santali (Austro-Asiatic/Munda: India; Neukom 2001: 196)
thir-thir-te *bɔlɔ-k'me,* *jɛmɔn* *alo-ko* *disə-me.*
quiet-RDP-CONV enter-MID-2S.SBJ PURP PROH-3PL.SBJ notice-2SG.OBJ
'Go in quietly so that they may not take notice of you.'
(MID = middle voice; SBJ/OBJ = subject/object; PROH = prohibitive)

► *empirical basis*: genetically based, geographically stratified variety sample of 80 languages (application of NICHOLS 2004 – number of stocks in the sample proportionally reflects number of stocks in each of the commonly distinguished macro areas (cf. DRYER 1989))



► all distinct purposive constructions as data points (*construction-specific sampling*, n = 218), coding for a large number of morphosyntactic properties = constructional 'gestalt features' (GOLDBERG 2006, CROFT 2001)

► *converging evidence principle*: unique wealth of information available for English purpose clauses (detailed formal/generative analyses, textual material, corpus data) systematically related to cross-linguistic patterns

► *major results*: five typological prototypes of purposive constructions, each with a particular set of morphosyntactic and functional properties as well as typically associated pathways of historical development (grammaticalization, constructional intraference); purpose clauses turn out to be the most atypical subclass of adverbial clauses > special position in the conceptual and syntactic space of complex sentences

► *today's focus*: two aspects of purposive constructions for which the 'converging evidence' agenda is particularly telling since quantitative data uniquely available for English can help to refine and further enlighten cross-linguistic distributions

2. Positioning patterns of purpose clauses

GREENBERG 1963: iconicity determines the position of conditional clauses (U14) and purpose clauses (U15)

> *Universal 15:* In expressions of volition and purpose, a subordinate verbal form always follows the main verb as the normal order except in those languages in which the nominal object always precedes the verb. […] Universals 14 and 15 possibly illustrate the same principle. The order of elements in language parallels that in physical experience or the order of knowledge. (Greenberg 1963: 84, 104)

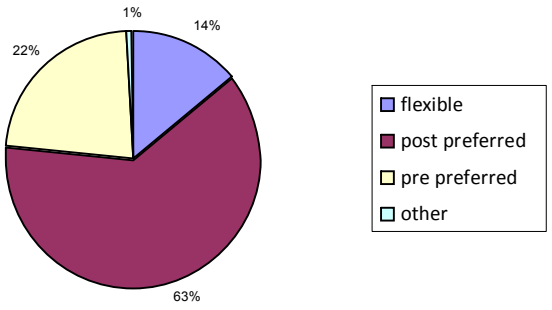
yesterday's lecture: iconicity as a motivating factor for the position of temporal clauses in English (cf. results of the logistic regression analysis, DIESSEL to appear)

today: revisiting the descriptive and explanatory adequacy of U15 in light of (a) the competing motivations principle introduced in lecture 1, (b) most recent objections against iconicity as a causal factor for language structure (cf. HASPELMATH 2008 on some kinds of iconicity)

Table 1:
Attested positioning patterns of purpose clauses (n=218)

Position type	absolute frequency	relative frequency (in %)
flexible	31	14,2
rigidly postposed	125	57,3
postposed or discontinuous	5	2,3
non-rigidly postposed	6	2,8
rigidly preposed	29	13,3
preposed or discontinuous	17	7,8
non-rigidly preposed	3	1,4
other	2	0,9
total	218	100,0

Figure 1.
Preferred positioning patterns of purpose clauses (n=80, language level)



Cross-categorial harmony in word order patterns?

(LEHMANN 1973, VENNEMANN 1976, HAWKINS 1983, DRYER 1992)

Expectation: position of subordinate clauses in keeping with other dependent elements (OV/VO) in order to yield consistent branching direction for ease of processing

Table 2: Basic constituent order and the position of purpose clauses (N=218)

position of the purpose clause / basic word order	flexible	post preferred	pre preferred	other	total
flexible	13	24	1	0	38
OV-languages (SOV, OVS, OSV, verb-final)	14	**48**	**48**	2	112
VO-languages (SVO, VSO, VOS, verb-initial)	4	**64**	**0**	0	68
total	31	136	49	2	218

(Fisher Exact test on boldfaced data points, p<0.01)

► findings in line with U15, but not with expectations from WO correlations: in OV languages, in particular, ***some factor(s) seem to override the processing preferences*** (cf. lecture 1 – symmetry in ordering patterns is motivated by competing forces) – possible candidates:

- ***Iconicity*** (U15), but cf. HASPELMATH 2008: is iconicity really a *motivating* factor? Cleary, iconicity-of-sequence has a role to play in complex sentences (cf. DIESSEL to appear; evidence from psycholinguistic literature (e.g. CLARK 1971) points to role of iconicity in planning and comprehending complex constructions) ► iconicity could also be related to processing:

  > All other things being equal, a coded experience is easier to store, retrieve, and communicate if the code is maximally isomorphic to the experience. (GIVÓN 1985: 189)

- ***Length*** ('heavy constituent shift', HAWKINS 1994): problematic because it interacts with finiteness to a considerably degree (preposed purpose clauses are often shorter, but mainly because of their 'compact' non-finite expression); plus: there are OV languages in which all purpose clauses (finite and non-finite) are postposed, regardless of their length (e.g. Ungarinjin, Yaqui, Epena Pedee); finally, in these and quite a few other languages, purpose clauses are not longer on average than temporal and conditional clauses, but are still postposed, while temporal and conditional clauses preferably precede the main clause.

- ***Position of the subordinating morpheme*** (cf. DIESSEL 2001 and previous lectures at this Spring School) – subordinators as 'mother node constructing categories' (HAWKINS 1994, 2004) = access to the IC structure of the complex sentence
  ► processing principle of 'Early Immediate Constituents': minimise recognition domain (IC-to-morpheme ratio) of the IC structure
  ► optimal recognition domains: S-SUB in preposed purpose clauses, SUB-S in postposed purpose clauses:

IC-to-morpheme ratio: 2/2 = 1

(4) Abkhaz (Northwest Caucasian: Georgia)

[*s-y°əza*	*də-z-bà-**r+c***]	[*à-kalak'*	*(a-)ax'*	*s-co-yt'*]
my-friend	him-I-see-**PURP**	ART-town	it-to	I-go-FIN

'I am going to town to see my friend.' (Hewitt 1989: 42)

IC-to-morpheme/word ratio: 2/2 = 1

(5) Noon (Niger-Congo: Senegal)

[*Yug-aa*	*dii*]	[*doo*	*ɓuwaa*	*mín-u*	*ki-hot.*]
sit-IMP	here	PURP	people	can(AUX)-PL	INF-see

'Sit here so that people can see.' (Soukka 2000: 283)

► general expectations borne out, but with systematic exceptions (Schmidtke submitted: 101):

(i) If a language has no overt morphological marker of purpose clauses, it tends to place the purpose clause after the corresponding matrix clause. (20/28 = 71.4%)

(ii) If a language has a clause-initial purpose marker (SUB-S), the purpose clause follows the associated matrix clause (61/67 = 91%). This confirms Diessel's predictions and can neatly be captured with Hawkins's processing account in terms of minimising recognition domains.

(iii) If a language generally prefers preposed purpose clauses, the purpose marker almost always occurs in clause-final position (47/49 = 95.9%). Again, this finding is harmonious with Diessel's and can also be explained by processing considerations. However, the reverse relationship does not hold: If a language has clause-final purpose markers, both preposed and postposed purpose clauses are attested with equal frequency (47/108 = 43.5% each). According to Diessel, we would expect clause-final subordinators only in preposed purpose clauses. As a result, we get the surprising finding that although the subordinator in postposed purpose clauses often occurs at the beginning of the purpose clause (61/136 = 44,9%), it commonly also occurs at the very end of it (47/136 = 34,6%).

(iv) In total, then, purposive subordinators often occur at the very end of the purpose clause, regardless of whether the clause is pre- or postposed.

- exceptions (e.g. OV, clause-final SUB and postposed) can be accounted for in ***discourse-pragmatic*** terms: purpose clauses as the mirror image of 'scene-setting' (cf. LAMBRECHT 1994: 125, THOMPSON and LONGACRE 1985: 231-32) temporal and conditional clauses > new, focal information

Converging evidence for the discourse-pragmatic motivation of the position of purpose clauses

► typological evidence

- only purpose, reason and result clauses can deviate from the default OV order in West Greenlandic because they "represent essential or new information in the sentence" (FORTESCUE 1984: 56)
- the same holds for Hausa (JAGGAR 2001: 637), which conflates causal and purpose clauses (and since iconicity of sequence cannot be invoked for the expression of cause, discourse-pragmatic status seems to be the motivating factor for postpositioning)
- purpose clauses (but not other adverbial functions) allowed in cleft or pseudo-cleft constructions, e.g. Ndyuka (HUTTAR and HUTTAR 1994) and Paumarí:

(6) Paumarí (Arauan: Brazil; CHAPMAN and DERBYSHIRE 1991: 233)

[***o-ka-'ojomo-'i-vini***	***kaimoni***	***mani***]	***ida***	***o-na-jiri-vini***	***hi-ja***
1SG-TRNS-learn-SUB	PURP	COP	DEM.N	1SG-CAUS-write-SUB	AUX-IMM

'For the purpose of me learning, I'm writing it.'
(= 'It is in order to learn it that I'm writing it.')

► language-specific evidence: corpus-based discourse analysis by THOMPSON (1985)

- initial purpose clauses in written discourse (override minimal domain preference, iconicity, VO correlation) = due to their exceptional discourse-organising function:

  The initial purpose clause helps to *guide the attention* of the reader, by signalling, within the portion of text in which it occurs, how the reader is expected to associate the material following the purpose clause with the material preceding it. The final purpose clause does *not* play this role. (THOMPSON 1985: 61, emphasis in original)

- evidence from corpus of written texts (three narratives, two procedural texts, one M.A. thesis), extraction of all infinitival purpose clauses (n=185), all investigated in the larger discourse context in which they occur (= information not usually provided by reference grammars)

  Purpose clause as 'link in a chain of expectations':

  (7) Brendan was rushing madly farther and farther out to sea. *To slow her down* we streamed a heavy rope in a loop from the stern and let it trail in the water behind us to act as a brake […].
  (from *The Brendan Voyage*, cited in THOMPSON 1985: 62)

  often functionally related to more than the main clause per se, e.g. in instruction manuals and cooking recipes:

  (8) *To true a blade,* hold the steel firmly in the left hand, thumb on top of handle. Hold the hand slightly away from the body. Hold the knife in right hand, with the point upward. Place the heel of the blade against the far side… etc.

  ► quantification of scope: one text containing 70 initial PCs > average number of clauses in scope: 3.8 (final clauses in the whole database: always 1.0)
  ► looser integration into main clause > repercussion in writing: differential separation by commas (44:56 initial PCs versus 6:400 final PCs separated by commas (Fisher Exact test: $p<0.001$))

- related pattern: initial purpose clauses in 'speech-act function' (HENGEVELD 1989):

  (9) ***To be honest**, I don't like this movie.*
  (10) ***To sum up**, John has really deserved this prize.*
  interpersonal layer attachment

  canonical purpose clause:

  (11) *I am whistling so that the dog will come.*
  representational layer attachment (local modification)

  ► initial purpose clauses as distinct grammatical constructions (in the sense of GOLDBERG 2006)

Summary

Iconic end result (position of purpose clauses most often iconic), but multiple motivations (not merely iconicity) jointly working into the same direction (cf. Hawkins principle from lecture 1: large-scale asymmetries motivated by several preferences converging on a single order)

3. Argument structure in avertive constructions

Avertive constructions: 'negative-purpose' clauses - matrix clause typically encodes that precautions are taken so as to avoid an 'apprehension-causing' situation in the subordinate clause (Lichtenberk 1995: 298); also known as 'lest'-clauses:

(12) *He cut the remark out of the final programme* [***lest*** *it should offend the listeners*].
(BNC BLY 1232)

(13) *Take hede* ***lest*** *eny man deceave you.* (1526 TINDALE *Mark* xiii, *OED*)

► sample contains a total of 20 distinctly grammaticalized 'lest'-constructions, distributed over 19 languages; wide range of formal variation

(14) negative auxiliary verb *y* + main verb in Yagua (Peba-Yaguan: Peru):
*… naada-**y**-numaa* *dáátya* *jiy-daasaada*
3DU-**AUX.NEG**-now know 2SG-mother.in.law
'… so that your mother-in-law won't know.'
(Payne and Payne 1990: 416)

(15) preposed 'lest'-clause with double negative marking in Slave (Athapaskan: Canada)
[*Daniel* *yegúh* ***ʔále*** ***ch'á***] *goghádehk'a*
Daniel 3OPT.find 4.**NEG** **lest** 1SG.threw
'I threw it so Daniel wouldn't find it.' (Rice 1989: 1262)

(16) avertive suffix in Martuthunira (Pama-Nyungan: Western Australia)
Ngayu *puni-layi-rru* *nyina-wirri* *manhamanha-ma-l.yarranhuwala-**a**.*
1SG.NOM go-FUT-now be-LEST awkward-CAUS-SIM 2DU-**ACC**
'I'll go now lest I'll be making it awkward for you.'
(Dench 1995: 249)

► most remarkable phenomenon: completely different (in fact, the opposite) grammatical properties from canonical positive purpose clauses, e.g. slight preference for finite (rather than non-finite) verb coding, for overt (rather than implicit and hence covert) subjects, absence of systematic 'goal'-encoding devices (allatives, benefactives, datives [cf. Schmidtke (under review, b)]), repellence of motion-verb matrices.

Argument structure in positive purpose clauses

In contrast to verbal categories (TAM), the argument structure of purpose clauses is not predetermined by the conceptual structure of PURPOSES. Nevertheless, there are frequently recurring patterns of and constraints on argument structure in purposive constructions.

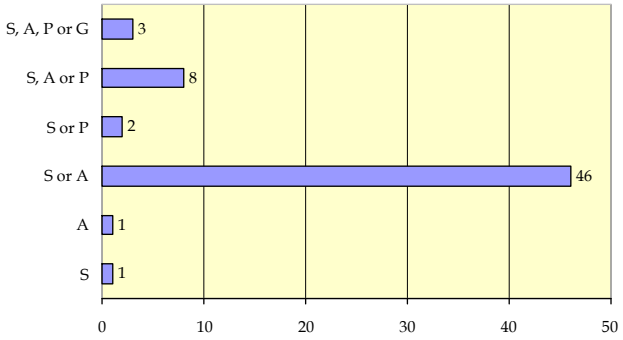
- Argument omission under co-referentiality, e.g. Turkish (Kornfilt 1997: 13)

(17) *Hasan* *kitab-ı* [[**ø** *san-a* *ver-mek*] *için*] *al-dı*
Hasan book-ACC you-DAT give-INF for buy-PST
'Hasan bought the book in order to give (it) to you.'

preference in 76 constructions (35%), conventionalised preference in another 61 (28%), specific to purpose clauses:

Adverbial Argument Hierarchy (Cristofaro 2003: 173):
Purpose > Before, After, When, Reality condition, Reason

quantifiable preferences for 'same subjects' in purpose clauses (S/A sharing), e.g. co-reference patterns in those 61 languages which leave purposive subject as a rule unexpressed:



ultimate causality of agent-sharing: "people are egoistic and act for their own purposes" (Haspelmath 1989: 304); "[a] participant's desires or interests are more likely to be referred to the occurrence of SoAs involving that entity rather than SoAs where that entity has no role" (Cristofaro 2003: 133)
= probability of successful realisation of intention enhanced by direct involvement and control of 'intender'

> conventionalised 'control' in different purpose clause constructions, e.g. Tetun (Austronesian: West Timor; Van Klinken 1999: 316):

	hodi construction	*atu* construction	*bat(u)* construction	*ne'ebé* construction
Number of examples	100	62	260	119
Different subject in purpose clause	**0%**	6%	53%	72%
Pause before purpose clause	36%	6%	30%	53%
Need of purpose to happen?	**yes** (unless irrealis)	no	no	no

> but not always S/A: what matters is (discourse-pragmatic) availability of a controller (cf. Bach 1982)

(18) *I bought you* War and Peace [ø *to read to the children*].
?

- other notable phenomena include the existence of 'object purpose clauses' (e.g. English, Lango, Trumai), person agreement splits and quirks (e.g. Tzotzil, Yamul Tiipay), interaction with verb coding (complementary prototypes of purpose constructions)

But: 'different subject' preference in avertive clauses

Exemplar sentence	Source (Language, page in the reference grammar)
(1) Circle around so the moose won't smell you	Slave, 1262
(2) Take off your clothes lest you get sick.	Wardaman, 295
(3) They$_i$ are careful with them$_j$ lest they$_j$ end up being spoiled.	Supyire, 587
(4) Put the meat in the smoke, so it doesn't get eaten by flies	Kayardild, 510
(5) I spoke in a whisper, so that other people could not hear it/me.	Hixkaryana, 30
(6) Put it down so that it won't fall	Hausa, 641
(7) Don't shake him lest he wake up.	Martuthunira, 250
(8) Don't behave like that lest your father beat you!	Ngiyambaa, 285
(9) Don't you do that for they might hit or kill you.	Lakhota, 259
(10) I tried very hard for this letter not to get into the hands of the police.	Kannada, 74

Two conceptual scenarios are possible here: (i) the agent in the main clause performs an action in order to prevent herself from getting into an unpleasant situation; this scenario can involve same subjects (ex. (2)) or different subjects ((1), (5), (8), (9)); (ii) the agent of the main clause is acting on some entity in order to prevent that entity from getting into an unpleasant situation; this would call for a different subject preference ((3), (4), (6), (7), (10)). There is thus an overall preference for different subjects in avertive situations and clauses.

► The subject of avertive clauses is most typically co-referential with an argument of the matrix clause if it is aligned with a patient (or undergoer) semantic role.

This would comprise two complementary implicational universals:

► *If a language has a semantic agent as subject in avertive clauses, then it is not a shared participant of both main and avertive clause.*

► *If a language has a shared subject argument in avertive clauses, then it is a semantic patient in the avertive clause.*

(19) Kayardild (Tangkic: Australia; Evans 1995: 510)
Ngada jaa-nangku wida-wu, [*yarbuth-inja ba-yii-nyarra-nth*]
1SG.NOM enter-NEG.POT hole-MDL.PROP snake-OBL bite-M-LEST-COMP.OBL
'I won't put my hand in that hole, or I'll get bitten by a snake.'
(= 'I won't put my hand in that hole lest I get bitten by a snake.')
(MDL.PROP = modal proprietive; COMP = complementizer)

Only one single exceptional example across all 'lest'-constructions

Converging evidence: English 'lest'*-clauses*

Rationale: finding performance-grammar correspondences, under the assumption that the grammars in our sample are more restrictive and disfavour (or rule out) minority alignment patterns that may be found in large-scale corpora of other languages

Database: ***British National Corpus (BNC)***, 100 mill. word corpus (tagged), ideal for lexically-driven searches

► extraction of all 'lest'-clauses (411 in total, with some being discarded because of their non-avertive meaning, e.g. *Clarissa was horrified lest Charles thought of identifying himself with such a call.* [BNC ACE 240]., 'in-case' semantics)

► random generation of a subset of 100 'lest'-clauses, coding for argument structural parameters (notably argument sharing, semantic roles etc.)

► results:

- ratio same-subject: different-subject = 37:63, supporting the the universal preference but demonstrating at the same time that same-subject patterns are fare from rare or even impossible
- evidence for patterns that are underrepresented or even unattested in the typological corpus:

(20) English 'lest'-clauses with agentive subjects

preference rankings in performance, with declining usage frequencies the further one gets away from the typological prototype

(a) Subject not co-referential with any participant in the matrix clause (38.3%)
Joe was still careful to keep their meetings secret [*lest* ***some kind friend*** *wrote about them to Terry*]. (BNC G16 2385)

(b) Subject co-referential with matrix patient (34%)
He cut the remark out of the final programme [*lest* ***it*** *should offend the listeners*].
(BNC BLY 1232)

(c) Subject co-referential with matrix agent (23.4%)
I relinquish my right to redeem [*lest **I** impair my own inheritance*]. (BNC KNA 128)

(d) Subject co-referential with an oblique role in the matrix (4.3%)
They should never fly together in the same plane lest it (crash and) kill both heir and second-in-line to the throne. (BNC A7H 667)

Similarly, there are quite a few shared subject patterns with a non-patient purposive subject (prototype : deviations = 38:29).

- Corpus-based study can provide a more fine-grained description of the experiential scenarios coded by 'lest'-clauses (which were taken to be responsible for patterns of argument encoding and alignment) ► ideally: a bottom-up cluster analysis (cf. Crawley 2007) takes argument structure configurations as input and results in a grouping of semantic classes of verbs (e.g. *discover, notice, detect, guess, alert* versus *fall, die, succumb, face a threat* etc.; logic analogous to Croft's (to appear) suggestion for the determination of aktionsart classes from the larger constructions in which the respective verbs occur)

Conclusion

Under the PCGH, evidence from corpora can provide substance to typological generalisations that, for some reason, capture only prototypical structures (= working against sampling errors). At the same time, it shows that the conventionalised structures found in many reference grammars are just that, i.e. prototypes or consolidations of the most preferred performance option.

As Hawkins (2004: 64f.) points out, the ultimate reasons for frequency rankings are quite diverse. 'Real-world' frequencies may be appealed to in some cases (including the present one), but by no means in all (e.g. the prevalence of singulars over plurals in grammatical hierarchies cannot be explained that way). Frequency asymmetries may eventually reflect cognitive and "social […] biases when describing entities in the world" (ibid.). In any case, however, we can conclude with Du Bois's famous slogan that "grammars code best what speakers do most" (Du Bois 1985: 363).

References

Bach, Emmon (1982). Purpose Clauses and Control. In: *The Nature of Syntactic Representation.* Eds. Pauline Jacobson and Geoffrey K. Pullum. Dordrecht: Reidel. 35-57.

Chapman, Shirley, and Desmond C. Derbyshire (1991). Paumarí. In: *Handbook of Amazonian Languages*. Vol. 3. Eds. Desmonds C. Derbyshire and Geoffrey K. Pullum. Berlin: Mouton de Gruyter. 161-352.

Clark, Eve (1971). On the Acquisition of the Meaning of *before* and *after*. *Journal of Verbal Learning and Behaviour* 10: 266-275.

Crawley, Michael J. (2007). *The R Book.* Chichester: Wiley.

Cristofaro, Sonia (2003). *Subordination.* Oxford: Oxford University Press.

Croft, William (2001). *Radical Construction Grammar: Syntactic Theory in Typological Perspective.* Oxford: Oxford University Press.

Croft, William (to appear). *Verbs: Aspect and Argument Structure.* Oxford: Oxford University Press.

Dench, Alan Charles (1995). *Martuthunira: A Language of the Pilbara Region of Western Australia.* Canberra: Dept. of Linguistics, Research School of Pacific and Asian Studies, Australian National University.

Diessel, Holger (to appear). Iconicity of Sequence: A Corpus-Based Analysis of the Positioning of Temporal Adverbial Clauses in English. *Cognitive Linguistics.*

Diessel, Holger (2001). The Ordering Distribution of Main and Adverbial Clauses: a Typological Study. *Language* 77.2: 433-455.

Diessel, Holger (2005). Competing Motivations for the Ordering of Main and Adverbial Clauses. *Linguistics* 43.3: 449-470.

Dryer, Matthew S. (1989). Large Linguistic Areas and Language Sampling. *Studies in Language* 13.2: 257–292.

Dryer, Matthew S. (1992). The Greenbergian Word Order Correlations. *Language* 68.1: 80-138.

Du Bois, John A. (1985). Competing Motivations. In: *Iconicity in Syntax.* Ed. John Haiman. Amsterdam: John Benjamins. 343-366.

Evans, Nicholas (1995). *A Grammar of Kayardild.* Berlin, New York: Mouton de Gruyter.

Fortescue, Micheal (1984). *West Greenlandic.* London: Croom Helm.

Goldberg, Adele (2006). *Constructions at Work: The Nature of Generalization in Language.* Oxford: Oxford University Press.

Greenberg, Joseph H. (1966a). Some Universals of Grammar with Particular Reference to the Order of Meaningful Elements. In: *Universals of Language.* 2nd ed. Ed. Joseph H. Greenberg. Cambridge, Mass.: MIT Press. 73-113. [1st ed. 1963]

Haspelmath, Martin (1989). From Purposive to Infinitive – a Universal Path of Grammaticization. *Folia Linguistica Historica* X/1-2: 287-310.

Haspelmath, Martin (2008). Frequency versus Iconicity in Explaining Grammatical Asymmetries. *Cognitive Linguistics* 19.1.

Haspelmath, Martin, Matthew S. Dryer, David Gil and Bernard Comrie, eds. (2005). *The World Atlas of Language Structures.* Oxford: Oxford University Press.

Hawkins, John A. (1983). *Word Order Universals.* New York: Academic Press.

Hawkins, John A. (1994). *A Performance Theory of Word Order and Constituency.* Cambridge: Cambridge University Press.

Hawkins, John A. (2004). *Efficiency and Complexity in Grammars.* Oxford: Oxford University Press.

Hewitt, Brian G. (1989). *Abkhaz*. London, New York: Routledge.

Holes, Clive (1990). *Gulf Arabic.* London, New York: Routledge.

Huttar, George L. and Mary L. Huttar (1994). *Ndyuka*. London: Routledge.

Jaggar, Phillip J. (2001). *Hausa*. Amsterdam, Philadelphia: John Benjamins.

Janssen, Dirk P., Balthasar Bickel and Fernando Zúñiga (2006). Randomization Tests in Language Typology. *Linguistic Typology* 10.3: 419-440.

Jones, Charles (1991). *Purpose Clauses.* Dordrecht: Kluwer.

Kirkpatrick, Charles (1982). The Transitive Purpose Clause in English. *Texas Linguistic Forum* 19: 99-123.

Kornfilt, Jaklin (1997). *Turkish*. London: Routledge.

Lambrecht, Knud (1994). *Information Structure and Sentence Form.* Cambridge: Cambridge University Press.

Lehmann, Winfried P. (1973). A Structural Principle of Language and its Implications. *Language* 49: 47-66.

Lichtenberk, Frantisek (1995). Apprehensional Epistemics. In: *Modality in Grammar and Discourse.* Eds. Joan Bybee and Suzanne Fleischman. Amsterdam/Philadelphia: John Benjamins. 293-327.

Neukom, Lukas (2001). *Santali.* München: LINCOM Europa.

Nichols, Johanna (2004). Samples for Comparative Grammar: a Practical Guide. Ms., University of California at Berkeley.

Payne, Doris L. and Thomas E. Payne (1990). Yagua. In: *Handbook of Amazonian Languages. Vol. 2.* Eds. Desmond C. Derbyshire and Geoffrey K. Pullum. Berlin: Mouton de Gruyter. 249-474.

Rice, Keren (1989). *A Grammar of Slave*. Berlin: Mouton de Gruyter.

Schmidtke, Karsten (under review, a). *A Typology of Purpose Clauses.* [submitted for the *TSL* series with John Benjamins Publ.]

Schmidtke, Karsten (under review, b). The Role of Benefactives and Related Notions in the Typology of Purpose Clauses. To appear in a volume on the typology of benefactives and malefactives. Eds. Fernando Zúñiga and Seppo Kittilä.

Soukka, Maria (2000): *A Descriptive Grammar of Noon – A Cangin Language of Senegal*. München: LINCOM Europa.

Talmy, Leonard (1975). Figure and Ground in Complex Sentences. *Working Papers on Language Universals* 17: 65-75.

Thompson, Sandra A. (1985). Grammar and Written Discourse: Initial vs. Final Purpose Clauses in English. *Text* 5.1-2: 55-84.

Thompson, Sandra .A. and Elizabeth Couper-Kuhlen (2005). The Clause as a Locus of Grammar and Interaction." *Discourse Studies* 7 (4/5): 481-505.

Thompson, Sandra A. and Robert E. Longacre (1985). Adverbial Clauses. In: *Language Typology and Syntactic Description. Vol. II: Complex Constructions.* Ed. Timothy Shopen. Cambridge: Cambridge University Press. 171-234.

Van Gijn, Erik (2006). *A Grammar of Yurakaré.* PhD diss., Radboud Universiteit Nijmegen.

Van Klinken, Catharina Lumien (1999). *A Grammar of the Fehan Dialect of Tetun – An Austronesian Language of West Timor.* Canberra: Australian National University.

Van Valin, Robert D. Jr. and Randy LaPolla (1997). *Syntax: Structure, Meaning, Function.* Cambridge: Cambridge University Press.

Vennemann, Theo (1976). Categorial Grammar and the Order of Meaningful Elements. In: *Linguistic Studies Offered to Joseph Greenberg on the Occasion of his Sixtieth Birthday.* Ed. Alphonse Juilland. Saratoga, CA: Anma Libri. 615-634.