

Interrogative words: an exercise in lexical typology

Michael Cysouw
cysouw@zas.gwz-berlin.de

Bantu grammar: description and theory 3; Session on question formation in Bantu
ZAS Berlin – Friday 13 Februari 2004

1 Introduction

Wer, wie, was?
Der, die, das!
Wieso, weshalb, warum?
Wer nicht fragt, bleibt dumm! (German Sesame Street)

This is first report on a study of the cross-linguistic diversity of interrogative words.¹ The data are only preliminary and far from complete – for most of the languages included I am not sure whether I have really found all interrogative words (the experience with German shows that it is not do easy to collect them all). Further, the sample of languages investigated (see appendix) is not representative of the world's languages, though it presents a fair collection of genetically and areally diverse languages. I will not say too much about relative frequencies, but mainly collect cases of particular phenomena to establish guidelines for further research.

(1) Research questions

- a. What can be asked by an interrogative word? Which kind of interrogative categories are distinguished in the world's languages? Do we need more categories than the seven lexicalised categories in English – *who*, *what*, *which*, *where*, *when*, *why* and *how*?
- b. Can all attested question words be expressed in all languages? For example, the German interrogative word *wievielte* is hardly translatable into English 'how manyth'.
- c. How do the the interrogative words look like?
 - Have all interrogative categories own lexicalised/phrasal forms, or are they homonomous with other interrogative categories? For example, English 'how did you do it?' and 'how long is it?' use the same interrogative word, but this is not universally so.
 - If there is a lexicalised form, it is synchronically transparent within the structure of the language? For example, German *wie* is not transparent, but *wieviel* is clearly built from *wie* + *viel*.
 - Are there cross-linguistic recurrent morphological relations between interrogative categories? For example, is the question to the quantity (English 'how much') always related to the question to the manner (English 'how')?

¹ I thank the following students from the class 'The typology of interrogative pronouns' during the wintersemester 2003-2004 at the FU Berlin for their help with collecting data: Afroditi Charissi, Allan Ingwersen, Aristeia Bakali, Daniela Wiesner, Dominik Spittel, Gesche Westphal, Inara Aliyeva, Inga Popmane, Julia Lienke, Klaus Thoden, Margret Smith, Marketa Balkova, Marle Niemann, Michael Michaelis, Saleh Khalailah, Samah Altaweel, Sangeetha Sekaran, Tue Trinh and Verena Klein.

2 Minimum: are interrogative words universal?

‘Interrogative words are characteristic of all languages, That is, all languages have interrogative substitutes for nouns and a number of adverb-like words or phrases expressive of locative, temporal, enumerative, manner, purpose and other functions.’ (Ultan 1978: 228-229)

2.1 The Arawakan case

Indeed, all languages appear to have special words to form content questions. However, it seems to be possible to have only one, very general, questionword that is used for all different kinds of informations gaps in the sentence. Such a structure has been described for Asheninca Campa, an Arawak language from Peru. One might question whether this is still an interrogative word or simply an indicator of a gap to be filled.

(2) Asheninca Campa (Arawakan, Peru, Reed & Payne 1986: 328-329)

- a. *t^{sh}ika i-t^sim-i-ka*
Q 3M-exist-NONFUT-Q
‘Who is it?’
- b. *t^{sh}ika pi-kant^s-i-ka*
Q 2-say-NONFUT-Q
‘What did you say?’
- c. *t^{sh}ika p-iyaa^t-i-ka*
Q 2-go-NONFUT-Q
‘Where did you go?’
- d. *t^{sh}ika p-ira-ant-a-ri*
Q 2-cry-INST-REFL-REL
‘Why did you cry?’
- e. *t^{sh}ika-paite-ka p-iyaa^t-i*
Q-TEMP-Q 2-go-NONFUT
‘When did you go?’

(3) Asheninca Campa (Arawakan, Peru, Givón 2001: 304, citing D. Payne p.c.)

- a. *tsika i-kañt-aiti-ro-ka* ‘choclo’
Q 3M-say-REAL-3F-Q corn
‘How do you say “corn”?’ (translation maybe incorrect: 2nd or 3rd? MC)
- b. *tsika i-kara-ti-ka iri-ka*
Q 3M-be-REAL-Q 3M-here
‘How much is it?/How many are there?’

Such an extreme small set of interrogative words is thus possible, though also very unusual. Even in the closely related variant Perené Asheninca the words for ‘who’ and ‘what’ have innovated new forms.

(4) Perené Asheninca (Reed & Payne 1986: 330)

- a. *paita p-ants-i-ri*
what 2-do-NONFUT-REL
‘what are you doing?’
- b. *ninka pok-atsh-i-ne*
who come-STAT-FUT-REL
‘who is coming?’

Other Arawakan languages do not show the same structure as Asheninca, though the ‘who-what’ combination appears to be widespread.

(5) Interrogative words in various Arawakan languages

- a. Terena (Eastlack 1968: 7-8)
kuti ‘who/what’, *na* ‘where/how much’, *namo* ‘when’
- b. Bare (Aikhenvald 1995: 25)
ne ‘who/what’, *abadi* ‘which’, *awati* ‘where’, *ika* ‘how’
- c. Warekena (Aikhenvald 1998: 261-261, 325-326)
iʃi ‘who/what’, *da-* ‘where’, *iperi* ‘how much’, *yumirehe* ‘when’
- d. Amuecha (Wise 1986: 573)
esěša ‘who’, *es* ‘what’, *ez-* ‘where/how’
- e. Piro (Wise 1986: 573)
katu ‘who’, *klu* ‘what’, *hiru* ‘which’

The Asheninca structure is possibly attested in Arawá languages, nearby in Brazil (Dixon 1999: 304), although the only Arawá language on which I have some information is not as extreme as Asheninca. In Paumari (Arawá, Brazil, Chapman & Derbyshire 1990: 203-216) the following interrogative words are attested: *nahina* ‘who’, ‘what’, ‘which’, *hana* ‘where’, *niha* ‘how/why’ and derived ‘when’ and ‘how much’. Another example of widespread homonymy is attested in Sanuma (Isolate, Brazil, Borgman 1990: 66-72), where the word *wi na*, can mean ‘how’, ‘how many’, ‘why’ and ‘when’.

2.2 Formal regularities

Is such a general question word the origin of a regular interrogative formative? Regular form elements in interrogative words (like English *wh-*) are often found, though they are not nearly as universal as often thought. In fact, it turns out to be highly rare to find cases as regular as English outside of the Indo-European languages. The following list summarised the best examples that I have been able to find so far:

(6) Regular form elements in interrogative words

- a. Apalai (Carib, Brazil, Koehn & Koehn 1986: 56-60):
almost all start with *o-*, except *ahtao* ‘when’
- b. Killivila (Austronesian, Papua New Guinea, Senft 1986: 59-63):
almost all start with *a-*, except [CLASS MARKER]+*vila* ‘how much’
- c. Desano (Tucanoan, Brazil/Colombia, Miller 1999: 32):
almost all start with *d-*, except *yěʔě*, ‘what’
- d. Tamil (Dravidian, India/Sri Lanka, S. Sekaran, p.c.):
almost all start with *e-*, except *yar* ‘who’.
- e. Maybrat (West Papuan, Irian Jaya, Dol 1999: 117-118):
all end in *-ya/yo/ye*
- f. Thai (Daic, Thailand, Smyth 2002: 160-167):
almost all end in *-ay* (though tone appears to matter), except *kii* ‘how much’

In most cases, the interrogative words come from various sources. In some languages, the questionwords do not show any regular formative at all.

(7) Wardaman (Non-Pama-Nyungan, Australia, Merlan 1994: 153-157)

<i>yinggiya</i>	‘who’
<i>ngamanda</i>	‘what’
<i>guda</i>	‘where’
<i>nyangurlang</i>	‘when’
<i>gungarrma</i>	‘what kind’, ‘how’, ‘how many’

3 Maximum: what can be asked for?

‘Expressions which are in no way composite signify substance, quantity, quality, relation, place, time, position, state, action, or affection. To sketch my meaning roughly, examples of substance are 'man' or 'the horse', of quantity, such terms as 'two cubits long' or 'three cubits long', of quality, such attributes as 'white', 'grammatical'. 'Double', 'half', 'greater', fall under the category of relation; 'in a the market place', 'in the Lyceum', under that of place; 'yesterday', 'last year', under that of time. 'Lying', 'sitting', are terms indicating position, 'shod', 'armed', state; 'to lance', 'to cauterize', action; 'to be lanced', 'to be cauterized', affection.’ (Aristotle, Categories, Part 4. Translated by E. M. Edghill)²

3.1 The Aristotelian categories

Interrogative words ask for a specific category of the world’s phenomena – to be expressed as a linguistic answer. I will describe interrogative words by the category of the answer they are expecting. A proposal as to which categories should be distinguished was presented by Aristotle.

(8) Aristotle’s categories

- Substance
- Quantity
- Quality
- Relation
- Place
- Time
- Position
- State
- Action
- Affection

3.2 Interrogatives in English and German

English quite straightforwardly distinguishes only seven interrogative categories:

(9) English interrogative words

<i>who/whom/whose</i>	PERSON
<i>what</i>	THING
<i>where</i>	PLACE
<i>when</i>	TIME
<i>which</i>	SELECTION
<i>how</i>	MANNER
<i>why</i>	REASON

German has many more interrogative words, including also a few more categories, the most interesting being established by *wievielt-*, asking for the RANK – a word that is sort-of untranslatable into English. The precise meaning of *inwiefern* and *inwieweit* needs further investigation: they seem most often to ask for an explanation.

² <http://classics.mit.edu/Aristotle/categories.1.1.html>

(10) German interrogative words

<i>wer/wem/wen/wessen</i>	PERSON
<i>was/wessen</i>	THING
<i>weshalb</i>	REASON
<i>weswegen</i>	REASON
<i>wessentwegen</i>	REASON
<i>(um) wessentwillen</i>	REASON
<i>wann</i>	TIME
<i>welch-</i>	SELECTION
<i>warum</i>	REASON
<i>wie</i>	MANNER
<i>wieso</i>	REASON
<i>inwieweit</i>	EXTENT, EXPLANATION (?)
<i>inwiefern</i>	EXTENT, EXPLANATION (?)
<i>wieviel</i>	QUANTITY
<i>wievielt-</i>	RANK
<i>wo</i>	PLACE
<i>woher</i>	PLACE FROM
<i>wohin</i>	PLACE TO

Further, there is a quite impressive range of combinations *wo*+PREP in German.

(11) German *wo*+PREP combinations used as interrogative word (acceptability checked by examples from the internet, though some might be only acceptable in echo-questions with stress on *wo*)

<i>wobei</i>	<i>woraus</i>
<i>wodurch</i>	<i>worin</i>
<i>wofür</i>	<i>worüber</i>
<i>wogegen</i>	<i>worum</i>
<i>wohinter</i>	<i>worunter</i>
<i>womit</i>	<i>wovon</i>
<i>wonach</i>	<i>wovor</i>
<i>woran</i>	<i>wozu</i>
<i>worauf(hin)</i>	<i>wozwischen (Wozwischen oder weswegen schwankst Du?)</i>

Note that not all combinations are attested, the most noteworthy absences are **worab* and **wobis*. *woneben* is only attested as a relative pronoun, but can be used as a questionword in echo-questions with stress on *wo*: *Wóneben hast du gewartet?*

(12) German impossible *wo*+PREP combinations

- *woneben* (only used as relative pronoun)
- *worohne*
- *worab*
- *wobis*
- *worausser*
- *worentlang*
- *worentgegen*

There are also some possibilities to combine *woher/wohin* with prepositions, though such combinations are more commonly attested as relative pronouns.

(13) German *woher/wohin*+PREP combinations as interrogative words (acceptability checked by examples from the internet)

possible:

<i>woheraus/woraus</i>	PLACE OUT
<i>wohinein/worein</i>	PLACE INTO

attested on the internet, but strange:

wohinaus (“Wohinaus so früh, Rotkäppchen? - Zur Großmutter.”)

others are unattested on the internet, but are at least possible in echo-questions with stress on *wo* (the same situations as with *woneben* above):

<i>wohinauf</i>	-auf	<i>woherauf</i>
<i>wohinunter</i>	-unter	<i>woherunter</i>
<i>wohinab</i>	-ab	<i>woherab</i>
–	-an	<i>woheran</i>
–	-um	<i>woherum</i>
<i>wohindurch</i>	-durch	–
<i>wohinüber</i>	-über	–

English appears to have lost such combination, although some can still be found, though they are seen as old-fashioned. Also in colloquial German, the *wo*+PREP combinations seem to be replaced by PREP + *was*.

(14) English *where*+PREP interrogative words (from American Heritage Dictionary)

<i>whereabout(s)</i>	<i>whereon</i>
<i>whereat</i>	<i>wheresoever</i>
<i>whereby</i>	<i>wherethrough</i>
<i>wherefore</i>	<i>whereto</i>
<i>wherefrom</i>	<i>whereunto</i>
<i>wherein</i>	<i>whereupon</i>
<i>whereinto</i>	<i>wherever</i>
<i>whereof</i>	<i>wherewith</i>

In contrast, Danish uses such combinations much more widespread.

(15) Danish *hvor*- ‘where’ combinations, not including prepositions with local meaning (A. Ingwersen p.c.)

<i>hvor</i>	‘where’
<i>hvornår</i>	‘when’
<i>hvordan</i>	‘how’
<i>hvorfor</i>	‘why’

It might be necessary to use finer-grained distinctions of the interrogative category REASON, because in many languages there are various ways to ask for the reason, with slight interpretational differences. However, the precise semantic differences are hard to pin down, as can be seen from the various German REASON interrogatives (GOAL? CAUSE? MOTIVATION?). Givón (1984: 231-232), discussing a similar multitude of REASON lexemes in Ute, proposes to distinguish between ‘external cause/reason’ and ‘internal motivation’.

(16) German REASON-like interrogatives

wieso
warum
weshalb
weswegen
wessentwegen
(um) wessentwillen
wofür

3.3 Further interrogative categories

The opposition between PERSON and THING is an opposition of animacy: it is also possible to make further animacy distinction. I have found one example, the Uto-Aztecan language Ute/Southern Paiute. However, different sources have slightly different analyses.

(17) Ute/Southern Paiute interrogative pronouns

(Sapir 1930: 207-210)		(Givón 1984)	
<i>aya</i>	human	<i>‘áa</i>	animate
<i>in.i</i>	animate	<i>‘ini</i>	nonreferential
<i>impì</i>	inanimate	<i>‘agá-ry</i>	inanimate (< PLACE)

Further, PERSON, THING and SELECTION (and sometimes also QUANTITY) show various kinds of inflection in some languages, viz. for case, number, gender and possibly even respect.

(18) Tamil interrogative pronouns (Dravidian, India/Sri Lanka, S. Sekaran p.c.)

<i>yār</i>	‘who’	<i>eḍu</i>	‘what/which (singular)’
<i>yārudeiya</i>	‘whose’	<i>eḍunadeiya</i>	‘of what/which’
<i>yārukku</i>	‘for who’	<i>eḍukku</i>	‘for what/which’
<i>yārei</i>	‘whom’	<i>eḍei</i>	‘what/which (object)’
<i>yārudan</i>	‘with whom’	<i>eḍanudan</i>	‘with what/which’
<i>eval</i>	‘who (masculine)’		
<i>evan</i>	‘who (feminine)’		
<i>evar</i>	‘who (honorific)’		
<i>evai</i>	‘what/which (plural)’		
<i>enna</i>	‘what’		

I have also been looking for special lexicalisations of the categories POSSESSOR (German *wessen*, English *whose*) and INSTRUMENT (German *womit*, English *with what*), but until now they are always case-marked versions of PERSON and THING, respectively.

Cross-linguistically, interrogative PLACE SPECIFICATION is often attested, but most common are interrogative words with the meaning ‘from where’ and ‘to where’, like German *wohin-* and *woher-* and the nowadays unusual English *whither* and *whence*. In combination with a system of local cases, some languages distinguish various specifications. For example, Lezgian distinguished six PLACE variations. These are related to the local cases of Lezgian, though not all local cases are found on the PLACE

interrogative. Missing are the Postessive (‘where behind’) and the Subessive (‘where under’) and various combinations with the Elative (cf. Haspelmath 1993: 74 ff.).

(19) Lezgian (Nakh-Dagestanian, Dagestan, Haspelmath 1993: 188)

<i>hinag</i>	‘where’	
<i>hiniz</i>	‘where to’	(Dative)
<i>hinin</i>	‘where of’	(Genitive)
<i>hinaj</i>	‘where from’	(Elative)
<i>hina</i>	‘where at’	(Adessive)
<i>hinal</i>	‘where on’	(Superessive)
<i>hinra</i>	‘where in’	(Inessive)

Some languages have TIME SPECIFICATION, though this is rather rare and not so extensive as the PLACE SPECIFICATION. For example, Lezgian *mus* ‘when’ has a ‘Superrelative case’ form *musalaj* ‘since when’.

(20) Tuvalu (Austronesian, Tuvalu, Besnier 2000: 430)

<i>aafea</i>	‘when’
<i>anafea</i>	‘when (in the past)’
<i>maafea</i>	‘when (in the present)’

The interrogative category QUANTITY is in some languages further specified for a count/mass distinction, like English *how much* vs. *how many*. In Vietnamese and Thai, the interrogative for QUANTITY COUNT expects a number as an answer. This might be considered a special category. Note that the pairs in half of the examples below are morphologically not related.

(21) Count/Mass distinctions in QUANTITY

Language	Count	Mass
English	<i>how many</i>	<i>how much</i>
Ika (Frank 1990: 82-86)	<i>biga</i>	<i>bindi</i>
Ute (Givón 1984: 232-233)	<i>‘anówiini</i>	<i>‘anópqayni</i>
Tagalog (Schachter & Otanes 1972: 515-516)	<i>ilan</i>	<i>gaano</i>
Tamil (S. Sekaran p.c.)	<i>ettanai</i>	<i>evvalavu</i>
Vietnamese (T. Trinh p.c.)	<i>may</i>	<i>bao nhieu</i>

A combination of animacy and mass/count subcategories of QUANTITY is attested in Barasano.

(22) Barasano (Tucanoan, Colombia, Jones & Jones 1991: 120-122)

<i>dōkārāko</i>	animate feminine
<i>dōkārāku</i>	animate masculine
<i>dōkōko</i>	inanimate mass
<i>dōkārāka</i> + [CLASS]	inanimate count

In Thai, the word *yajjay* ‘how’ is not used adverbially. Instead, the phrase *māak khèe nǎy* ‘to which extend’ is used. I will call these categories MANNER and EXTENT, respectively (note that this is a different kind of EXTENT as found in the German

inwiefern/inwieweit). Also the word *thâwrày* ‘how much’ can be used to mark EXTENT, though only if the answer is expected to be countable.

(23) Thai (Smyth 2002: 165-166)

- a. *kin yanyay*
eat how
‘How do you eat it?’
- b. *bùa mâak khèe nǎy*
bored very extent which
‘How bored are you?’
- c. *nàk thâwrày*
heavy how.much
‘How heavy is it?’

In English both MANNER and EXTENT are indicated by ‘how’ as in ‘how did you do that?’ versus ‘how far is it?’. Most sources do not say anything about this difference, but a few instances of this opposition have been attested. As a preliminary observation, there appears to be a close link between EXTENT and QUANTITY.

(24) Instances of a difference between MANNER and EXTENT

Language	MANNER	EXTENT
Thai (Smyth 2002: 165-166)	<i>yanyay</i>	<i>mâak khèe nǎy</i> <i>thâwrày</i> (= QUANTITY)
Maybrat (Dol 1999)	<i>fiye</i>	<i>tiya</i> (= QUANTITY)
Tagalog (Schachter & Otnes 1972: 514-515)	<i>paano</i>	<i>gaano</i> (= QUANTITY)
Danish (A. Ingwersen p.c.)	<i>hvordan</i>	<i>hvor</i> (= PLACE)
Vietnamese (T. Trinh p.c.)	<i>the nao</i>	<i>nhu the nao</i>

The category QUALITY (Latin *qualis*, German *was für ein*, English *what kind of*) is almost always derived from some other interrogative word, with the only possible exception of Latin and Wardaman. In Wardaman, the interrogative word *gungarrma* is described as having the basic meaning of ‘what kind of’. However, from the scant translations, it also seems to be used for QUANTITY and MANNER. I do not know, why the meaning ‘what kind of’ should be the basic meaning.

(25) Wardaman (Non-Pama-Nyungan, Australia, Merlan 1994: 156)

- gungarrma madin*
what.kind word.ABS
‘What’s the word?’

A less-known linguistic phenomenon is that interrogative words can be verbs in some languages (a first typological survey was presented by Hagege 2003). In some cases, such interrogative verbs present new interrogative categories. For example, Jamul Tiipay makes a distinction between *maayiich* ‘what’, *mawi* ‘do what’ and *che*i* ‘say what’. I will call these three interrogative categories THING, ACTION and UTTERANCE, respectively.

(26) Jamul Tiipay (Yuman, USA, Miller 2001: 175, 177)

- a. *maayiich-pe-m gaayiin aakatt-chu*
 what-DEM-INSTR chicken cut-Q
 ‘What did he use to cut up the chicken?’
- b. *me-ny-chaakeet-pu ma<m>wi-a*
 2-ALIEN-jacket-DEM <2>do.what-Q
 ‘What did you do with your jacket?’
- c. *puu keyaw che*<w>i t*waaniw-a*
 that.one behalf <3>say.what be.together-Q
 ‘What did they say on his behalf?’

Lavukaleve makes a distinction between *ria* ‘where’ and *vasia* ‘be where’. Although the functional difference is not completely clear from the source, I will refer to these interrogative categories as PLACE and POSITION, respectively.

(27) Lavukaleve (East Papuan, Solomon Islands, Terrill 2003: 457, 460)

- a. *le inu ria ngoa me-m inu*
 but 2SG where stay HAB-SG.M 2SG
 ‘But where do you live?’
- b. *me-kalam vasia-m*
 2PL-father be.where-SG.M
 ‘Where is your (PL) father?’

Other examples are Southern Paiute (Uto-Aztecan, USA, Sapir 1930: 210) *ai-* ACTION/POSITION and Aymara (Aymaran, Peru, Hardman 2001: 49-51) *kams-* UTTERANCE and *kamach-* ACTION.

Finally, Vietnamese has a special interrogative word *sao*, the precise usage of which is still not completely clear to me. There are probably more interrogative categories among the world’s languages, though until now the set has remained amazingly small.

(28) Vietnamese (Austro-Asiatic, Vietnam, T. Trinh p.c.)

- a. *no sao roi*
 3SG SAO PERF
 ‘How has it been for him?’
- b. (Sorry, I couldn’t hear you)
may noi gi
 2SG say what
 ‘What did you say?’
- c. (I think we should lend him the money)
may noi sao
 2SG say SAO
 ‘What did you say?’

3.4 Summary

The attested interrogative categories roughly match the Aristotelean categories. The main differences are the interrogative categories UTTERANCE and REASON, both of which do not fit into Aristotle’s concept of category. In reverse, the Aristotelean category of Relation does not have a counterpart in any interrogative category: it could, for

example, amount to an interrogative word that questions a preposition as an answer (e.g. ‘The book is in which relation to the table? – It is lying under the table.’). This is unattested so far (cf. Hagège 2003)

(29) Comparison of Interrogative and Aristotle’s categories. The ‘+’ indicates that further specification of the category is attested among the world’s languages

Interrogative category	Answer in Aristotle’s categories
PERSON +	Substance
THING +	Substance
SELECTION +	Substance
PLACE +	Place
TIME +	Time
QUANTITY +	Quantity
RANK	Quantity
EXTENT	Quantity
MANNER	Position/Action/ State/Affection
QUALITY	Quality
POSITION	Position
ACTION	Action
UTTERANCE	?
REASON	?
?	Relation

4 The structure of the lexical field

‘The wh-words of English – *who, what, why, where, when*. Are any of these universal? Are some more general than others? Are there pragmatic considerations that will predict any of these?’ (Chisholm 1984: 255)

4.1 The approach

(30) Towards a typology:

- a. Which categories use the same lexemes?
E.g. in Sanuma (Isolate, Brazil, Borgman 1990: 66-72), the interrogative word *wi na* appears to have all of the meanings ‘when’, ‘why’, ‘how’ and ‘how many/much’.
- b. Which lexemes are simplex and which are compound (or phrases) within the synchronic structure of the language?
E.g. in English ‘how’ is a simplex lexeme, but ‘how many’ is a compound expression – in this case a phrase. I do not think that such a fixed phrase is typologically much different from the German *wieviel*, which is a word (as can be seen from the possible derivation *wievielte*, though **vielte* is impossible).
- c. From which parts are the compound lexemes made?
E.g. in Germanic, the question to QUANTITY (‘how much/many’) is derived from the question to MANNER (‘how’).
- d. Which simplex lexemes still show the same origin?
E.g. in English, the simplex markers show a strong similarity, all starting with *wh-*. However, not all simplexes necessarily belong together. For example, in Pipil (Uto-Aztecan, El Salvador, Campbell 1985: 114-115), the words *ke:n* ‘how’, *ke:nka* ‘why’, *ke:ski* ‘how much’ and *ke:man* ‘when’ all start with *ke:-*, though this does not appear to be a separate morpheme in the language. Other interrogative words start with other syllables.

I have basically been looking only at questions b. and c until now. Which interrogative words are unanalysable lexemes in the world’s languages? The first quick-and-dirty survey of the data collected so far suggests the following typology:

(31) Typology of interrogative categories

The major categories: PERSON, THING, SELECTION, PLACE

The minor categories: QUANTITY, MANNER, TIME

The incidental categories: REASON, QUALITY, EXTENT, POSITION, ACTION, RANK, etc.

4.2 The major four

The major four ('who', 'what', 'which' and 'where') are basic lexemes in the far majority of the world's languages. The opposition between PERSON and THING is nearly universally attested – also in languages that otherwise do not seem to care too much about animacy distinctions (Lindström 1995).

'The number and kind of distinctions which QWs [Questions Words, MC] may or may not reflect in terms of those existing elsewhere in a give language vary considerably from language to language, but at least one constrast appears to be nearly universal: Q-pronouns show a human/nonhuman or, in a few cases, an animate/inanimate dichotomy.' (Ultan 1978: 229)

However, looking into more detail, there turn out to be quite some languages that do not have this opposition. Still, my impression is that this is a rare feature, found in less than 5% of the world's languages.

(32) Languages without an opposition PERSON vs. THING

- Latvian (Indo-European, Latvia, Nau 1998, 1999)
- Lithuanian (Indo-European, Lithuania, Lindström 1995: 314; Ultan 1978: 229)
- Khasi (Mon-Khmer, India, Ultan 1978: 229)
- Sango (Niger-Congo, CAR, Ultan 1978: 229)
- Paumari (Arawá, Brazil, Chapman & Derbyshire 1990: 203-216)
- Ika (Chibchan, Colombia, Frank 1990: 82-86)
- Various Arawaken languages (see (5) above)

The categories PERSON and THING are almost never analysable. A few examples indicate that a possible source is the interrogative word for PLACE.

(33) Examples of derived PERSON/THING

Ute (Givón 1984)	'aǵá (PLACE)	'aǵáru (THING)
Warekena (Aikhenvald 1998: 261, 325)	datfi (PLACE)	datfibu.le (PERSON)
Maybrat (Dol 1999: 118)	awija (PERSON)	rawija (THING)

The category SELECTION is not as commonly lexicalised. It appears as a separate lexeme only in approximately 60% of the world's languages. Probably, in all other languages, the lexemes for PERSON and THING are used to express SELECTION, roughly like in English. Contrary to English, various languages use 'which' only for a selection of inanimates, and use 'who' for a selection of animates (e.g. Kobon, Davies 1989: 8-9).

(34) English

- which book did you read?*
- what book did you read?*
- which students were lazy?*
- *who students were lazy?*
- which of them were present regularly?*
- who of them were present regularly?*

However, when a lexeme for SELECTION is present, then it is almost never synchronically derived from another interrogative word. The main source that can be

identified is PLACE. In some cases, SELECTION seems to be derived from an extended version of PERSON or THING.

(35) Sources of SELECTION interrogative words

PLACE □ SELECTION

Language	PLACE	SELECTION
Paumari (Chapman & Derbyshire 1990: 203-4)	<i>hana</i>	<i>hana hina</i>
Huallaga Quechua (Weber 1989: 327-329)	<i>may</i>	<i>mayqan</i>
Imbabura Quechua (Cole 1982: 16-17)	<i>may</i>	<i>mayjan</i>
Slave (Rice 1989: 1143-6)	<i>jude</i>	<i>judeni</i>

PERSON/THING □ SELECTION

Language	PERSON/THING	SELECTION
Terena (Eastlack 1968: 7-8)	<i>kuti</i>	<i>kuti itukóvo</i>
Pipil (Campbell 1985: 114)	<i>ka:</i> (PERSON)	<i>kadiya</i>

A separate lexeme for PLACE is found in almost all languages. This lexeme is only rarely analysable, though somewhat more often than PERSON and THING. The main source seems to be SELECTION. In some languages, PLACE is derived from PERSON or THING. However, note that in these languages, there is no separate lexeme for SELECTION.

(36) Sources of PLACE interrogative words

SELECTION □ PLACE

Language	SELECTION	PLACE
Dumi (van Driem 1993: 378)	<i>hem</i>	<i>hempa</i>
Lezgian (Haspelmath 1993: 188)	<i>hi-</i>	<i>hinag</i>
Macushi (Abbott 1991: 110)	<i>ónon</i>	<i>ónon pata</i>
Kobon (Davies 1989: 8-9)	<i>(m)ai</i>	<i>gai, auai, mai</i>
Khoekhoe (Hagman 1977: 142)	<i>mǎá</i>	<i>mǎápá</i>
Thai (Smyth 2002: 162)	<i>nǎy</i>	<i>thūi nǎy</i>

PERSON/THING □ PLACE

Language	PERSON/THING	PLACE
Pirahã (Everett 1986: 239-245)	<i>gó</i> (THING)	<i>góó</i>
Greenlandic (Sadock 1984: 199-202)	<i>su-</i> (THING)	<i>sumi</i>
Sanuma (Borgman 1990: 67, 70)	<i>witi</i> (PERSON)	<i>witi ha</i>
Pipil (Campbell 1985: 114)	<i>ka:</i> (PERSON)	<i>ka:n</i>

4.3 The minor three

The minor categories are QUANTITY, TIME and MANNER.

The interrogative category of MANNER is only lexicalized in about 40% of the world's languages. The sources attested are the three major categories THING ('what way'), SELECTION ('which way') and PLACE (meaning unclear to me). The derivation THING \square MANNER appears to be the most widespread.

(37) Sources of MANNER interrogative words

THING \square MANNER

Language	THING	MANNER
Dumi (van Driem 1993)	<i>mwo:</i>	<i>mwo:ho</i>
Pirahã (Everett 1986: 239-245)	<i>gó</i>	<i>gó gíiso</i>
Tauya (MacDonald 1990: 165 ff.)	<i>wame</i>	<i>wametipa</i>
Yimas (Foley 1991: 114-115)	<i>wara</i>	<i>waratnti, warawal</i>
Apurinã (Facundes 2000: 165)	<i>ki-...-pa</i>	<i>kinhipa</i>
Huallaga Quechua (Weber 1989: 328)	<i>ima</i>	<i>imanawpa</i>
Many more...		

SELECTION \square MANNER

Language	SELECTION	MANNER
Lezgian (Haspelmath 1993: 188)	<i>hi-</i>	<i>hik'(a)</i>
Macushi (Abbott 1991: 110)	<i>o'non</i>	<i>o'non yeka</i>
Khoekhoe (Hagman 1977: 142)	<i>mǎá</i>	<i>mǎáti</i>
Tauya (MacDonald 1990: 165 ff.)	<i>mafo</i>	<i>mafa?a?opa</i>
Koyraboro (Heath 1999)	<i>foo</i>	<i>taka foo</i>
Vietnamese (T. Trinh p.c.)	<i>nao</i>	<i>the nao</i>

PLACE \square MANNER

Language	PLACE	MANNER
Southern Paiute (Sapir 1930: 209)	<i>a[ʔ]</i>	<i>a[ʔ]ni</i>
Urubu-Kaapor (Kakumasu 1986: 354)	<i>my</i>	<i>myja</i>
Danish (A. Ingwesen p.c.)	<i>hvor</i>	<i>hvordan</i>
Kugu Nganhcara (Smith & Johnson 2000: 404)	<i>wantu</i>	<i>wantanda</i>

QUANTITY is an unanalysable lexeme in about 60% of the world's languages (the European languages belong to the minority here). The same three major interrogative categories as with MANNER are found as sources: THING ('what amount'), SELECTION ('which amount') and PLACE (meaning unclear to me). Further, there are also many cases of MANNER \square QUANTITY ('how much'). This derivation is possible better analysed as EXTENT \square QUANTITY, but I do not yet have enough information on the differentiation between MANNER and EXTENT in most languages.

(38) Sources of QUANTITY interrogative words

THING □ QUANTITY

Language	THING	QUANTITY
Kugu Nganhcara (Smith & Johnson 2000: 404)	<i>ngaari</i>	<i>ngaaraari</i>
Azerbaijani (I. Aliyeva p.c.)	<i>nə</i>	<i>nə kədər</i>

SELECTION □ QUANTITY

Language	SELECTION	QUANTITY
Desano (Miller 1999: 32)	<i>di-</i>	<i>dipě</i>
Urubu-Kaapor (Kakumasu 1986: 354)	<i>my</i>	<i>myja</i>
Kobon (Davies 1989: 9)	<i>ai</i>	<i>aigege</i>
Swahili (Ashton 1944: 151)	<i>-pi</i>	<i>ngapi</i>

PLACE □ QUANTITY

Language	PLACE	QUANTITY
Danish (A. Ingwersen p.c.)	<i>hvor</i>	<i>hvor meget</i>
Apurinã (Facundes 2000: 365)	<i>nhãpa</i>	<i>nhapakunapa</i>
Bunuba (Rumsey 2000: 74)	<i>ngaa</i>	<i>ngaanhini</i>
Pech (Holt 1999: 76)	<i>pí</i>	<i>pis</i>
Barasano (Jones & Jones 1991)	<i>dō</i>	<i>dōkōro</i>

MANNER (EXTENT) □ QUANTITY

Language	MANNER	QUANTITY
German	<i>wie</i>	<i>wieviel</i>
Nama (Hagman 1977:)	<i>mãáti</i>	<i>mãátiko</i>
Cubeo (Morse & Maxwell 1999: 144)	<i>aipe</i>	<i>aipidō</i>
Paumari (Chapman & Derbyshire 1990)	<i>niha</i>	<i>nihaforti</i>
Ojibwa (Rhodes 1993)	<i>aanii-(sh)</i>	<i>aaniish mnik</i>
Bare (Aikhenvald 1995: 25)	<i>ika</i>	<i>ikabe</i>

It came as a surprise that TIME is only unanalyzably lexicalised in about 40% of the world's languages. The main origins of TIME seem to be THING ('what time' – though this is rather rare) and SELECTION ('which hour'). Also MANNER ('how late', probably the relevant category here is EXTENT) and QUANTITY ('how many hours') are found recurrently as source of TIME. Another surprise is that PLACE is almost not attested as a source for TIME.

It is important to separate the question to a specific part of the day (English 'what time' – the answer has to be a specific part of the day; the answer 'yesterday' is infelicitous, 'yesterday morning' is much better) from the general question to time (English 'when'). In many languages, the equivalent of 'when' is formally a phrase meaning e.g. 'what time', though the usage indicates that it has a general usage as a question word.

(39) Sources of TIME interrogative words

THING □ TIME

Language	THING	TIME
Yimas (Foley 1991: 188)	<i>wara</i>	<i>wara pucmpn</i>
Kugu Nghanhcara (Smith & Johnson 2000: 404)	<i>ngaari</i>	<i>agu ngaari</i>
Huallaga Quechua (Weber 1989: 328)	<i>ima</i>	<i>imay</i>
Imbabura Quechua (Cole 1982: 16-20)	<i>ima</i>	<i>ima ura</i>
Azerbaijani (I. Aliyeva p.c.)	<i>nə</i>	<i>nə vaxt</i>
Apurinã (Facundes 2000: 365)	<i>ke-...-pa</i>	<i>kerusawakupa</i>
Waiwai (Hawkins 1998: 58)	<i>ahce</i>	<i>ahcemaw</i>

SELECTION □ TIME

Language	SELECTION	TIME
Supyire (Carlson 1994)	<i>ngì(ré)</i>	<i>tèni 'ndiré e</i>
Koyraboro (Heath 1999)	<i>foo</i>	<i>wati foo</i>
Kobon (Davies 1989: 8-9)	<i>(m)ai</i>	<i>ñin mai</i>
Ojibwa (Rhodes 1993)	<i>aanii-(sh)</i>	<i>aaniish pii</i>
Kilivila (Senft 1986: 59-63)	<i>ave</i>	<i>avetuta</i>
Khoekhoe (Hagman 1977: 142)	<i>mãá</i>	<i>mãa//'áép'ai</i>
Tuvaluan (Besnier 2000: 428-430)	<i>fea</i>	<i>anafea (etc.)</i>

QUANTITY □ TIME

Language	QUANTITY	TIME
Maybrat (Dol 1999: 118)	<i>tiya</i>	<i>titiya</i>
Paumari (Chapman & Derbyshire 1990)	<i>nihaforti</i>	<i>nihafortija</i>
Jaqaru (Hardman 2000: 33)	<i>ayka</i>	<i>aykap''a</i>
Greenlandic (Fortescue 1984)	<i>qassit</i>	<i>qassinut</i>

MANNER (EXTENT) □ TIME

Language	MANNER	TIME
Cubeo (Morse & Maxwell 1999: 144)	<i>aipe</i>	<i>aipijede</i>
Yagua (Payne & Payne 1990: 310-313)	<i>núúy</i>	<i>núútyiryivyey</i>
Bare (Aikhenvald 1995: 25)	<i>ika</i>	<i>ikabure</i>
Hixkaryana (Derbyshire 1985: 58-62)	<i>isoke</i>	<i>isokentoko</i>

PLACE □ TIME

Language	PLACE	TIME
Danish (A. Ingwersen p.c.)	<i>hvor</i>	<i>hvornår</i>
Slave (Rice 1989: 1146)	<i>jude</i>	<i>judóné</i>

4.4 The incidental categories

All other interrogative categories are only unanalyzably lexicalised in incidental cases. The most unexpected case is probably the English ‘why’, which is the only non-reducible lexeme for REASON that I have found until now among the world’s languages. Most languages have a lexeme for REASON. However, this lexeme is almost universally derived from THING (‘for what’). There are a few cases in which REASON is derived from MANNER, but this is much rarer. The typical Germanic derivation of REASON from PLACE is cross-linguistically exceptional. This might be a Germanic ideosyncrasy.

(40) Sources of REASON interrogative words

THING □ REASON

Language	THING	REASON
French (personal knowledge)	<i>quoi</i>	<i>pourquoi</i>
Dumi (van Driem 1993: 400)	<i>mwo:</i>	<i>mwo:kə</i>
Mokilese (Harrison 1976: 312-7)	<i>da</i>	<i>awda</i>
Apalai (Koehn & Koehn 1986: 56-60)	<i>oty</i>	<i>oty katoh</i>
Tauya (MacDonald 1990: 165 ff.)	<i>wame</i>	<i>wamepe</i>
and many many more...		

MANNER □ REASON

Language	MANNER	REASON
Desano (Miller 1999: 32)	<i>doʔpa</i>	<i>doʔpii</i>
Ute (Givón 1984: 231-232)	<i>‘aǵáni</i>	<i>‘aǵánigya</i>
Manam (Lichtenberk 1983: 398 ff.)	<i>ba(ʔara)</i>	<i>ba(ʔara)ʔa</i>
Jamul Tiipay (Miller 2001: 174-9)	<i>mu’yu</i>	<i>mu’yui</i>

PLACE □ REASON

Language	PLACE	REASON
Dutch (personal knowledge)	<i>waar</i>	<i>waarom</i>
German (personal knowledge)	<i>wo</i>	<i>wofür</i>
Danish (A. Ingwersen p.c.)	<i>hvor</i>	<i>hvorfor</i>

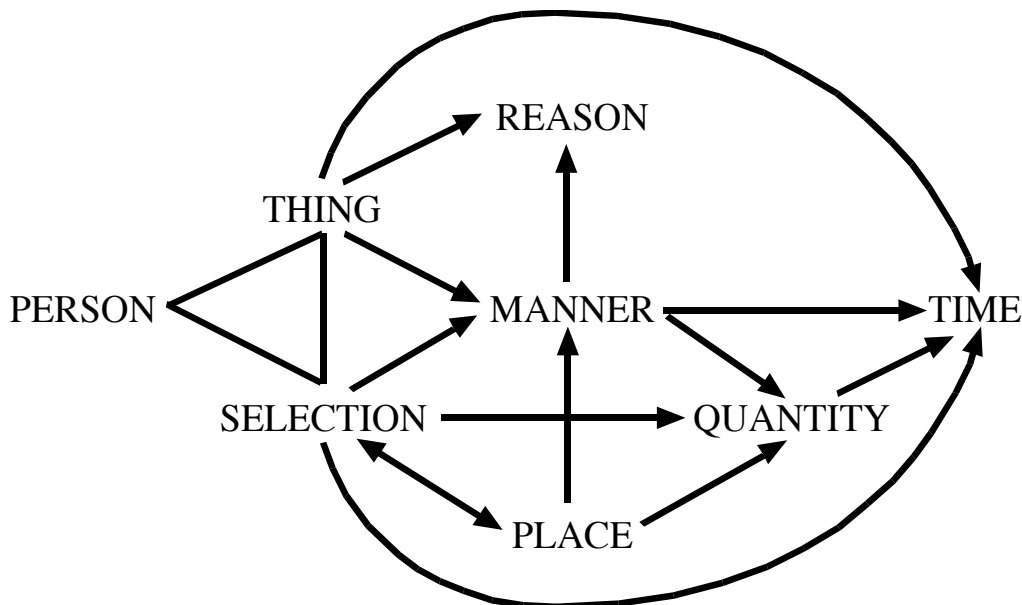
For all other incidental categories, I do not have enough clear examples to make any definitive statements about their origin. For now I hypothesise the following links. The most interesting seems to be the category of EXTENT, which in some languages goes with MANNER, but in other with QUANTITY.

(41) Hypothesised links to the incidental categories

PERSON	□	POSSESSOR ('whose')
THING	□	INSTRUMENT ('with what')
	□	QUALITY ('what kind of')
	□	UTTERANCE ('say what')
	□	ACTION ('do what')
PLACE	□	POSITION ('be where')
MANNER	□	EXTENT ('how + [ADJ]')
QUANTITY	□	EXTENT ('how + [ADJ]')
	□	RANK ('how many')

4.5 Summary of derivations

I have tried to summarise the main links in the following figure. Some connections that were only attested in one or two cases have been left out (viz. THING □ QUANTITY, PLACE □ TIME, PLACE □ REASON). From a semantic point of view, the links MANNER □ TIME and MANNER □ QUANTITY should be EXTENT □ TIME and EXTENT □ QUANTITY, but I do not yet have enough information on the relation between MANNER and EXTENT for most languages. It is further noteworthy that PERSON does not appear to take part in the derivation of other categories.



5 Abbreviations

ABS	absolute	PL	plural
ADJ	adjective	PREP	preposition
ALIEN	alienable	Q	question particle
DEM	demonstrative	REAL	realis
F	feminine	REFL	reflexive
HAB	habitual	REL	relative
INST	instrument	SG	singular
M	masculine	STAT	stative
NONFUT	non future	TEMP	temporal element
PERF	perfect		

6 Sample

The following sample (only non-Indo-European languages are listed here) have been investigated as to their interrogative pronouns. This list has not been designed to be representative conform to any sampling method. However, it is diverse enough to allow for a rough outline of the world-wide linguistic variation. For most languages, the data are only a first approximation - I am almost never sure that they are complete. The languages in italics are languages that have been investigated by my students (see the homepage of the class: <http://www.zas.gwz-berlin.de/mitarb/homepage/cysouw/frage/index.html>)

Africa

Afro-Asiatic:	<i>Standart Arabic, Hausa</i>
Nilo-Saharan:	<i>Lango, Koyraboro Senni</i>
Niger-Congo:	<i>Swahili, Supyire</i>
Khoisan:	<i>Khoekhoe (Nama)</i>

Asia

Uralic:	<i>Mari</i>
Nakh-Dagestanian:	<i>Lezgian, Chechen</i>
South Caucasian:	<i>Georgian</i>
Dravidian:	<i>Tamil</i>
Sino-Tibetan:	<i>Dumi</i>
Hmong Mien:	<i>Hmong Njua</i>
Daic:	<i>Thai</i>
Austro-Asiatic:	<i>Vietnamese</i>
Isolate:	<i>Japanese</i>

Oceania

Austronesian:	<i>Kilivila, Manam, Mokilese, Tagalog, Tuvaluan</i>
West Papuan:	<i>Maybrat</i>
Trans New Guinea:	<i>Tauya, Kobon</i>
Sepik-ramu:	<i>Yimas</i>
East Papuan:	<i>Lavukaleve</i>
Non-Pama-Nyungan:	<i>Bunuba, Ndjébbana, Wardaman</i>
Pama-Nyungan:	<i>Kugu Nganhcara, Awabakal, Nhanda</i>

North America/Mesoamerica

Eskimo-Aleut	<i>Greenlandic</i>
Algonquian:	<i>Ojibwa</i>
Athabaskan	<i>Slave</i>
Penutian:	<i>Takelma</i>
Yuman:	<i>Jamul Tiipay</i>
Uto-Aztecan:	<i>Ute/Southern Paiute, Pipil, Tetelcingo Nahuatl</i>
Mayan:	<i>Jacalteco</i>
Oto-Manguean:	<i>Mixtec</i>

South America

Arawá:	<i>Paumari</i>
Arawak:	<i>Apurinã, Bare, Warekena, Terena, Asheninca</i>
Aymaran:	<i>Aymara, Jaqaru</i>
Carib:	<i>Macushi, Apalai, Wai Wai, Hixkaryana</i>
Chibchan:	<i>Ika, Pech</i>
Macro-Gé:	<i>Canela-Krahô</i>
Quechuan:	<i>Huallaga Quechua, Imbabura Quechua</i>
Tucanoan:	<i>Desano, Cubeo, Barasano</i>
Tupí-Guaraní:	<i>Urubu-Kaapor, Guaraní</i>
Isolate:	<i>Sanuma, Yagua, Pirahã</i>

7 References

- Abbott, Miriam (1991). Macushi. In: Desmond C. Derbyshire & Geoffrey K. Pullum (eds.) *Handbook of Amazonian Languages*. Vol. 3, pp. 23-160. Berlin: Mouton de Gruyter.
- Aikhenvald, Alexandra A. Y. (1995). *Bare*. (Languages of the World/Materials; 100). München: Lincom.
- (1998). Warekena. In: Desmond C. Derbyshire & Geoffrey K. Pullum (eds.) *Handbook of Amazonian Languages*. Vol. 4, pp. 225-440. Berlin: Mouton de Gruyter.
- Ashton, E. O. (1944). *Swahili Grammar: Including Intonation*. Longman.
- Besnier, Niko (2000). *Tuvaluan: A Polynesian Language of the Central Pacific*. (Routledge Descriptive Grammars). London: Routledge.
- Borgman, Donald M. (1990). Sanuma. In: Desmond C. Derbyshire & Geoffrey K. Pullum (eds.) *Handbook of Amazonian Languages*. Vol. 2, pp. 15-248. Berlin: Mouton de Gruyter.
- Campbell, Lyle (1985). *The Pipil Language of El Salvador*. (Mouton Grammar Library; 1). Berlin: Mouton de Gruyter.
- Carlson, Robert (1994). *A Grammar of Supyire*. (Mouton Grammar Library; 14). Berlin: Mouton de Gruyter.
- Chapman, Shirley & Desmond C. Derbyshire (1990). Paumari. In: Desmond C. Derbyshire & Geoffrey K. Pullum (eds.) *Handbook of Amazonian Languages*. Vol. 3, pp. 161-354. Berlin: Mouton de Gruyter.
- Chisholm, William S., Jr. (ed.) (1984). *Interrogativity: A Colloquium on the Grammar, Typology and Pragmatics of Questions in Seven Diverse Languages*. (Typological Studies in Language; 4). Amsterdam: Benjamins.
- Cole, Peter (1982). *Imbabura Quechua*. (Lingua Descriptive Studies; 5). Amsterdam: North Holland Publishing Company.
- Davies, John (1989). *Kobon*. (Croom Helm Descriptive Grammars). London: Routledge.
- Derbyshire, Desmond C. (1985). *Hixkaryana and Linguistic Typology*. (Summer Institute of Linguistics Publications in Linguistics; 76). Arlington, Tx.: Summer Institute of Linguistics.
- Dixon, R. M. W. (1999). Arawá. In: R. M. W. Dixon & Alexandra A. Y. Aikhenvald (eds.) *The Amazonian Languages*, pp. 293-306. (Cambridge Language Surveys). Cambridge: Cambridge University Press.
- Dol, Philomena Hedwig (1999). *A Grammar of Maybrat: a Language of the Bird's Head, Irian Jaya, Indonesia*. Ph.D. dissertation, Universiteit Leiden.
- Van Driem, George (1993). *A Grammar of Dumi*. (Mouton Grammar Library; 10). Berlin: Mouton de Gruyter.
- Eastlack, Charles L. (1968). Terena (Arawakan) Pronouns. *International Journal of American Linguistics* 34 (1): 1-8.
- Everett, Daniel L. (1986). Pirahã. In: Desmond C. Derbyshire & Geoffrey K. Pullum (eds.) *Handbook of Amazonian Languages*. Vol. 1, pp. 200-325. Berlin: Mouton de Gruyter.
- Facundes, Sidney (2000). *The language of the Apurinã people of Brazil (Maipure/Arawak)*. Ph.D. dissertation, University of New York at Buffalo.
- Foley, William A. (1991). *The Yimas Language of New Guinea*. Stanford: Stanford University Press.
- Fortescue, Michael (1984). *West Greenlandic*. (Croom Helm Descriptive Grammars). London: Croom Helm.
- Frank, Paul S. (1990). *Ika Syntax*. (Studies in the languages of Colombia; 1). Arlington, Tx.: Summer Institute of Linguistics.
- Givón, T. (1984). Ute. In: William S. Chisholm, Jr. (ed.) *Interrogativity: A Colloquium on the Grammar, Typology and Pragmatics of Questions in Seven Diverse Languages*, pp. 215-43. (Typological Studies in Language; 4). Amsterdam: Benjamins.
- (2001). *Syntax: An Introduction*. Vol. 2. Amsterdam: Benjamins.
- Hagège, Claude (2003). "A paradox in linguistic typology: Rogoverbs, or WHATed we to interrogative verbs?" Paper presented at Cagliari: ALT V (18 august 2003).
- Hagman, Roy S. (1977). *Nama Hottentot Grammar*. (Language Science Monographs; 15). Bloomington, IN: Indiana University Press.
- Hardman, M. J. (2000). *Jaqaru*. (Languages of the World/Materials; 183). München: Lincom.
- (2001). *Aymara*. (Lincom Studies in Native American Linguistics; 35). München: Lincom.
- Harrison, Sheldon P. (1976). *Mokilese Reference Grammar*. (PALI language texts: Micronesia). Honolulu: University Press of Hawai'i.
- Haspelmath, Martin (1993). *A Grammar of Lezgian*. (Mouton Grammar Library; 9). Berlin: Mouton de Gruyter.
- Hawkins, Robert E. (1998). Wai Wai. In: Desmond C. Derbyshire & Geoffrey K. Pullum (eds.) *Handbook of Amazonian Languages*. Vol. 4, pp. 25-224. Berlin: Mouton de Gruyter.

- Heath, Jeffrey (1999). *A Grammar of Koyraboro (Koroboro) Senni*. (Westafrikanische Studien; 19). Köln: Köppe.
- Holt, Dennis (1999). *Pech (Paya)*. (Languages of the World/Materials; 366). München: Lincom.
- Jones, Wendell & Paula Jones (1991). *Barasano Syntax*. (Studies in the Languages of Colombia; 2). Arlington, Tx.: Summer Institute of Linguistics.
- Kakumasu, James (1986). Urubu-Kaapor. In: Desmond C. Derbyshire & Geoffrey K. Pullum (eds.) *Handbook of Amazonian Languages*. Vol. 1, pp. 326-406. Berlin: Mouton de Gruyter.
- Koehn, Edward & Sally Koehn (1986). Apalai. In: Desmond C. Derbyshire & Geoffrey K. Pullum (eds.) *Handbook of Amazonian Languages*. Vol. 1, pp. 33-127. Berlin: Mouton de Gruyter.
- Lichtenberk, Frantisek (1983). *A Grammar of Manam*. (Oceanic Linguistics special publication; 18) University of Hawai'i Press.
- Lindström, Eva (1995). Animacy in interrogative pronouns. In: Inger Moen, Hanne Gram Simonsen & Helge Lødrup (eds.) *Papers from the 15th Scandinavian Conference of Linguistics*, pp. 307-15. Oslo: University of Oslo.
- Macdonald, Lorna (1990). *A Grammar of Tauya*. (Mouton Grammar Library; 6). Berlin: Mouton de Gruyter.
- Merlan, Francesca C. (1994). *A grammar of Wardaman: a language of the Northern territory of Australia*. (Mouton Grammar Library; 11). Berlin: Mouton de Gruyter.
- Miller, Amy (2001). *A Grammar of Jamul Tiipay*. (Mouton Grammar Library; 23). Berlin: Mouton de Gruyter.
- Miller, Marion (1999). *Desano Grammar: Studies in the Languages of Colombia 6*. (Publications in Linguistics; 132). Arlington, Tx.: Summer Institute of Linguistics.
- Morse, Nancy L. & Michael B. Maxwell (1999). *Cubeo Grammar*. (Studies in the Languages of Colombia; 5). Arlington, Tx.: Summer Institute of Linguistics.
- Nau, Nicole (1998). *Latvian*. (Languages of the World/Materials; 217). München: Lincom.
- (1999). Was schlägt der Kasus. Zu Paradigmen und Formengebrauch von Interrogativpronomina. *Sprachtypologie und Universalienforschung* 52: 130-50.
- Payne, Doris L. & David L. Payne (1990). Yagua. In: Desmond C. Derbyshire & Geoffrey K. Pullum (eds.) *Handbook of Amazonian Languages*. Vol. 2, pp. 249-474. Berlin: Mouton de Gruyter.
- Reed, Judy & David L. Payne (1986). Asheninca (Campa) pronominals. In: Ursula Wiesemann (ed.) *Pronominal Systems*, pp. 323-31. (Continuum; 5). Tübingen: Narr.
- Rhodes, Richard A. (1993). *Eastern Ojibwa-Chippewa-Ottawa Dictionary*. Berlin: Mouton de Gruyter.
- Rice, Keren (1989). *A Grammar of Slave*. Berlin: Mouton de Gruyter.
- Rumsey, Alan (2000). Bunuba. In: R. M. W. Dixon & Barry J. Blake (eds.) *Handbook of Australian Languages*. Vol. 5: Grammatical Sketches of Bunuba, Ndjébbana and Kugu Nganhcara, pp. 34-152. Oxford: Oxford University Press.
- Sadock, Jerrold M. (1984). West Greenlandic. In: William S. Chisholm, Jr. (ed.) *Interrogativity: A Colloquium on the Grammar, Typology and Pragmatics of Questions in Seven Diverse Languages*, pp. 189-214. (Typological Studies in Language; 4). Amsterdam: Benjamins.
- Sapir, Edward (1930). Southern Paiute, A Shoshonean Language. In: William Bright (ed.) *Southern Paiute and Ute Linguistics and Ethnography*. (Collected works of Edward Sapir; 10). Berlin: Mouton de Gruyter. (collection published in 1992).
- Schachter, P. & F. T. Otnes (1972). *Tagalog Reference Grammar*. Berkeley: University of California Press.
- Senft, Gunter (1986). *Kilivila: The language of the Trobriand Islanders*. (Mouton Grammar Library; 3). Berlin: Mouton de Gruyter.
- Smith, Ian & Steve Johnson (2000). Kugu Nganhcara. In: R. M. W. Dixon & Barry J. Blake (eds.) *Handbook of Australian Languages*. Vol. 5: Grammatical Sketches of Bunuba, Ndjébbana and Kugu Nganhcara, pp. 357-507. Oxford: Oxford University Press.
- Smyth, David (2002). *Thai: An Essential Grammar*. (Essential Grammars). London: Routledge.
- Terrill, Angela (2003). *A Grammar of Lavukaleve*. (Mouton Grammar Library; 30). Berlin: Mouton de Gruyter.
- Ultan, Russell (1978). Some general characteristics of interrogative systems. In: Joseph H. Greenberg (ed.) *Universals of Human Language*. Vol. 4: Syntax, pp. 211-48. Stanford: Stanford University Press.
- Weber, David John (1989). *A Grammar of Huallaga (Huánunco) Quechua*. (University of California Publications in Linguistics; 112). Berkeley: University of California Press.
- Wise, Mary Ruth (1986). Grammatical characteristics of PreAndine Arawakan languages of Peru. In: Desmond C. Derbyshire & Geoffrey K. Pullum (eds.) *Handbook of Amazonian Languages*. Vol. 1, pp. 567-642. Berlin: Mouton de Gruyter.