Perception and Cognition in Language and Culture

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Edited By

Alexandra Y. Aikhenvald and Anne Storch

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Cover illustration: detail of the old chief's palace of Wase Tofa, Nigeria. Photograph by Anne Storch.

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PREFACE

This volume is the outcome of an International Workshop held at the University of Cologne in the autumn of 2010. Nominated by Anne Storch and Gerrit Dimmendaal, Alexandra Aikhenvald was awarded an Alexander von Humboldt Research Prize, for 2010–12. Storch and Aikhenvald share a deep interest in the language and grammar of epistemology. In an attempt to learn more about this field, they organized an intensive three-day workshop during which linguists working on little studied languages could discuss their various findings on how perception and cognition are framed grammatically and semantically in these languages. The workshop was organized within the general framework of an Interdisciplinary Investigation entitled 'Migration of Ideas' at the University of Cologne. We are grateful to the University for making this possible.

We greatly enjoyed the intensive and stimulating discussions during which we learnt a great deal. It is appropriate to thank all those who made our project successful and who took part in it: Michael Bollig, Claudia Riehl, R. M. W. Dixon, Bernd Heine, Nikolaus Himmelmann, Elisabeth Norcliffe, Dagmar Jung, José-Luis García-Ramón, among many others. We are grateful to all our colleagues and friends who contributed chapters to this volume, and to Monika Feinen, who helped preparing maps and graphics, Larissa Fuhrmann for her assistance in preparing the final volume, and to two anonymous reviewers for their many helpful comments.

The Workshop provided an exciting forum for the exchange of ideas, and dialogue between like-minded scholars. We hope that the materials and analyses presented in this volume will ignite further interest in perception and cognition through the prism of language.

Cairns and Cologne, September 2012

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Alexandra Y. Aikhenvald is Distinguished Professor, Tropical Leader (People and Societies of the Tropics), Australian Laureate Fellow and Director of the Language and Culture Research Centre in at James Cook University. She is a major authority on languages of the Arawak family, from northern Amazonia, and has written grammars of Bare (1995, based on work with the last speaker who has since died) and Warekena (1998), plus *A grammar of Tariana, from northwest Amazonia* (Cambridge University Press, 2003; paperback 2007), in addition to essays on various typological and areal features of South American languages. Her lengthy grammar, *The Manambu language from East Sepik, Papua New Guinea*, was published by Oxford University Press in 2008 (paperback 2010). Other monographs with OUP are *Classifiers: a typology of noun categorization devices* (2000, paperback 2003), *Language contact in Amazonia* (2002, paperback 2010), *Evidentiality* (2004, paperback 2006), *Imperatives and commands* (2010, paperback 2012) and *Languages of the Amazon* (2012).

Anne Storch is Full Professor of African Languages and Linguistics at the University of Cologne. Her principal research has been on various languages of Nigeria (Jukun, Maaka), the Atlantic language region, Western Nilotic, and on African speech registers. Her publications include *Das Hone und seine Stellung im Zentral-Jukunoid* (Cologne 1999), *The Noun Morphology of Western Nilotic* (Cologne 2005), *Secret Manipulations* (New York 2011), and several edited volumes. Her book on *Repertoires and Choices in African Languages*, co-authored with Friederike Lüpke, is in print.

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El Shafie El Guzuuli is an Electrical Engineer, and a native speaker of the Nile Nubian language Andaandi/Dongolawi. Working with linguists from the University of Cologne, he developed a serious interest in the scientific study of his mother tongue. He has made notable contributions to research carried out on his mother tongue. One of his recent

contributions is the publication of a translation of the Christian legend 'Miracle of Saint Mina' into Andaandi/ Dongolawi, edited jointly with Vincent W.J. Van Gerven Oei. In 2012, he also published various literacy books for Andaandi speakers.

Gertrud Schneider-Blum is working as a post-doc in African Linguistics at the University of Cologne. Her focus of interest lies in descriptive and documentary linguistics as well as anthropological linguistics. She has worked extensively on languages of Ethiopia and Sudan.

Gerrit J. Dimmendaal is Professor of African Studies at the University of Cologne, Germany, and focuses on the synchronic and diachronic study of Nilo-Saharan as well as neighbouring language families belonging to Afroasiatic and Niger-Congo in his research. His recent publications include a monograph, *Historical Linguistics and the Comparative Study of African Languages* (2011). He is currently working on a reference grammar of Tima as well as a monograph on anthropological linguistics.

Marilena Thanassoula has studied German Language and Literature at the University of Athens, and continued her studies in Cologne, Germany, focussing on African languages and cultures. Today she is working as lecturer and research assistant at the Institute for African Studies in Cologne. Her teaching and research areas include areal typology, cognitive and anthropological linguistics as well as language policy in Africa.

ABBREVIATIONS

< Ar	borrowed from Arabic
ö	zero morpheme
1	1st person
2	2nd person
3	3rd person
A	agent; transitive subject
ABL	ablative
ABS	absolutive
AC	anticausative
ACC	accusative
ACC/LOC	accusative-locative case
ACT.FOC	action focus
ADV	adverb
ADVZ	adverbalizer
AGENT	agentive
ALL	allative
AP	antipassive
APPLIC	applicative
ART	article
ASP	aspect
ASSOC	associative
AUG	augment
AUX	auxiliary
BAS	basic cross-referencing
BEN	benefactive
C	common gender
CAUS	causative
CE	counterfactual marker
CERT	certainty
CL	noun class marker
COM	comitative
COMP	completive
COMPAR	comparative
COMPL	completive
COND	conditional

CONJ	conjunction
CONN	connective
CONT	continuative
CONTRA	contra-expectancy
CONV	converb
COP	copula
CUST	customary
DAT	dative
DEF	definite
DEM	demonstrative
DEM.DIST	distal demonstrative
DEM.DIST.REACT.TOP	distal demonstrative reactivated topic
DEM.PROX	proximal demonstrative
DESID	desiderative
DI	distal demonstrative
DIM	diminutive
DIR	directional
DLMT	delimitative
DS	different subject
DTR	detransitive
du, DU	dual
DUR	durative
EE	epenthetic elements (either a vowel or a glide)
EMPH	emphatic marker
ERG	ergative marker
EV	evidential marker
EXC	exclusive
EXCL	exclusive
EXCL	exclamative
F, f	feminine
FEM	feminine
FEM.SG	feminine singular
FIRSTH	firsthand
FOC	focus
FUT	future
GEN	genitive
GER	gerundive
HAB	habitual
HOD	hodiernal tense
HORT	hortative

I	active I
IDEO	ideophone
IDF	indefinite
II	active II
IMP	imperative
IMPER	imperative
IMPERV	imperfective
IMPS	impersonal
IMPV	imperative
IN	inclusive
INC	inclusive
INCEP	inceptive
INCL	inclusive
IND	indicative
INFER	inferential evidential
INST	instrumental marker (nominal vs. verbal)
INSTR	instrument
IO	indirect object
JUNC	juncture
LK	linker
LOC	locative
LOG	logophoric
LOK	(a) locative, (b) locative demonstrative
M, m	masculine
MASC	masculine
MIR	mirative
MOD	modifier (non-class prefix)
MODF	modified
ND	nominal derivation
N.EVID	non-evidential
N1, N2, N3	noun class
NEG	negation
NFUT	non-future
NOM	nominative
NOMIN	nominalization
NOMZ	nominalizer
NONFIRSTH	non-firsthand
NP	nonpast
NP	noun phrase
NPAST	non-past

O	transitive object
OBJ	object
OBL	oblique
P	past
PART	participle
PASS	passive
PAST	past tense
PER	perfect
PERT	pertensive
PERV	perfective
PL	plural
pl	plural
PLURACT	pluractional marker (verbal)
PLUPERFECT	plusqueperfect
PM	person marker
POSS, poss	possessive
POT	potential marker (TAM)
PR	proximal demonstrative
PRED	predicative
PREF	prefix
PREP	preposition
PRES	present
PRO	pronominal form
PROG	progressive
PROH.GEN	general prohibitive
PROP	property
PROSP	prospective
PST	past
Q	question
QU	question particle
REAL	realis
REC.PAST	recent past (TAM)
RECIP	reciprocal
RED	reduplication
REDUP	reduplication
REFL	reflexive
REL	relative
RELAT	relational
REP	reported
REPT	repetition

S	intransitive subject
SA	subject-agent
SC	subordinating conjunction
SEQ	sequential
sg	singular
SOURCE	source marker
SP	subject-patient
SS	same subject switch reference
STAT	stative
SU	subject
SUBORD	subordinate
SUBJ	subject cross-referencing
SUPP	support verb
SVC	serial verb construction
T	transitive suffix
TAM	tense-aspect-mood
TEL	telic
TERM	terminative case
TOP	topic marker
TR	transitive
TR	transitional nasal
V	verb
VD	verbal derivation
VENT	ventive marker (verbal)
VOL	volition
VT	versatile tense.
W2	north western !Xun dialect (Ekoka)

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CHAPTER ONE

LINGUISTIC EXPRESSION OF PERCEPTION AND COGNITION: A TYPOLOGICAL GLIMPSE

Alexandra Y. Aikhenvald and Anne Storch

Every language has a way of talking about seeing, hearing, smelling, tasting and touching. In about a quarter of the world's languages, grammatical evidentials express means of perception (visual, and non-visual) and information source in general. Lexical verbs covering perception and cognitive processes may or may not form a special subclass of verbs. Their meanings vary. In some languages verbs of vision subsume cognitive meanings (knowledge and understanding). In others, cognition is associated with a verb of auditory perception, touch, or smell. Grammatical, and lexical, expression of perception and cognition share a number of features. 'Vision' is not the universally preferred means of perception. In numerous cultures, taboos are associated with forbidden visual experience. Vision may be considered intrusive and aggressive, and linked with access to power. In contrast, 'hearing' and 'listening' are the main avenues for learning, understanding and 'knowing'. The studies presented in this book set out to explore how these meanings and concepts are expressed in languages of Africa, Oceania, and South America. The final section of this chapter offers an overview of the volume.

1 Setting the Scene

Every language has a way of referring to basic sources of sensory perception: through sight, through hearing, through smell, through taste and through touch. Every language has a way of speaking about how one knows what one is talking about, and what one thinks about what one knows. In every language, there are ways of phrasing inferences, assumptions, probabilities and possibilities, and expressing disbelief. The expression of perception and of cognition—thinking, understanding and 'knowing' things—spans grammar and lexicon.

The purpose of this volume is to offer a number of case studies—each based on firsthand data on previously undescribed or poorly known

languages—dealing with various aspects of the linguistic expression of perception and cognition. These can be encoded in grammar, through dedicated means for grammatical expression of information source known as 'evidentiality', perceptual distinctions in demonstratives, overtones of various complementation techniques, and many more.

As Franz Boas (a founding father of modern linguistics) put it, languages differ not in what one can say but rather in what kind of information must be stated (Boas 1938: 132). A certain concept can be expressed grammatically in one language but only by lexical means in another. For example, a certain language may have a two gender system (masculine and feminine), while another may have three genders, and yet another one may have no grammatical gender at all—just words for 'man' and 'woman'. Information acquired by seeing something can be expressed through the demonstrative system in one language, and through a special 'visual evidential' in another, while a third would just use a lexical verb 'see, look'. The ways of expressing information source are summarised in §2.

Every language of the world has lexical items (typically, verbs) of perception and cognition. This volume sets out to provide case studies on this so far understudied field in linguistics, dealing with the connection between language and the senses, and the varieties of perceptual language cross-linguistically. There are other possibilities of organizing the senses socially than those frequently referred to in earlier work on the topic—as Majid and Levinson (2011: 7) point out, 'languages are windows on the senses that we can hardly afford to ignore'. Of course, the notions of perception and cognition are relevant not just for linguistics. They have been in the centre of attention of a variety of other disciplines, among them psychology, philosophy, and anthropology in their various guises.

Anthropological perspective is another matter. The ways in which visual and auditory perception are conceptualized within a language may correlate with cultural practices, transmission of knowledge and ways of communication. Vision is the preferred 'sense' in many, especially Western, cultures (Ong 1982). Hearing is highly valued in others. Vedic texts in Hindu India are a case in point. These sacred verses are transmitted through oral recital (notwithstanding the fact that they also exist as written texts; cf. Levering 1989). In pre-colonial Hindu societies, knowledge of the Vedic texts was off-limits to members of lower castes. The Ramayana describes how boiling lead was poured into the ears of a lower-caste person who might accidentally overhear a Brahman reciting Vedic verses. Hearing something one is not allowed to may be dangerous. This goes together with the 'danger' of seeing something one is not supposed to;

examples include the punishment of Lot's wife in the Book of Genesis, and various taboos on women catching a glimpse of magic flutes in the East Sepik and North Amazonian cultures (§4).

It is certainly the case that other senses, besides vision, can be culturally salient. It has been suggested that Western culture correlates 'smell' with primitivity and barbarism (Corbin 1996, Beer 2000, Raab 2001). This idea permeates Patrick Süskind's novel *Perfume*. In other cultures, smell is associated with the maintenance of social order. For example, among the Kapsiki of Cameroon, the blacksmiths as a social group are identified with the smell of its totemic animal (Van Beek 1992, 2010).[1] Various senses such as smell and touch have played an important role in the conceptualization of social categories such as gender, holiness and marginality (see, for instance, Classen's 1998 seminal work). Since late antiquity, the 'inversion' of smells has been a symbol of 'holiness': the feces and rotting flesh of Christian saints and martyrs would smell of honey and flowers. The body would thus symbolize beauty, and ultimately salvation.

As Hill and Irvine (1992: 17) put it, 'knowledge is a social phenomenon'. So are the means of its acquisition—among them 'seeing' and 'hearing'. This is why a study of perception and cognition in any language would be incomplete without at least a glimpse into the ways of talking about perception, and the ways of knowing things.

In some languages, the expression of cognition is associated with hearing, seeing, smelling, or feeling in general. The concept of knowledge may be associated with auditory perception; the roots for this are likely to lie in the group's social history and attitudes to knowledge. Correlations between sensory perception and cognitive processes are as diverse as the cultures they occur in. There is hardly any doubt that universal claims concerning the preferred status of 'vision' (e.g. Viberg 1983, Sweetser 1990) are highly Eurocentric, and do not hold for the majority of non-Western societies.

In §4, we address possible social and cultural motivations for the expression of perception and cognition across the world's languages. A brief summary is in §5. The final section, §6, focuses on the aims, and the structure, of this volume.

[1] Similar values are attributed to smells among the Dassenech of Ethiopia: one distinguishes one's own group from other groups by smell (Almagor 1987). Further examples are in Finnegan (2002) and Drobnick (2006).

We now turn to a bird's eye view of grammatical devices covering various means of perception, and the ways of knowing things.

2 The Grammar of Perception and Cognition

In a number of the world's languages, every sentence must specify the information source on which it is based—whether the speaker saw the event, or heard it, or inferred it based on visual evidence or on common sense, or learnt it from another person. As Franz Boas (1938: 133) put it, 'while for us definiteness, number, and time are obligatory aspects, we find in another language location near the speaker or somewhere else, source of information—whether seen, heard, or inferred—as obligatory aspects'. This is the essence of evidentiality as grammaticalized information source, the topic of our next section.

2.1 *Evidentiality as Grammaticalized Information Source*

Evidentiality is a grammatical category which has source of information as its primary meaning—whether the narrator actually saw what is being described, or made inferences about it based on what they'd seen, or was told about it.

Tariana, an Arawak language (Brazil), has five evidentials marked on the verb.

- If I see José play football, I will say 'José is playing-*naka*', using the VISUAL evidential.
- If I heard the noise of the play (but didn't see it), I will say 'José is playing-*mahka*', using the NON-VISUAL evidential.
- If all I see is that José's football boots are gone and so is the ball, I will say 'José is playing-*nihka*', using the INFERENTIAL evidential.
- If it is Sunday and José is not at home, the thing to say is 'José is playing-*sika'*, using the ASSUMED evidential since my statement is based on the assumption and general knowledge that José usually plays football on Sundays.
- And if the information was reported to me by someone else, I will say 'José is playing-*pidaka*', using the REPORTED evidential.

Using a wrong evidential leads to miscommunication, and social exclusion: someone who does not use evidentials correctly would be deemed

incompetent. Omitting an evidential can produce ungrammatical and unnatural sentences.[2]

Expressions related to information source are heterogeneous and versatile. They include closed classes of particles and modal verbs, and a potentially open-ended array of verbs of opinion and belief. The term 'lexical evidentiality' is misleading in that it obscures these differences.[3] We now go through some features of evidential systems, and perceptional meanings associated with them.

2.1.1 *General Features of Evidential Systems*

Evidential systems vary in their complexity. Some distinguish just two terms. An eyewitness versus non-eyewitness distinction is found in Turkic and Iranian languages, in Luwo, a western Nilotic language (Chapter 2), in !Xun, a Khoisan language (Chapter 3) and possibly in Tima (Alamin, Schneider-Blum and Dimmendaal 2012). Other languages mark only non-firsthand information, for example, Abkhaz, a Northwest Caucasian language. Numerous languages, including Estonian, express only reported, or hearsay, information.

In a two-term system of eyewitness versus non-eyewitness (or firsthand versus non-firsthand), each term is semantically complex. The non-firsthand evidential in !Xun covers any kind of information which the speaker did not witness. This evidential subsumes what one has inferred, assumed or heard from another person through hearsay. The same evidential also has overtones of doubt and information one does not vouch for (§3.3 of König, this volume). The firsthand evidential is used to express what one has seen or heard—that is, apparently any type of sensory experience. This kind of evidential system is not uncommon cross-linguistically (see Aikhenvald 2006a: 26–9, 154–8). But this is the first time ever such system

[2] A further terminological remark is in order. Many linguistic terms have a counterpart in the 'real world'. 'Time' is what our watch shows. The term 'tense' refers to a grammaticalized—and limited—set of terms we have to use in a particular language. Along similar lines, 'evidentiality' is a category whose real-life counterpart is information source. Hardly any linguist will say that English has a 'yesterday' past tense, because there is a word for 'yesterday'. Similarly, it makes no sense to call verbs 'see' or 'hear' 'lexical evidentials' (as done in Diewald and Smirnova 2010).

[3] Further details on evidential systems, their nature and development can be found in Aikhenvald (2006a), (2006b), (2007), (2011a,b). Aikhenvald (2006a) is a comprehensive typology of evidential systems world-wide. A detailed overview of evidential systems in Amazonian languages is in Chapter 9 of Aikhenvald (2012).

described for an African language—which is what makes König's chapter a breakthrough.

Evidential markers may be compulsory in every clause, as, for instance, in Tariana (Arawak: Aikhenvald 2003), or Quechua (Chapter 4). Or they may just appear once per paragraph: this is the case in Baniwa of Içana, from the Arawak family (Aikhenvald 2002). In !Xun, evidential particles are only used if the speaker chooses to focus on the information source.

Evidentials may or may not have epistemic extensions, to do with probability and speaker's evaluation of the trustworthiness of information. The visual evidential in Quechua can refer to information the speaker vouches for (in Chapter 4, Adelaar mentions the relationship between evidentiality and certainty in Tarma Quechua). The non-firsthand evidential in !Xun may refer to something one does not know for certain (Chapter 3, this volume). In contrast, the nonvisual evidential in Tariana can refer to something one cannot quite see, but never to any overtones of doubt (a special dubitative modality expresses this meaning). Reported evidential in Estonian has an overtone of doubt. This is akin to how 'they say' in English may imply that the speaker does not really believe what is being reported. In contrast, in Quechua, Shipibo-Konibo and Tariana, the reported evidential does not have any such overtones.

Evidentiality does not bear any straightforward relationship to truth, or the validity of a statement, or the speaker's responsibility. Speakers of languages with evidentials can manipulate them to tell clever lies. Christa König (Chapter 3, examples 12 and 13) shows how one can use the wrong information source and the correct lexical item. Or one can use the right information source and the wrong lexeme.

Evidentiality is not a subcategory of the verbal category of modality or aspect. In fact, in many languages aspect, modality and evidentiality can be expressed within one grammatical word (see Aikhenvald 2006a, and chapters in Aikhenvald and Dixon 2003).

The maximum number of evidential specifications is found in past tenses, and in perfective aspect. This is easy to understand: the primary meaning of a perfective is to do with focusing on the results of an action or a process. An inference can be made based on the results or traces of a previous action or state. That is, a perfective form can easily develop overtones of a non-firsthand evidential, and it is with respect to the result that firsthand or non-firsthand information is easy to distinguish (see Comrie 1976: 110; Aikhenvald 2006a: 112–16).

In Luwo, just like in many other languages of the world, evidentiality (eyewitness versus non-eyewitness) is distinguished in perfective aspect

only (Storch, this volume), similarly to Shilluk, from the same family (Miller and Gilley 2007). Luwo is among the very few instances of evidentiality in Africa—which makes this system particularly exciting.[4]

2.1.2 *Evidentials and their meanings*

Semantic parameters at play in languages with grammatical evidentiality cover physical senses, several types of inference and of report. The recurrent terms are:[5]

I. VISUAL covers evidence acquired through seeing.
II. SENSORY covers evidence through hearing, and is typically extended to smell and taste, and sometimes also touch.
III. INFERENCE is based on visible or tangible evidence or result.
IV. ASSUMPTION is based on evidence other than visible results: this may include logical reasoning, assumption or simply general knowledge.
VI. REPORTED is used for reported information with no reference to who it was reported by.
VII. QUOTATIVE is used for reported information with an overt reference to the quoted source.

The means of perception grammaticalized within evidential systems include VISION and OTHER SENSORY perception. The latter typically covers auditory perception and anything one cannot see (examples in Aikhenvald 2006a: 173). Only a handful of languages have a special evidential just for what one has 'heard' with one's own ears.[6]

As far as we know, no spoken language has a special evidential to cover just smell, just taste, or just feeling. However, Catalan Sign Language is reported to have a special evidential marking smell (Sherman Wilcox, p.c.). This raises a question concerning the cognitive motivation for grammaticalizing one information source rather than another one, depending on

[4] However, a different evidential system is found in Maaka, a Chadic language (see Storch forthcoming, and Storch and Coly (in preparation)). This suggests that African languages are much more diverse in terms of grammatically marking information source than previously assumed.

[5] Based on an update of Aikhenvald (2006a). Earlier classification of evidential meanings are now outdated (see a comprehensive bibliography and summary in Aikhenvald 2011b).

[6] The few examples of that come from highly endangered languages, and are hard to interpret: Aikhenvald (2006a: 36–7).

the kind of language—whether spoken or signed. The issue goes beyond our present scope.

Not all evidentials are equal, in terms of their marking and their use.

2.1.3 *The Privileged Status of Visual Evidential*

An evidential which covers information acquired through VISION tends to be special. In many languages with evidentiality, the visual evidential, or the evidential which expresses firsthand information, typically acquired through vision or sensory source, is less formally marked than other evidentials. In Bora (Witotoan), Koreguaje (West Tucanoan) and Hup (Makú), visual evidentials are formally unmarked. In Archi (a Northeast Caucasian language), in Yukaghir (a Paleo-Siberian isolate) and in Retuarã (an East Tucanoan language), the unmarked verb implies that the speaker had witnessed the action or state with an appropriate sense (typically, saw, heard, or smelt something).[7] Along similar lines, in Luwo (§1.2 of Chapter 2), non-eyewitness evidential is marked with prefix *nàà*, while the eyewitness term does not receive a special marker.

What if I see something, and hear it, and can make inferences and assumptions about it all at the same time? In many languages, the visual evidential is the preferred—and functionally unmarked—choice when one has access to more than one information source, that is, if one saw something, heard it, and was told about the same thing at a further point in time. This was described for Tuyuca (Barnes 1984), for Kashaya (Oswalt 1986: 43) and then further developed in Aikhenvald (2006a: 307–8; 2012: Box 9.1).

But stating that one 'has seen' something one actually has not, may be inappropriate. Aymara, an Andean language, has an obligatory system of evidentials reminiscent of Quechua in its organization and its structure. In her insightful study of the Aymara speech practices, Hardman (1986: 132–3) reminds us that every Aymara child is taught an important proverb: 'Seeing, one can say: "I have seen", without seeing one must not say "I have seen" '. In the Tariana and Tucanoan-speaking communities, a shaman, with his supernatural powers, can 'see' things which an ordinary person does not have access to. 'Seeing' is thus a correlate to privileged access to knowledge as power.

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[7] See Aikhenvald (2006a) for these and other examples, and references. In Tariana (Arawak) and many neighbouring East Tucanoan languages visual evidential is the least formally marked (Aikhenvald 2002).

Persons who overuse the visual evidential may be dangerous: they may have hidden powers of a shaman. This special status of vision as the preferred information source is reflected in another Aymara proverb 'Seeing, speak; without seeing, don't speak' (Hardman 1986: 132–3).

What is so special about visually obtained information? We return to this in §5.

2.2 *Information Source Through Means Other Than Evidentials*

In many languages, epistemological meanings—to do with how one knows things—can be expressed without a dedicated form whose primary meaning is information source. A conditional mood in French, a perfect aspect in Georgian, desubordinated participles or a passive voice in Lithuanian have developed evidential-like meanings as a 'side effect'.[8] These are known as 'evidentiality strategies'.

Meanings related to perception—visual or auditory—can be encoded within the grammar through other systems. A number of languages have a grammatical system of demonstratives with one or more terms referring to visible objects. Visibility in deictic systems may correlate with proximity to the speaker, and/or to the addressee and/or to a third person. Kwakiutl, a Wakashan language with at least three evidentiality terms (Boas 1910), has six demonstratives, with an obligatory visible/non-visible distinction: 'visible near me, invisible near me; visible near thee, invisible near thee; visible near him and invisible near him'.

The exact semantic content of what is covered by 'visible' and 'invisible' varies from grammar to grammar. Palikur (Arawak) distinguishes objects in the speaker's hand, those near to speaker and to hearer, those far from both but visible, and those far and invisible (Aikhenvald and Green 1998). 'Visibility' of the object is often a concomitant feature of near deixis; this is the case in Tariana *hĩhĩ* 'this (emphatic) near you and me'.[9]

Audibility appears to also be relevant for some demonstrative systems: 'non-visible' objects may be audible. Muna (Austronesian: van den Berg 1997: 199–201) has a seven-term system: 'near speaker', 'near addressee', 'away from speaker and addressee, but nearby', 'far away, lower than or level with point of speaking or orientation', 'far away, higher than point

[8] See Dendale and van Bogaert (2007) on French, Gronemeyer (1997) and Wiemer (2007) on Lithuanian, and Giacalone Ramat & Topadze (2007) on Georgian.

[9] A comprehensive typological overview of demonstratives and their meanings is in Dixon (2010b: 223–61).

of speaking or orientation', 'not visible (may be audible), unspecified for time', and 'not visible, was in view but no longer is'. Santali (Munda: Neukom 2001: 42–4) has a special series of demonstrative pronouns (used as modifiers in a noun phrase and also adverbially) referring to what is seen, or to what is heard.

Dyirbal (Australian: Dixon 1972, R. M. W. Dixon p.c.) has a three-term system of noun markers: *bala-* 'referent is visible and not near speaker'; *yala-* 'referent is visible and near speaker'; and *Nala-* 'referent is not visible (but may be audible or remembered from the past)'. There is also a set of verb markers which have some morphological correspondence with noun markers. They provide locational qualification for the verb. The markers with initial *ŋa-* refer to something non-visible and inaudible, as in (1), non-visible but audible, as in (2), and something remembered from the past, as in (3). The relevant forms are in bold face:

(1) **ŋa-n-galu**$_S$ jañja ban$_S$ garri$_S$
NON.VISIBLE:ABS.FEM-OUT.IN.FRONT NOW THERE:ABS.FEM sun
the sun (which could not be seen) was going away out in front now (i.e. setting)

(2) **ŋayi-n-galu**$_S$ bayi$_S$
NON.VISIBLE:ABS.MASC-LINKER-OUT.IN.FRONT THERE:ABS.MASC
bani-ñu
come-PAST
he could be heard coming along out in front

(3) **ŋa-gu-l-daya** bulunja-gu
NON.VISIBLE-DATIVE-MASC-MID.DISTANCE.UPHILL FATHER'S.FATHER-DATIVE
añja ŋayba banagay-gu
NEW.ACTION 1SG return-PURPOSIVE
and I'm going back to my father's father remembered place a medium distance uphill (to die there)

This is an example of a rather unusual system whereby a deictic-type marker has a wide range of perceptual meanings. This is in addition to numerous lexical ways of expressing the notion of 'seeing, looking'.

No demonstrative system has yet been found which would have a special term for information acquired through smell or touch. This is similar to evidentiality systems where sensory meanings other than 'seeing' and just occasionally 'hearing' never acquire special expression in spoken languages. Unlike evidentials, visual demonstratives hardly ever have epistemic overtones of certainty.

That visibility is not infrequently encoded in demonstrative systems goes hand-in-hand with their nature. Their primarily deictic function is intrinsically linked to personal experience of the speaker and of the hearer, and often involves access to visual information. Evidentials in statements always reflect the information source of the speaker. In contrast, demonstratives with perceptual meanings may combine reference to what can be seen by the speaker, by the hearer or by both.

Modal verbs, particles, parentheticals of various sorts, speech reports and even facial expressions, can be used to express inference, assumption, and attitude to information—whether the event is considered probable, possible or downright unlikely. Over time, any of these can grammaticalize into an evidential (see Aikhenvald 2011a).

Evidential and non-evidential categories may correlate with the type of information, attitude to it, and ways of knowing things in yet another way.

2.3 *Type of Information, and Type of Knowledge: The 'mirative' Puzzle*

Many languages of the world have a grammatical form or construction expressing information which is new or surprising to the 'unprepared mind' of the speaker, or the hearer (DeLancey 2001). This is the essence of 'mirativity'. Some languages employ non-visual evidentials for information of such sort.

The evidential marker *-rke-* in Mapudungun, an isolate spoken in the Andean areas of Chile and west central Argentina, is a prime example (Smeets 2007: 246–7; 110). In (4), *-rke-* (with its allomorph *-ürke-*) (in bold face) refers to reported information:

(4) kuyfi miyaw-**ürke**-y mawida mew
long.ago walk-**NON.FIRSTHAND**-INDICATIVE forest through
long ago s/he wandered through the forest (it is said)

This same evidential form, *-rke-*, can have a mirative meaning, to do with surprise and new information. If one sees someone one did not expect to see, one can exclaim:

(5) miyaw-pa-**rke**-ymi
walk-CISLOCATIVE-**NON.FIRSTHAND**-2SGINDICATIVE
so you are (around) here! (What a surprise!)

Similar uses of non-firsthand evidentials have been described for many languages of the world (see an overview in Aikhenvald 2006a: 197–209).

Dedicated marking of 'surprise', 'unprepared mind' and unexpected information does not have to part of an evidential system. Hone, a Jukun language, has a special set of 'mirative' pronouns covering this set of meanings (Storch 1999, 2009). Evidentiality, on the one hand, and surprise and 'unprepared mind', on the other hand, form independent grammatical systems in !Xun (König, this volume) and in Quechuan languages (Adelaar, this volume).

A particle *ko hà* in !Xun marks surprise at something the speaker did not expect (section §3.4 of Chapter 3). The marker can occur in questions and in statements. Unlike evidentials in !Xun which reflect the information source of the speaker, the 'mirative' can also mark the information 'surprising' and 'new' to the addressee. This is especially illustrative in the contexts where the 'mirative' marks information which is supposed to 'fool' the unexpecting addressee (examples (40) and (43) in Chapter 3).

The 'mirative' in !Xun has yet another, purely discourse-based function: it marks 'the main point of the story' (see (41a–b) of Chapter 3). This usage is remarkably similar to the ways in which evidentials are manipulated to create special discourse effects. For instance, in Abkhaz, a Northeast Caucasian language, crucial and unexpected 'asides' can be cast in the non-firsthand evidential (Chirikba 2003: 317).

The 'mirative' in !Xun can combine with an evidential, and is in a complimentary distribution with the counterexpectation marker *kò*. The latter is used if something expected fails to take place (§3.5 of Chapter 3). Just like the 'mirative', the counterexpectation marker may reflect the attitude of the speaker, or the hearer, or both. It has strong overtones of an irrealis since it is restricted to situations which did not take place, and can also be used with a deontic ('should' or 'should not') meaning.

A number of Quechuan languages, spoken in the Andean area and especially in the Peruvian Andes, have a special set of verbal forms whose major meaning is surprise, unexpected information and general 'unprepared mind'. These forms are known under a variety of terms, the most frequently used being the 'unexpected discovery tense' (since it can be considered a term in the tense paradigm). Its main meaning is very similar to what is captured by the cover term 'mirative'. Hence the title of Chapter 4, 'A Quechuan mirative?'. Just like in !Xun, 'mirative' is a grammatical system in its own right, and is independent of evidentials and aspects.

The Quechuan 'mirative' cannot be used in negative clauses (in contrast to !Xun). This agrees with a general tendency across the world's languages:

that fewer categories are expressed in negative than in positive clauses. In some languages (including Maricopa, a Yuman language), evidentials are not used in negative clauses (see a detailed discussion in Aikhenvald and Dixon 1998). Along similar lines, fewer aspect categories are expected to be used in negative than in positive clauses. This is also the case in Tarma Quechua, the main focus of Chapter 4, where aspectual distinctions are neutralised under negation (§7).

The meanings of the Quechuan mirative cover surprise, unexpected outcome of an action, and also situations which are out of speaker's control. Actions performed during one's sleep or in a state of unconsciousness are described using mirative. And so are dreams. In many languages of South America, non-firsthand, non-visual or reported evidentials are used in exactly the same function (see Kracke 2010, and summary in Aikhenvald 2012).

The 'mirative' can occur with direct and with reported evidentials. While an evidential refers to the information source, 'mirative' marks the kind of information (unexpected, new or surprising). Just like in !Xun, the mirative can occur in questions, to encourage the addressee to perform an experiment—that is, an action with a yet unknown result (§8 of Chapter 4). The Quechuan mirative can refer to the information that is new and unexpected both to the speaker and to the addressee—again, just like in !Xun. This is in stark contrast with most descriptions of mirative extensions of evidentials (as in (5) above): these almost uniformly reflect just the surprise of the speaker, and not of the addressee.

But are the Quechua 'mirative' and !Xun 'mirative' exponents of cross-linguistically the same category? In !Xun, this category is linked with emotionally loaded exclamations. In Quechua, it is not. Neither does it always reflect the 'unprepared mind' of the speaker. And in !Xun, 'mirative' appears to be in a paradigmatic opposition to a counterexpectation marker. Not so in Quechua.

'Mirativity' as a notion is a relatively recent arrival on the linguistic scene (see DeLancey 2001; and Aikhenvald 2006a: 209–15, for a brief survey). The term has been used to subsume an array of rather different meanings. It is not yet clear whether any marker of new or unexpected information would always qualify as a 'mirative', or whether a 'surprisive' could be identified as a category independent of 'mirative' (as Adelaar, this volume, suggests for Quechua)? The jury is still out.

All we can say with some degree of certainty at the present stage is that !Xun, Quechua, and a few other languages have special means for marking the type of new and unexpected knowledge, different from marking

the way in which the knowledge was obtained (that is, from the information source). Contributions like those by König and by Adelaar are crucial in our endeavour to achieve a general perspective on the ways in which languages express information source and information type (new, unexpected, and/or surprising).

2.4 *Information Source in Grammar: An Interim Summary*

Grammatical evidential systems are closed and restricted, with limited choices available. The scope of grammatical evidentials is usually the clause, or the sentence. In contrast, other means of expressing information source offer open-ended options in terms of their semantics, and can be more flexible in their scope. Information acquired through vision, or through firsthand access to it, appears to have a privileged status in the choice of an evidential.

In languages with evidentials, these are never the only means of expressing information source. Verbs, adjectives, adverbials, and speech reports may provide additional detail, to do with attitude to knowledge. We now turn to the lexical expression of perception and cognition.

3 Lexical Expression of Perception and Cognition

Every language has lexical items covering the basic senses—what one sees, what one hears, what one smells, tastes, touches and feels. And there may be an array of lexical devices expressing 'knowledge' and related notions of assumption, inference, opinion, and emotions. Not every language distinguishes the same set of terms. We start with an example.

3.1 *'See', 'hear', 'perceive': An Illustration*

Warekena of Xié, a highly endangered North Arawak language from northwest Amazonia, has one verb, *-eda*, covering 'seeing and looking at (something)' and 'hearing and listening'. The verb is ambitransitive and active ($A=S_a$). In (6) it means 'see'.[10] The verb is in bold face.

[10] See discussion in Aikhenvald (1998). All examples are from texts or natural conversations collected with the speakers of Warekena by Aikhenvald (1991–2012).

(6) yariwa nu-sa natina-hã iʃarema **neda-hã**
now 1sg-go 1sg+tell-PAUSAL what/how **1sg+perceive-PAUSAL**
eni-hi kurupira
this-PAUSAL evil.spirit
now I shall tell how I saw the evil spirit

To refer to 'hearing' something or 'listening' to something, one can use the expression *-eda yuʃana* (literally 'perceive voice'), as in (7):

(7) **nida** yuʃana utsipie ni-wayata
3pl+perceive voice bird 3pl-speak
they hear the voice of birds singing

The exact reading of *-eda* is determined by context. In (7), *-eda* is normally understood as 'hear' or 'listen'—this is what typically happens when birds are around. The expression *-eda yuʃana* can also mean 'understand' (as in *benamitʃi nida yuʃana* 'they do not understand anything' (Ana Paula Baltazar, the oldest living speaker of the language). This same verb can also mean 'reckon, judge', as in (8):

(8) wa-ʃa weda damari yutsi-ri para-hã
1pl-go 1pl+perceive who strong-ADJECTIVISER run-PAUSAL
let's reckon who is stronger in running

A different verb, *-beda*, is used with the meaning 'taste' (typically, food):

(9) nu-beda-da-hã miʃi ura-mia-ri-hĩ
1sg-try-RED-PAUSAL meat soft-PERF-RELATIVISER-PAUSAL
I am trying the meat (several times) if it is soft (Lit.: meat which is soft).

The verb meaning 'smell (something or someone)' is *-ʃimeta*. It is cognate to a causativised form of the verb meaning **-kɨma* 'hear, listen, think' in related Arawak languages (Aikhenvald 2002, Appendix 2). None of the verbs referring to perception can be used for cognitive processes. There is a verb meaning 'think, reason', *-puriyuta* (whose etymology is unknown). All the verbs of perception and cognition in this language are active ambitransitive ($A=S_a$). That is, the verb 'perceive' cannot mean 'be perceived' (a passive derivation has to be used to express this meaning).

Warekena is not unique in using the same verb to express the two major sources of perception, visual and auditory. In Yir-Yoront, and Gugu Yalanji (Australian area) the same verbal root is used for 'see, look at;

hear, listen' (Evans and Wilkins 2000: 556, Alpher 1991: 61, Hershberger and Hershberger 1982: 135). In another Australian language, Guugu Yimidhirr, the verb *nhaa-* means all of 'see, look, hear, think, seem' (Haviland 1989: 29).

In a few other Australian languages, an auditory meaning is rendered by adjunction or incorporation of a noun designating the body part used, as in Djabugay *ngundal* 'see, watch, look at', *bina ngundal* (ear see, watch, look at) 'hear, listen' (Patz 1991).[11]

The form meaning 'see' and 'hear' in Gugu Yalanji and Guugu Yimidhirr may have meant just 'see' at an earlier stage.[12] The Warekena form *-eda* is cognate with the verb 'see' in related Arawak languages (e.g. Bare *-yada* 'see, look': Aikhenvald 1995). And in Luwo, the verb 'see, realize' has an additional meaning 'hear, obey' (§2.1 of Chapter 2). This may demonstrate the direction of semantic change, from 'see' to 'hear', but at the same time could be the consequence of in-built polysemy, which, in perception verbs, is salient in Luwo.

There are examples of semantic development in the opposite direction (contrary to Viberg 1983, 1984, 2001). In Kolyma Yukaghir, a Paleo-Siberian isolate, a construction whose primary meaning is 'auditory' can be used for situations describing visual experience (Maslova 2004).

Synchronically speaking, however, the Warekena verb *-eda* is best treated as a generic verb 'perceive'. Its overtones to do with sight or hearing are typically inferred from the context or disambiguated if required. This is similar to a generic verb of perception and cognition *nŋ* in Kalam, from the Kalam-Kobon family (Pawley 1994: 392) (and see §3.2). A generic verb 'perceive' covering several kinds of sensory information is reminiscent of a general 'witnessed' or 'firsthand' evidential term covering any sensory perception (as described for Luwo in Chapter 2, !Xun in Chapter 3, and for Quechuan languages: see Weber 1986, and Chapter 4).

We now turn to a brief overview of recurrent patterns. Before we proceed, some terminological remarks are in order.

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[11] Note similar examples from Gugu Yalanji are in Hershberger and Hershberger (1982: 135) (also see Evans and Wilkins 2000: 556–8 for a few other examples).

[12] The nature of genetic and areal relationships between Australian languages is complicated. In his comprehensive analysis of Australian languages, their nature and development, Dixon (2002) casts doubts onto the viability of Pama-Nyungan versus non-Pama-Nyungan as bona fide genetic groupings. This is the reason why we refrain from using these terms in this chapter.

3.2 *How Many Meanings?*

In many languages of the world, verbs 'see' and 'hear' go beyond perception. Sweetser (1990) claims—on the basis of a selection of Indo-European languages—that the verb of visual perception 'see' is a universal source for metaphorical extension to verbs of cognition such as 'think' and 'know'. In an in-depth study of Australian Aboriginal languages, Evans and Wilkins (2000) demonstrated that this does not hold outside the familiar European domain. Verbs of cognition are 'recruited' from verbs referring to auditory perception. García-Ramón (2010) has demonstrated that in ancient Indo-European languages—for instance in the Anatolian family—all possible relations between perception and cognition exist: not only vision and auditory perception, but also touch, smell and taste are documented as sources for 'know'.

As we will see throughout this volume, this is also the case in many languages across Africa and Papua New Guinea. In Manambu, a Ndu language from New Guinea (Chapter 6), the same verb has the meaning of 'hear, listen, think, smell, obey, understand, worry, miss, be sorry about'. In Korowai, an isolate from New Guinea, one lexeme is used to express auditory perception, obedience and knowledge (§3.1.1 of Chapter 5). In Lussese, a Bantu language, the verb *-húlirà* means 'hear, listen, feel, and obey' (Chapter 10). In Hausa, from the Chadic branch of Afroasiatic, the verb *ji* means all of 'hear, feel, taste, smell, experience, understand, know, be concerned, be immersed into something, be or become affected, suffice' (Bargery 1951: 497ff).

Each of these lexemes can be considered polysemous. This means that we postulate that each has several distinct albeit related meanings (cf. Lichtenberk 1991). However, not infrequently, different meaning overtones of the same lexeme surface in different grammatical contexts. The verb *wukə-* in Manambu means 'listen' as a controlled activity if one of the following conditions apply: (a) its object is marked with locative-accusative case, or (b) the verb is accompanied with a directional, or (c) the verb occurs in the imperative form (see Table 6.3 in Chapter 6). The same form acquires an uncontrolled meaning of 'hear' if none of these conditions hold.

Different meaning overtones may thus be in complimentary distribution depending on grammatical contexts. This is reminiscent of heterosemy.[13]

[13] Defined by Lichtenberk (1991) as a relation in which related, and often identical forms and their different (and related) senses may belong to different grammatical categories,

In a nutshell, the difference between the two is as follows. Polysemy allows us to postulate one lexeme. Heterosemy presupposes the existence of several related lexemes, each surfacing in a different grammatical context.

Suppose a verb in a language refers to a kind of perception ('hear' or 'listen'), to a cognitive process ('think' or 'understand') and to a type of social behaviour ('obey'). Yet the speakers recognise it as one. As Evans and Wilkins (2000: 563) put it,

> we could be dealing either with an entire semantic system that does not systematically distinguish perception from cognition, or at least some verbs that abstract away from the difference, with the result that we have a vague rather than a polysemous meaning.

In his description of perception and cognition verb *nŋ* in Kalam (Kalam-Kobon family, Papuan area), Pawley (1994: 392) suggests that this verb has a unitary meaning, merging perception and cognition. As Pawley puts it,

> in different contexts *nŋ*, occurring as the lone content verb in a clause, may be glossed as "know, be conscious, be aware, be awake, see, hear, smell, taste, feel, recognise, notice, understand, remember, learn, study".

This fits in with the nature of verbal semantics in Kalam, a language with a small closed class of verbs each with a fairly broad generic meaning. Having a closed or fairly small class of verbs with generic semantics is a feature of numerous Papuan languages (see Pawley 1993 on Kalam; further discussion in Lang 1975 and Aikhenvald 2009: 101–2). What we, as speakers of European languages, would consider an extension of meaning, could be an integral part of meaning itself for a native speaker of a non-European language, such as Kalam or Hausa.[14] This aspect has been constantly brushed aside in Eurocentric discussions of perception and cognition (e.g. Sweetser 1990, Viberg 1983, 1984, 2001): the notions of 'intrafield' and 'transfield' polysemy are applied to any language being discussed without looking at the way meanings are organized in that language. This ad-hoc analytic approach inevitably leads to an oversimplification.

For the purpose of this volume, we will focus on a 'meaning complex' or 'semantic systems' which can be established for each particular lexeme under discussion. This approach may make it largely unnecessary

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determined morphosyntactically. Some scholars extend the notion of polysemy to include heterosemy (e.g. Lyons 1977).

[14] This issue, and the difficulties with distinguishing 'basic' from 'non-basic' meaning, was brought up by Lourens de Vries and R. M. W. Dixon at a local workshop on perception and cognition at Language and culture research group, JCU.

to refer to the notions of 'intrafield polysemy' (e.g. polysemy of the verb *-eda* 'see, look, hear, listen' spanning several meanings within the field of 'perception' in Warekena) and 'transfield polysemy' (e.g. semantic overlap between perception and cognition of the verb *dai-/da-* 'hear, listen, know' in Korowai, Chapter 5). We leave it to individual authors within the present volume to decide whether they follow the 'polysemy' and 'semantic extension' approach, or consider each meaning complex as a holistic semantic system where every overtone has an equal status.

3.3 *Verbs of Perception and Cognition, and Their Semantic Systems*

3.3.1 *On Typological Parameters*

A proper typological study of verbs of perception and cognition is still in its early stages. This is partly so because of researchers' focus on limited samples, and partly so because of difficulties in obtaining fine-grained semantic analyses of semantic systems of languages outside Europe (Australian languages being a notable exception).[15]

An oft-quoted typological study of lexicalization patterns of perception and cognition verbs by Viberg (1983, 1984, 2001) is limited to just over 50 languages (with hardly any from the Pacific, and South America). Basic distinctions in verbs of perception introduced by Viberg are problematic. In particular, his distinction between Activity-controlled and Experience-controlled perception verbs (such as English *look at* versus *see*) is of limited usefulness. It is indeed the case that some languages have distinct lexemes for both (see Table 5 in Evans and Wilkins 2000: 554). Dongolawi (§3 of Chapter 8, this volume) has different lexemes just for controlled and non-controlled touching. Controlled and non-controlled meanings for taste, hearing and sight involve the same lexeme.

In many languages, however, the meaning of the same verbal form depends on the construction. In Kayardild *marrija* typically means 'hear' in declaratives, and 'listen' in commands (where subject's control is implied: Evans and Wilkins 2000: 554–5). Similar instances are described for Manambu (see §3.2 in Chapter 6), Dongolawi (§3.1.1 of Chapter 8) and Tima (Chapter 9). The overtone of control is a general feature of commands and imperatives (Aikhenvald 2010: 150–3). So, this meaning distinction is what we would expect.

[15] See Dixon (2010a), for a criticism of sampling methodology, and Jungraithmayr (2004) for a criticism of Eurocentric approach towards non-Indo-European languages.

That is, cross-linguistically speaking, the distinction between 'activity' and 'experience' in verbs of perception is often a corollary of the construction in which one single lexeme is used.

Viberg's third type of perception verb is 'source-based copulative (state) construction' from which the perceiver is omitted, as in English *the painting looks old, the talk sounds interesting*, or *the daughter's brow felt feverish*. The terminology itself is highly dubious, since the copular status of *look, sound* and *feel* in these examples is debatable. Verbs of perception used in such a construction may differ from corresponding transitive verbs with controlled and non-controlled meanings—just as in English *hear, listen* and *sound* are different lexemes.

In other cases, a 'source-based copulative construction' is just an instance of an ambitransitive (or labile) verb. The verb *marrija* in Kayardild means 'sound' in constructions like 'I hear that man (as) drunk', that is, that man sounds drunk. In Boumaa Fijian the verb *rogo*(*-ca*) is an S=O ambitransitive and may mean all of 'hear, listen' and 'be audible' (R. M. W. Dixon, p.c.: Lu 2010, and Chang 2010 provide similar examples from Maonan and Tsou). That is, seemingly different semantics of verbs of perception is a corollary of their transitivity patterns. It would be a worthwhile task to provide a cross-linguistic investigation of transitivity of verbs of perception and cognition (also see questions raised in §3.3.2) as a background to further typological analyses.

Such 'typically "derived" nature of the source-based set' (as Evans and Wilkins 2000: 555 put it) and the nature of differences between controlled activity and uncontrolled experience in perception verbs invalidates the basic typological parameters Viberg is operating with.

Viberg assumes that if a perception verb in one language may be translated by several verbs into English, we are automatically dealing with a 'polysemy'. As we saw in the previous section, this is an oversimplification. He goes on to claim that 'polysemies' of perception verbs follow a hierarchy whereby 'vision' is the preferred sense. The following universal ordering of means of sensory perception is assumed to determine 'intrafield' extensions of verbs of perception:

Sight > Hearing > Touch > Smell/Taste

A number of exceptions to this unidirectional path were demonstrated in §3.1. Importantly, the 'hierarchy' is based on false parameters of typological variation and on a dubious assumption of intrafield polysemies.

Sweetser (1990) also claims that vision—rather than any other sense—is the only source of 'transfield' extensions from perception to cognition. Her argument in favour of 'vision' as the most important means of sensory perception was criticised by Evans and Wilkins (2000), based on information from Australian languages. Most chapters in this volume point in the same direction.

Within this volume, we limit ourselves to the linguistic expression of five basic senses—sight, hearing, smell, taste and touch.[16] There is no doubt that in many languages of the world perception and cognition are expressed through the same lexical means. Vision, or auditory perception, may be linked to cognition. Or there may be a general verb of 'perception' covering cognitive processes of understanding and thinking. Whether or not we can talk of a diachronic 'development path', from perception to cognition, or whether cognitive and perceptual meanings form one conceptual package, largely depends on the individual language and its semantic organization.

3.3.2 *Verbs of Perception, and Cognition: A Special Subclass*

If a verb can refer to several ways of perceiving or knowing things, how do speakers understand each other? This can be done through pragmatic inference. We saw in §3.1 that in Warekena 'perceiving' a bird is typically associated with hearing it sing, or listening to it, and 'perceiving' an evil spirit means 'seeing' it. Kirsner and Thompson (1976) show that, in English, 'I see that' may mean 'I see (that something is happening)' and 'I understand (that something is happening)', and that the context decides which interpretation is appropriate.

What looks like the same form takes on different overtones in different grammatical frames. Goddard (1994: 237) provides criteria for distinguishing three senses of *kulini* 'hear, listen; think; heed, listen to, obey' in Yankunytjatjara (also see Evans and Wilkins 2000: 564–6, and §3.2 above). If *kulini* means 'think', it takes a quotational clausal complement. In its meaning 'hear, listen', *kulini* takes a nominalized clausal complement. If the meaning 'heed, listen to, obey' is implied, *kulini* takes a locative clause complement.

[16] As did Evans and Wilkins (2000: 555). Note that some of the contributions within this volume make reference to Viberg's 'typology' for lack of any other typological study. We hope that, as new linguistic systems are being described, a new and more comprehensive typology will be worked out.

All this points towards special grammatical status of perception verbs. In the great majority of languages, verbs are an open word class, with a notable exception of a number of languages in New Guinea (including Kalam: Pawley 1993, 1994). Within this class, verbs of perception, cognition and sometimes inner states in general (including emotions) may display special grammatical features which set them apart from the rest.[17]

The choice of a complementizer or a type of complement clause may serve to express meanings related to how one knows a particular fact. In English, different complement clauses distinguish an auditory and a hearsay meaning of the verb *hear*: saying *I heard John cross the street* implies that I did hear John stamping his feet, while *I heard that John crossed the street* implies a verbal report of the result. A *that-* clause with perception verbs can refer only to indirect knowledge (see a concise analysis of complement clauses with verbs of perception in English in the context of complementation in general, by Dixon 2005: 270–1). Similar phenomena have been described, by Dixon (1988: 267–79), for Boumaa Fijian.

In Manambu and in Korowai, verbs of perception have special complementation strategies. In both languages, the way of saying 'He saw that his older brother was asleep' is 'He saw, and/while his elder brother was asleep' using a medial clause within a clause chain (§3.2 of Chapter 5 and §2.1 of Chapter 6). In Khwe-//ani, perception verbs obligatorily occur in serial verb constructions (Chapter 7). Verbs of perception in Dongolawi (Chapter 8) form serial verb constructions of unusual types. Tables 1 and 3 in Chapter 6 summarize the different grammatical contexts which serve to disambiguate overtones of verbs of visual and auditory perception, cognition and 'trying', tasting and 'experiencing' in Manambu.

Verbs of perception and cognition can display special properties in terms of their argument marking. In a number of Northeast Caucasian and in South Caucasian languages, their subject (the 'Perceiver': see Dixon 2005) is marked with dative case rather than with nominative or ergative case (Onishi 2001); this is a feature they share with verbs of emotions. The case marking of objects of the verbs of perception in Manambu and other languages from the Ndu family helps distinguish their meanings (Chapter 6, this volume).

Perception verbs in Luwo (§2 of Chapter 2) allow the omission of a perfective marker, which is impossible with action verbs. In Lha'alua, an

[17] To be further addressed in Aikhenvald (forthcoming).

Austronesian language from Taiwan, if the verb *kita* 'see, look' is used in progressive aspect, it has the controlled meaning 'look' rather than 'see' (Pan 2012).

Verbs of perception and also of cognition may be limited in terms of whether they can take derivational affixes. In Tariana, the verb 'see' cannot be passivised or causativised, and can occur in only a few idiomatic symmetrical serial verbs. In Manambu neither 'see, look' nor 'hear, listen' can occur in a full range of compounds (Chapter 6), or be causativised.

In their imperative forms, verbs of perception often lexicalise as discourse markers. The Italian form *Guarda!* 'look!' is frequently used as a means of entitling the speaker to break into a conversation—implying that they have something extremely important to say which requires immediate attention (Waltereit 2002). This form is used in situations when no 'looking', or showing, is asked for—the form has developed into a discourse marker meaning 'I have something to say that justifies an interruption'. A similar pathway could be constructed for English *Look* or *Look here*, Spanish *Mira*, Portuguese *Olha* or *Veja* (*bem*) 'Look', 'See (well)', each of these forms is a powerful device of 'floor-seeking' in conversation, and also attention-getting devices and conversation sustainers. Vanhove (2008: 357) describes a similar usage for Wolof *gis* 'you see' used in a 'phatic function, in order to attract attention to a piece of information'. The imperatives of 'see, look', 'hear, listen' and 'know' are often used in Modern Hebrew as attention getters (Malygina 2001: 284). Similar patterns have been described in Turkic languages (Nasilov et al 2001: 215). The erstwhile singular imperative of 'hear' in Russian only survives as a somewhat obsolete attention getter (Aikhenvald 2010: 246–7).

Not infrequently, verbs of perception grammaticalize into exponents of different categories. These include, among others, a passive marker as in French (and perhaps Archaic Chinese: Heine and Kuteva 2002: 270, citing Alain Peyraube, p.c.). A negative existential in Warekena, *beda* (*ba-* 'impersonal' + *-eda* 'perceive, see/hear') with the negative *ya-* . . . *-pia*) is based on a negated form of 'perceive'. Verbs of perception may develop into exponents of negative imperative. This is also the case in Warekena:

(10) pida pi-wayata
2sg+perceive 2sgl-talk/tell
don't tell (anyone)

A positive or a negative verb of visual perception may express warning, as, for instance, English *look out* and Latin *vide* (Löftstedt 1966: 94). In Tatar, a

Turkic language, apprehensive meaning 'lest' is expressed through a combination of a main verb (in the form of a converb) and the prohibitive of *kür-* 'see' (Nasilov et al. 2001: 194–5):

(11) jegýla kür-mä!
fall.CONVERB 'see'-PROHIBITIVE.2SG
beware not to fall! (Lit. Don't see falling!)

In Shor, also Turkic, apprehensive is expressed with a prohibitive form of the verb and the particle *kör* 'watch out, beware!', itself a fossilized second person imperative singular of the verb *kör* 'to see'. Russian has a similar construction, literally, 'look, don't VERB' to mean 'make sure you don't VERB (or else something bad may happen)' (note that this is the only instance where perfective aspect appears in negative imperative in the language). The verb *kita* 'see, look' in Lha'alua is used in the meaning of 'beware' (in an imperative form) (Pan 2012):

(12) k-um-ita-mau
look/see-ACTOR.VOICE-look/see.ACTOR.VOICE.IMPER-STRONG.REQUEST
likilhi!
vehicle
beware of the vehicle(s)!

Verbs of vision frequently grammaticalize into visual evidentials (examples come from Maricopa, a Yuman language, and Shibacha Lisu, from the Tibeto-Burman family: Aikhenvald 2011a: 604–5). A verb meaning 'hear, listen' may grammaticalize into a non-visual sensory evidential (this is the case in Wintu, in Shibacha Lisu and in Tariana). In §5, we return to correlations between lexical and grammatical expression of perception.

3.3.3 *Semantic Systems of Perception and Cognition: A Bird's Eye View*

We have seen that in quite a few language the same form may refer to telic and controlled 'looking' and atelic uncontrolled 'seeing' and 'noticing'. Another lexeme will refer to 'listening' and to 'hearing'.

The same form can refer to what one 'sees' or 'looks at', and a variety of other means of perception. We saw in §3.1 above that in Kolyma Yukaghir and in a few Australian languages (mostly from the Cape York Peninsula region) the same form refers to 'seeing' and to 'hearing'. The same form can also be used for cognitive processes, 'knowing' and 'understanding'. Proto-Indo-European **weid-* 'see' developed into Greek *eīdon* 'see', perfect *oida* 'know', and Latin *video* 'see' and Irish *fios* 'knowledge', cf. also Dutch *weten*,

German *wissen* 'know', English *wise, wit*, Russian *videt'* 'see', *vedat'* 'know' (further discussion and examples are in Ivanov and Gamkrelidze 1984). This is a typical path for Indo-European languages but is far from universal—cf. §3.2, and criticism of Sweetser (1990) by Evans and Wilkins (2000).

Cognitive overtones (or 'extensions') of verb(s) of vision are not restricted to Indo-European languages. 'See, find' describes understanding and realising something in Luwo (§2.1 and §3 of Chapter 2), with an additional meaning 'hear, heed, obey'. In Korowai (§3 of Chapter 5), the verb *i-/imo-/ima-* means 'see, look'; its perfective forms mean 'know' (a meaning the verb 'see' shares with the verb 'hear' in this same language).

Along similar lines, in Kasem, a Gur language, vision is associated with 'deep understanding': the verb *ña* 'see, catch sight, discern, perceive distinctly' also refers to 'understand, realize'. 'Understanding' and 'seeing' or 'looking' are expressed with the same lexeme in Swahili and Wolof, and, albeit marginally, in Beja (Vanhove 2008: 357–8). In Arrernte, the verb *itele-areme* means 'know, realize, remember, think, understand', and is originally a compound formed from *ite-le* 'with the throat' and *areme* 'see, look for, meet, visit' (Evans and Wilkins 2000: 576, Van Valin and Wilkins 1993: 523–4).

The verb 'see' may also imply 'recognise by vision'; this is the case in Tariana, and Australian languages Mayali and Tyemeri (Evans and Wilkins 2000: 575). It may also be used in the sense of 'guard, look after', as in Tani languages (Tibeto-Burman: Post and Modi 2010), Tsou (Chang 2010), Lha'alua (Pan 2012: Chapter 10) (where it also has a meaning 'think, have an opinion'). In Warlpiri, 'see' has a sense of judgement and evaluation with state-of-affairs complements (Laughren 1992: 233). In Tima (Chapter 9), the verb of vision also means 'notice, think' and may imply conjecture.

In Tani languages (Tibeto-Burman: Post and Modi 2010), 'see' refers to 'have an opinion, anticipate a result' and 'view a situation in a certain way as a matter of well-assimilated knowledge'. The verb 'see, look' refers to finding out and discovering something (as in Manambu, Chapter 6).

Different verbs of 'seeing' may have different overtones. Lien (2005) discusses three verbs of visual perception in Taiwanese Southern Min. The verb *khoann3* covers visual perception and cognition: it means (i) 'watch with eyes'; (ii) 'have a faculty of seeing', (iii) 'guard, tend', (iv) 'read', (v) 'visit', (vi) 'consult', (vii) 'recognize', (viii) 'determine', (ix) 'judge', (x) 'categorize'. The verb *kinn3* means 'see', 'meet', 'decide', and *siong3* means 'gaze, tell fortunes, wait for'.

The verb of auditory perception covers knowing, understanding and remembering in numerous languages of the world. Meussen (1975: 4–5) suggested this range of meanings as an areal isogloss for sub-Saharan Africa (also see Heine and Leyew 2007, for verbs of visual and auditory perception and their 'cognitive' overtones). This range of meanings is extremely wide-spread in Australian languages (Evans and Wilkins 2000), Papuan and Austronesian languages of New Guinea, and in Arawak languages of Amazonia (Aikhenvald 2002, Appendix 2). In Luwo (§2.2 of Chapter 2) the verb 'hear' may express 'understand'. The verb *dai-/da-* in Korowai refers to hearing, listening and to knowledge, constituting a compact semantic system where no meaning can be considered 'basic' (in agreement with Pawley 1994). 'Make someone hear' means 'inform' (§3 of Chapter 5). In Manambu, *wukə-* covers all of 'hear, listen, think, understand, worry, miss someone' and also 'smell' (Chapter 6).

A similar meaning range has been described for Beja and Tswana (Vanhove 2008: 347–50 provides similar examples from some Indo-European languages). In Tsou, 'hear, listen' may also mean 'remember' and 'understand' (but not 'think'). In Maonan (Tai-Kadai: Lu 2010), 'listen' also means 'feel, intend, expect, guess, suspect'. In numerous languages, 'hear, listen' also means 'obey'.

In many Chadic, Australian and Papuan languages (Chapters 5 and 6, and Pawley 1993), 'hear' and 'listen' can cover other senses including 'feel, touch, smell'. So can the verbs of vision: in Manambu (Chapter 6), it covers 'taste', 'try' and 'experience' in general. The actual meanings can always be disambiguated by grammatical context. A similar situation appears to hold in other languages of the Ndu family, and in other languages of the same Sepik area, including Karawari (Lower Sepik, Papua New Guinea: Telban 2010).

'Smell' is, not infrequently, expressed with the same lexeme as 'hear'; this is the case in Dongolawi (Chapter 8 of this volume), and Manambu (Chapter 6). In Luwo, 'smell' is associated with the verb 'know', and with 'thinking' (Chapter 2). In Tsou, 'smell' can also mean 'find': the two meanings are differentiated through using different voice markers (Chang 2010). In Nunggubuyu, from the Australian area, *=yarra-* 'to smell something' can also mean 'to detect, to sense (something)' (Heath 1982: 268).[18] We are not aware of any cognitive overtones of verbs meaning 'taste' or 'touch'.

[18] Also see Evans and Wilkins (2000: 576), for a few further possible instances of cognitive extensions of the root 'smell'.

The verb *//ám* in Khwe covers taste, touch and smell (§2 of Chapter 7). The verb 'hear' in Khwe refers just to auditory processes, and the verb 'see' in Khwe has no overtones outside vision. However, the cognate form of Khwe 'hear' covers other means of perception—touch, taste and smell—in other Central Khoisan languages (§2 of Chapter 7).

Further meanings of the verb of 'vision' take us into what Evans and Wilkins (2000: 572) refer to as the 'social domain'. We mentioned above that 'see, look' can also cover meanings of 'overseeing, overlooking' and 'guarding' something or someone. 'See' may refer to 'meeting' someone or with someone, for example, in Kasem (Gur: Vanhove 2008: 359), Lussese (Chapter 10), and some Australian languages, including Arrernte, and Kurtjar. In Lha'alua and in Tsou, two related Formosan languages, 'see' is also used in the meaning of 'visiting (someone)' (Chang 2010, Pan 2012). Tariana employs a causative of *-ka* 'see' in the meaning 'meet, encounter'.

A verb of vision may reach into other domains. In Kayardild, *kurrija* 'see' covers 'desire, looking upon with lust'. 'See' may have connotations to do with negative emotions and aggressive social acts. In Tyemeri, the auxiliary which on its own means 'see' participates in a number of collocations with clearly negative meanings, including 'be jealous' and 'feel ill at ease' (Evans and Wilkins 2000: 573–4). In Tariana, the verb *-ka* 'see, observe, find' has an array of meanings to do with negative emotions and attitudes in numerous symmetrical serial verb constructions (e.g. 'be jealous, envious', 'despise', 'mistreat') (Aikhenvald 2001).

The verb of vision may have a further use which has not been extensively discussed in the literature. In Kasem, a Gur language, the verb *ña* 'see, catch sight, discern, perceive distinctly' also refers to 'understand, realize' and 'find out, win, get (something advantageous, e.g. woman, life, water, crop)'. In Ewe and Likpe (both Kwa), the verb 'see' has the meaning of 'have' (Ameka forthcoming). Another verb that predicates a possessive relation is *nyə* 'see':

(13) saka á-nyə a-táàbí
<name> SUBJECT:CROSS:REFERENCE-see CLASS.MARKER-money
Saka has money

In Ameka's words, this usage 'reflects the idea that what is in one's perceptual domain belongs to them'. Similarly, the verb of vision *bona* 'see' in Tswana (Bantu) means 'consider, suppose, imagine, recognize (as guilty)', and also 'receive' and 'have' (Vanhove 2008: 359). Correlations

between 'seeing' and 'ownership' have so far been found only in African languages.

In Pasighat Adi, a Tibeto-Burman language, 'look' covers possession of a different sort: (14) describes someone possessed by a spirit (Post and Modi 2010):

(14) bɨ-m uyu kaa-tuŋ
3-ACCUSATIVE spirit look-CONTINUOUS
he is being possessed by a spirit

As reading and writing enter essentially oral cultures, the verb 'see, look' can be coopted to cover reading. This is the case in Manambu (Chapter 6), in Karawari (Lower Sepik, Papua New Guinea: Telban 2010), and in Tsou (Chang 2010). In Lha'alua, the verb 'see' means 'read', and also 'do homework, write assignments'.[19]

Verbs of cognition may be associated with domains other than perception, such as 'take, hold', and so on. In many languages, verbs of 'grasping' extend to 'understanding' (see Vanhove 2008: 366): an obvious example is English *grasp* with both meanings.[20]

We saw above that verbs of perception may refer to cognition and to understanding. It is however incorrect to assume that vision is a universal 'source' for expressing cognition (also see Chapter 10). It is also not true that meanings related to cognition always come from reinterpretation of perception (suggested by Viberg 1984;[21] but see a discussion of French *entendre* which developed its meaning of 'hear' from the original meaning 'understand', and further examples in Vanhove 2008, Evans and Wilkins 2000). In many instances, we are dealing with a general meaning range of generic verbs spanning perception and cognition—in the spirit of Pawley (1994) and Chapters 5 and 6 in this volume (also see Evans and Wilkins 2000: 567–8, for a discussion of Dalabon, Kuninjku and Kriol).

What is so special about 'hearing' and its relationship to 'understanding'? And why is it so that 'vision' can acquire negative overtones? This

[19] This is far from universal. For instance, in Tariana 'reading' is referred to with the same verb as 'playing an instrument'.

[20] There is, however, no evidence for a hypothetical development from hearing to vision to prehension (to understanding) (suggested by Vanhove 2008: 368).

It is too early to make any generalizations concerning the meaning complexes of lexemes referring to knowing, understanding, opinions, assumptions and inferences.

[21] However, Viberg (1984: 158) also provides a counter-example to this.

is the topic of §4. We now turn to further ways of talking about senses, understanding and knowing.

3.4 *Beyond Verbs: Perception, Cognition, and the Human Body*

Meanings to do with perception may be expressed through a special set of terms, not necessarily verb-like. Luwo (§3.1 of Chapter 2) has a highly elaborate vocabulary of terms for smells which form a special word class. Ideophones in Tima (Chapter 9) can disambiguate a general verb of vision (which also has overtones to do with knowledge). Kambaata (Cushitic: Treis 2010) has an extensive set of adjectives referring to different tastes. Formosan languages employ a set of 'lexical prefixes' with meanings of 'seeing' and 'hearing' (Chang 2010, Pan 2012).

In most Papuan languages of New Guinea, and also Quechua and Aguaruna in South America, cognitive processes can be rendered through reported speech constructions. This is also a prominent feature of Korowai (§4 of Chapter 5; see Aikhenvald 2011c).

In most languages of the world terms for body parts contribute to the expression of perception, and of cognition. 'Eye' is a universal organ for 'seeing' and 'looking', and 'ear' for 'hearing' and 'listening'. And either 'eye' or 'ear' can be the 'organs' or 'locations' for knowing and understanding.

In his comprehensive study of the semantics of Tibeto-Burman languages, Matisoff (1978: 161) refers to the eyes as 'our highest, most intellectual organ of sense'. Following a similar principle, 'eye' is considered the 'organ' of knowledge in Gbaya 'Bodoe (Gbaya-Manza-Ngbaka, Ubangi: Vanhove 2008: 360). This is independent from the meanings of lexical verbs: in Gbaya, the verb 'see, look at' does not mean 'understand' nor 'know'.

'Liver' is considered the seat of emotions, and sometimes also perception in many western Nilotic languages (Storch, own field data) and in neighbouring Bantu languages, such as Lusoga and Luganda (Thanassoula, p.c.). In Gugu Yalanji, an Australian language, *jiba-bu nyajil-* 'liver/insides-INSTRUMENTAL see/hear/perceive' means 'know without seeing or hearing', e.g. a doctor who knows that a woman will die (Hershberger and Hershberger 1982: 135).

In the overwhelming majority of Australian languages, 'ear' is the locus of understanding, memory, and cognition in general (Evans and Wilkins 2000). In Mangarayi, 'the "eye" figures as an organ of apprehension, though it does not appear to be intimately linked with the notion of understanding in the way "ear" is' (Merlan 1982: 228).

Along similar lines, 'ear' in Ts'ixa (a Central Khoisan language) is associated with hearing and perhaps also cognitive processes (§2 of Chapter 7).

Wa:n 'ear' is the organ of knowledge and understanding in Manambu (Chapter 6). The term 'eye' helps narrow the meaning of the versatile verb 'see' in Manambu to just the meaning of 'seeing' and 'looking': this verb can also mean 'experience, try, taste', but not if accompanied with 'eye'. The 'ear' does not do the same job with the versatile verb 'hear, listen, think, remember, miss, be sorry'. Just like in Australian languages, 'ear' is where hearing, heeding and all sorts of cognition take place. A child, or a person who has not been socialized properly, 'does not hear', or 'has no ear'.

This is similar to Pintupi (an Australian language) where the noun *patjaru* 'forgetful, disorientated, mad' may also refer to a deaf person; and *rama* 'angry; emotionally upset; mad person, deaf person' is also 'used of disobedient children' (Hansen and Hansen 1992: 104, 122; Evans and Wilkins 2000: 584). As Myers (1986: 107–8) puts it,

'In the Pintupi view, the concepts "thinking", "understanding" and "hearing" are expressed by a single term, *kulninpa*, which means literally "to hear". The organ of thought is ear, but emotions take place in the stomach where the spirit is located. To be unaware (*patjarru* or *ramarama*), contrastingly, is to have one's "ears closed"'.

'Eye' may have overtones of aggression and sexual desire (similarly to some negative overtones of the verb of vision), as in Kayardild *miburmuthanda* (eye-excessive) 'lecher, big-eye' and *ngarrkwa miburlda* (strong/hard eye) 'bold, brazen, stern-eyed' (Evans and Wilkins 2000: 566). In Dyirbal, there are two ways of saying 'be jealous' both involving 'eye': 'eye-sit' is typically used by a woman, and 'eye-burn' by a man (R. M. W. Dixon, p.c.). Similarly, in Maonan 'eye' is associated with negative states, e.g.' eye red' means 'jealous' and 'eye white' means 'hateful' (Lu 2010).

'Ear' can be linked to the expression of emotions rather than of cognition. In Tsou expressions containing the term for 'ear' refer to feelings (such as being sad), intention, and obligation (Chang 2010). In Maonan (Lu 2010), 'ear' is used in expressions associated with reaction to criticism and suggestions: a person with 'sharp ear' is 'receptive' and one with 'thick ear' is stubborn.

Cognition and emotions may 'reside' in other parts of the body. The Korowai of West Papua talk about the inner states from the perspective of invisible thoughts which reside in the innermost parts of a human being ('intestines-gall' or 'guts') (§2.2.1–2 of Chapter 5; also see above, on Pintupi: Myers 1986: 107–8). Among the Manambu of New Guinea, emotions and feelings are located in one's *mawul* 'inside' (or 'guts'). This notion of 'inside' as the seat for emotions, attitudes and even cognitive states is

shared by Karawari, a language from the Lower Sepik family from Papua New Guinea (the notion of *wambung* 'insides' described by Telban 2010, 1998 is remarkably similar to *mawul*). In other languages of New Guinea, the 'location' of emotions may be associated with belly, 'insides' or intestines, and even lungs (see Lindström 2002, Priestley 2002).[22]

In Arrernte, the verb *itele-areme* means 'know, realize, remember, think, understand', and is originally a compound formed from *ite-le* 'with the throat' and *areme* 'see, look for, meet, visit'. In Arrernte, there are 'good reasons to believe that the element *ite* 'throat' is primarily responsible for the cognition reading of the compound': 'throat' appears in expressions that involve thinking, feeling and so on (Evans and Wilkins 2000: 576, Van Valin and Wilkins 1993: 523–4).

It appears that the structure and conceptualization of the human body with respect to where cognitive process and emotions are located could be largely independent of the structure and meanings of the verbal lexicon of perception and cognition.

Ideophones are a special word class in many languages. In Luwo ideophones refer almost exclusively to 'vision'; this may be due to their prominence in oral narratives. In his study of Siwu, a Kwa language, Dingemanse (2011) shows that ideophones may code perception, inner states of emotion and socio-cultural intentions. He suggests that if a language has ideophones referring to smells and tastes, it will also have ideophones referring to vision and hearing. If confirmed, this would suggest an intrinsic hierarchy of mapping senses onto ideophones. The issue requires further investigation.[23]

The 'eye' and the 'ear' and their many overtones correlate with some aspects of culture, behaviour and socialization in numerous non-European societies.

4 Perception and Cognition in Their Social Contexts

In many Australian Aboriginal societies, visual and auditory perception have different social statuses. Evans and Wilkins (2000) stress the

[22] This may suggest the conceptualization of the human body as a 'container' or a space with visible and invisible components playing different roles in the expression of feelings, emotions and understanding.

[23] Mohr (forthcoming) argues that mouthings in Sign Languages have similar meanings and functions.

importance of hearing, listening and 'heeding' in Aboriginal social interaction. Here, eye-contact is communicatively loaded and may be considered part of aggressive behaviour. It may imply sexual advances and even negative emotions. In their dictionary of an Australian language Pintupi, Hansen and Hansen (1992: 91) remark:

> the norm is for limited eye contact in conversations and addressing larger gatherings; prolonged eye contact which is the European norm can be offensive, implying that you don't trust or recognise the person; prolonged eye contact with the opposite sex, can be interpreted as a sexual advance.

Similar processes of socialization through heeding and hearing have been described for a variety of societies in Papua New Guinea (including the Manambu, by Harrison 1990, cf. Aikhenvald 2008, and the Gapun, by Kulick 1992). 'Eyeing' and 'looking' in general have negative overtones as intrusive and aggressive. Negative overtones of verbs of seeing and of the term 'eye' appear to be connected with these (see §3.3.3 above).

Focus on 'hearing' and on 'seeing' could be associated with different styles of communication and interaction. The 'Anglo white middle class' conversational style is believed to involve eye contact, and people facing each other. The speaker is in control. In remote Aboriginal communities, eye contact is not important, and partners in conversation do not face each other. The hearer, not the speaker, is in control (Evans and Wilkins 2000: 582). Communicative load is distributed differently across different senses. 'Seeing' is not emphasized as 'giving understanding or knowledge'.

Numerous societies in South America and in New Guinea share a further feature. Many taboos are associated with 'vision' (and none with hearing). For example, women are not allowed to catch a glimpse of sacred flutes, among the Manambu of the East Sepik, and among numerous groups in Lowland Amazonia. Just like in many Australian Aboriginal societies, in-law relatives are not allowed to look at each other among the Tariana and their neighbours, and also among the groups of the Xingu area (who also employ a special avoidance style to speak to in-law relatives: Aikhenvald 2012 contains references).

The Manambu have further taboos associated with 'seeing' something (and none to do with 'hearing') (§3 of Chapter 6). All taboos we are aware of are to do with women or uninitiated men seeing something they are not entitled to. This would make them blind, or kill them.

Being able to 'see' what others do not see is associated with power, in the same spirit as the power of the 'invisible' discussed by Storch (2010a).

Powerful beings 'see us' but 'we cannot see them', in Manambu lore. This power of being able to see is echoed by the abilities of northwest Amazonian shamans to 'see' what is hidden to others. While a normal person cannot 'see' the most dangerous evil spirits and can only 'feel' them, a shaman 'sees' them all. An ordinary human would use the non-visual evidential in talking about their dreams, while a shaman has the authority to use the visual evidential. In many Lowland Amazonian societies, special supernatural powers can be obtained by using hallucinogenous drugs and then getting to 'see things'. Seeing is powerful, and also dangerous. A person who does not know how to handle the shamanic visions appropriately will die.[24]

This special position of 'vision' as a powerful but dangerous sense provides motivation for preferential status of hearing, listening and heeding in day-to-day socialization.

During her intensive immersion fieldwork among the Manambu, one of the authors of this chapter observed the importance of oral education and listening to what is being said. However, in contrast to remote Aboriginal communities in Australia, the Manambu are not averse to eye contact, and do not consider facing each other particularly threatening or inappropriate. The exact techniques of interactions among the Manambu appear to be different from those in Aboriginal societies. Yet the semantic space of the verb 'hear' and the role of 'ear' as the locus of knowledge are very similar.

Smells may be more important in some languages and cultures than they are in others. Luwo (§3.1 of Chapter 2) has a highly elaborate vocabulary of terms for smells which form a special word class. Numerous terms for 'tastes' are verbs. Highly developed vocabularies for smell and taste terms are a feature of other Western Nilotic languages. Smell terminologies in some of them describe natural and supernatural phenomena, and in all probability reflect the world view of the people, who categorize referents according to their smell.

Languages vary as to how rich they are in terminologies for taste. Languages of the Gui-//Gana cluster (Central Khoisan) have an elaborate set of verbs referring to tastes. Khwe (§2.3 of Chapter 7) has quite a few verbs and numerous expressives to do with texture and taste of food.

[24] We are grateful to Robin Rodd for these insights.

An additional and perhaps important point about a typological study of semantic fields is how to encompass all the relevant distinctions without excessive simplification. So far we have limited our discussion to just the five senses considered 'basic'. But individual languages may be able to express more.

For example, Evans and Wilkins (2000: 554) mention another sense pervasive in Australian languages. They call it 'proprioception', or internal feeling as opposed to external touch, as in Arrernte *welheme* 'feel (cold, sick, hot) and so on, feel something doing something to you'. This verb is distinct from *anpeme* 'touch, feel by touch (rough, smooth, etc.)'. Historically *welheme* comes from a reflexive form of the verb 'hear'.

Tariana has a verb *-rena* 'feel a general internal state, be in a good or bad state', distinct from *-hima* or its causative *-himeta* meaning 'feel cold, sick, hot, someone touching you'. And in Khwe (§3.2.3 of Chapter 7) the verb with a general meaning 'perceive' enters in a serial verb construction with a verb 'know', creating the meaning knowing via divination. We need many more studies before we can create a valid typology of senses and their linguistic expression.

'Knowledge' itself is not a unitary concept. Many West and Central African societies distinguish 'volitional' cognition and 'non-agentive' knowledge. Volitional cognition implies that a person is deliberately searching for information, or for truth—for example, by traveling, by visiting people, by consulting an oracle or by reading a book. Non-agentive knowledge implies something that comes to a person without them deliberately seeking it: this often involves spirit possession and knowledge obtained through supernatural means. This type of knowledge is often associated with the use of specific registers—such as spirit languages (Storch 2011).

Initiates to the Yeve secret society and cult in Ghana and Togo go through a period of education which may last for up to three years. They learn the spirit (or cult) language Yevegbe and speak it whenever they are possessed, or take part in Yeve rituals. In this religious register of Ewe (the main language of the people), some ambiguous terms are disambiguated. For instance, Ewe has one word for 'tomorrow' and 'yesterday', and Yevegbe has two:

(15)

Ewe		Yevegbe
etsɔ	'yesterday'	*etre*
	'tomorrow'	*etremɔni*

Or one term can be used where the ordinary Ewe uses two. Ewe has a verb meaning 'teach' and another one meaning 'learn'. Yevegbe has one covering both meanings (Akuetey 1998/99):

(16)

Ewe		Yevegbe
fia nu 'teach'	}	*yaklɔni wɔ*
srõ nu 'learn'		

We hypothesise that volitional knowledge could be equated with other agentive, or volitional, actions. These culturally distinct types of 'knowledge', their agentivity and acquisition, are a matter for future studies.

5 Perception and Cognition in Grammar and in Lexicon: What Can We Conclude?

Every language has lexical means for expressing information source, perception and ways of knowing things. Information source is grammaticalized as evidentiality in only about a quarter of the world's languages.[25] A closed grammatical system is bound to offer restricted options. This is in contrast to the lexicon where the choices are more abundant. We find more fine-tuned expressions in the lexicon of perception and cognition than in the corresponding grammatical systems. Yet one can trace a common thread.

In some languages vision is associated with cognition. There, the eye can be considered the 'highest, most intellectual organ of sense' (Matisoff 1978: 161). In others (spoken mostly outside the familiar Indo-European domain), 'ear' and auditory perception is associated with cognitive processes of understanding, knowing and remembering. Vision appears to be treated as a rather special way of accessing information. It tends to be linked to special access to power. It may be interpreted as aggressive, dangerous and associated with superiority and dominance, which is not viewed as commendable in essentially egalitarian societies—such

[25] The exact geographical distribution of evidentials remains a matter for further studies. Aikhenvald (2006a, b) provides the most up-to-date picture based on all available sources (over 500 grammars) (criticism of approaches based on limited 'samples' are in Aikhenvald 2011c). Very few evidential systems have so far been described in African languages. However, as African linguistics is developing, many more systems are coming to light: see Chapters 2 and 3 in this volume, and Alamin, Schneider-Blum and Dimmendaal (2012).

as Australian, Papuan, Amazonian, and Central Khoisan. This provides a cultural background for the 'ear', not the 'eye' as the foremost 'intellectual organ'.

We hypothesize that vision is important and special, hence its potentially dangerous connotations. In contrast, hearing and listening are, in many societies outside Europe, much less intrusive. This type of perception—as the functionally unmarked choice—tends to merge with understanding, knowing and remembering, and with other means of sensual perception, including smell and touch.

A similar principle is reflected in the semantics and usage of evidentials. In many evidential systems, vision is a privileged source of information (see §2.1.3). In a fair number of societies, visually obtained ('seen') information is the most valuable sort (see Hardman 1986 on Aymara). At the same time, visual and firsthand evidentials, and verbs of vision, are to be used with caution: only a person who has 'seen' has the right to say 'I have seen'. This goes together with the privileged, and somewhat feared, status of vision in many lexical expressions. In some evidential systems, visual and firsthand evidentials are associated with responsibility and certainty. This is not the case for non-visual and non-firsthand terms.

A close link between lexical verbs and grammatical evidentials is reflected in their metalinguistic uses. In a number of languages with evidentials, an evidential can be rephrased and reinforced with a corresponding lexical verb (Aikhenvald 2006a: 340). In Tariana, a visual evidential can be strengthened with the expression 'I saw this-visual' if the audience appears to be incredulous. Similar examples have been attested in Latundê-Lakondê, a Nambiquara language (see Aikhenvald 2012). Lexical verbs can be employed in metalinguistic comment on evidential use (with 'see' for visual evidential, 'hear, feel' for 'non-visual evidential' and 'tell' for reported evidential). However, the possibilities within a grammar are restricted compared to what we may find in the lexicon.

All languages have ways of talking about smell and taste. However, these meanings never seem to be grammaticalised as evidentials in spoken languages. A non-visual evidential hardly ever refers to information acquired through 'hearing' something. Neither hearing nor smell nor taste appear to be grammaticalised in other areas of linguistic structures: for instance, our cross-linguistic study of classifiers reveals that these parameters never surface in any classifier type (Aikhenvald 2000), or in any other verbal or nominal category.

Different cultures evolve different systems of socialization. For some, 'hearing', 'tasting' or 'smelling' are more central for some than for others

(along the line of argument in Storch 2004). For others, vision is 'on top'. One is tempted to hypothesize that the aggressive, hierarchical and self-centred character of many Indo-European cultures and societies—reconstructed as far back as Proto-Indo-European by Ivanov and Gamkrelidze (1984)—would correlate with a strong preference for potentially dangerous 'vision' as a major avenue of cognition.

Egalitarian and consensus-based cultures—such as Amazonian, Australian and Khoisan—appear to avoid the intrusive 'eye' and stick to a less marked and less intrusive perception complex, with hearing 'on top'. At present, this generalization remains tentative. Providing a one-to-one correlation between grammar, lexicon and culture is never an easy exercise.

One thing is clear at our present state of knowledge: no 'hierarchy' of senses is universal. In the light of their distinct overtones across continents and cultures, sight, touch, hearing and smell may each be primary, and preferential, albeit in different circumstances and in distinct ways.

6 How This Volume Is Organised

This volume is based on a three day International Workshop 'Perception and cognition', conducted by the editors in November 2010 at the Insitut für Afrikanistik, University of Cologne, sponsored by the preparatory initiative for the CRC 'Migration of ideas', University of Cologne. A shortened version of the current chapter and a checklist of points to address were circulated to the invited participants, so as to make the volume uniform.

Our aim here is to present a typological, empirically based account of ways of expressing meanings to do with perception and cognition in a selection of languages. In every language, the field of perception and cognition is substantial. We have allowed each author to choose the most interesting aspect of this field relevant to the language they are analysing. We also endeavour to cover a variety of issues relevant for the expression of perception and cognition in the language as a whole, its grammar and its lexicon, so as to give the reader an idea of the potential wealth in this domain, cross-linguistically speaking.

The chapters in the volume divide into two groups—those dealing primarily with grammatical expression of perception and knowledge, and those dealing with lexical expression of these same concepts.

Chapter 2, 'Knowing, smelling and telling tales in Luwo', by Anne Storch, deals with grammatical and lexical ways of expressing perception and knowledge. The author discusses a small evidential system in Luwo which

is limited to just perfective aspect. This type of system is widespread cross-linguistically, but is a rarity on the African linguistic scene. The rest of the chapter focuses on the expression of perception and knowledge in Luwo. There is an especially rich array of lexemes expressing smells and tastes of various kinds, and a special word class of ideophones which almost exclusively express vision. This is linked to the ways in which knowledge is transmitted, and what is important to the Luwo in terms of their social and cultural environment.

Chapters 3 and 4 focus entirely on grammatical expression of information source and concomitant attitude to information, with a special focus on what has come to be known as 'mirativity'. Chapter 3, 'Source of information and unexpected information in !Xun—evidential, mirative and counterexpectation markers', by Christa König, starts with an analysis of a two-term evidential system in this Central Khoisan language. !Xun distinguishes firsthand and non-firsthand information. In addition to this, it has a special mirative morpheme. This marks information which is surprising or unexpected to the speaker, or hearer. A marker of counterexpectation is in paradigmatic opposition with the mirative; it has deontic overtones, emphasising the fact that the speaker disapproves of a piece of 'unexpected' information.

Chapter 4 'A Quechuan mirative?', by Willem Adelaar, presents a comprehensive analysis of a category known as 'sudden discovery tense' in a number of Quechuan languages of the Andean area in South America, with a focus on the category in Tarma Quechua. In its meaning, 'sudden discovery tense' is akin to mirative: it refers to unexpected events and new information. This coexists with a three-term evidentiality system (direct evidential, with strong overtones of certainty, conjectural evidential, and reported evidential). But does the Quechuan 'sudden discovery tense' fit in with the current definitions of mirativity? Or is this an exponent of a different grammatical category?

The meanings and the semantic width (or 'polysemous patterns') for each form are the focus of most chapters within this volume. Chapter 5, 'Seeing, hearing and thinking in Korowai, a language of West Papua', by Lourens de Vries, investigates perception and cognition expressed through verbs of seeing, hearing and thinking in Korowai, a non-Austronesian language. The author discusses grammatical constructions involved in the expression of perception and cognition in Korowai within the context of 'distributive', 'thematizing' and 'quotative' patterns typical for New Guinea as a linguistic area. Korowai speakers make a distinction between talking about inner states from the inside perspective and from the outside

perspective, which involves visible and audible actional manifestations of inner states. They employ speech reports to represent the 'inner' conversation that takes place in the 'guts' of people.

Chapter 6, 'Perception and cognition in Manambu, a Papuan language from New Guinea', by Alexandra Y. Aikhenvald, also focuses on the expression of perception and cognition in another non-Austronesian language of New Guinea, spoken in the Sepik area. In many languages of the world, verbs and other expressions associated with perception and cognition form a special subclass in terms of their grammatical features. Verbs of perception in Manambu share a number of grammatical features, which justify considering them as a special subclass of verbs. The verb referring to visual perception also means 'experience', 'try', and 'taste'. The verb referring to auditory perception also means 'obey', 'understand', 'remember', 'miss', 'be sorry for'. Overtones of these verbs can be distinguished by grammatical contexts. These include argument marking, the use of directionals, and occurrence in imperative constructions. The chapter addresses the ambivalent role of visual perception in Manambu cultural practices.

Chapter 7, 'From body to knowledge: perception and cognition in Khwe-||Ani and Ts'ixa', by Matthias Brenzinger and Anne-Marie Fehn, focuses on the semantics of lexical verbs of perception and cognition in this previously poorly-known Khoisan language, with special focus on the core perception verbs *mű̃ũ̃*)~, *kóḿ* and *ʔám* may cover the entire range from bodily perception to cognition, covering understanding and knowledge. In their cognitive meanings, the three verbs tend to be used in serial verb constructions linked to the verb *ā́* 'know'. The semantic domains of perception and cognition in Khwe-||Ani reflect the speakers' understanding of the world, i.e. are based on their belief systems and other cultural traditions. What can be shown for Khwe-||Ani seems to hold true also for other Central Khoisan speech communities, including Ts'ixa, a previously undescribed language spoken in northeastern Botswana.

Chapter 8, 'Perception verbs and their semantics in Dongolawi (Nile Nubian)', by Angelika Jakobi and El-Shafie El-Guzuuli, focuses on lexical verbs of perception and cognition and their meaning overtones in this poorly-described language. Verbs of vision and of auditory perception develop meanings beyond perception proper. The verb of vision covers 'inquisitive cognition' (examining, checking and 'finding out'), and social interaction (greeting, meeting, visiting, guarding and protecting). The auditory verb has the meaning of 'accept advice' and 'obey'.

Chapter 9, 'Excite your senses: glances into the field of perception and cognition in Tima', by Ge[illegible]le Schneider-Blum and Gerrit J. Dimmendaal,

focuses on the lexical expression of perception and cognition in this highly synthetic Tima-Katla language spoken in the Nuba Mountains of Sudan. Verbs of perception and cognition do not form a special subclass. The verb 'see' has an array of meaning extending into the domain of cognition and social interaction, while 'hearing' is associated with 'heeding' and 'obeying'.

Chapter 10, 'Perception in Lussese (Bantu, J 10)', by Marilena Thanassoula, addresses the expression of perception and cognition in this endangered Bantu language from Uganda. The author argues that the use of terms referring to the body and the physical senses reflect cultural categories rather than universal principles. A number of metaphoric meanings are associated with the verbs of vision in Lussese. Colour terms in this language constitute a special subclass of adjectives, and are particularly rich. The author focuses on the semantics and cultural implications of colours in Lussese and their significance for the way in which the sense of vision is conceptualised.

All chapters in this volume are cast in terms of the fundamental typological theoretical apparatus 'that underlies all work in describing languages and formulating universals about the nature of human language', where 'justification must be given for every piece of analysis, with a full train of argumentation'.[26]

The categories and their properties are explained inductively—based on facts, not assumptions. As Bloomfield (1933: 20), put it: 'The only useful generalisations about language are inductive generalisations. Features which we think ought to be universal may be absent from the very next language that becomes accessible . . . The fact that some features are, at any rate, widespread, is worthy of notice and calls for an explanation. When we have adequate data about more languages, we shall have to return to the problem of general grammar and to explain these similarities and divergences, but this study, when it comes, will not be speculative but inductive.'

This volume is not intended as a comprehensive typology of perceptual meanings in the world's languages. The time is not yet ripe for this: we need many more in-depth studies, to understand the ways in which languages of the world express what is perceived and what is known or understood. The volume consists of nine contributions, each focusing on one language, and testing some of the hypotheses offered in this introductory chapter. Many more studies of this sort are needed before we

[26] See Dixon (1997: 132); see also Dixon (2010).

can offer a reliable comprehensive typology of lexical means of expressing perception and cognition. Let this be a fruitful start.

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CHAPTER TWO

KNOWING, SMELLING AND TELLING TALES IN LUWO[1]

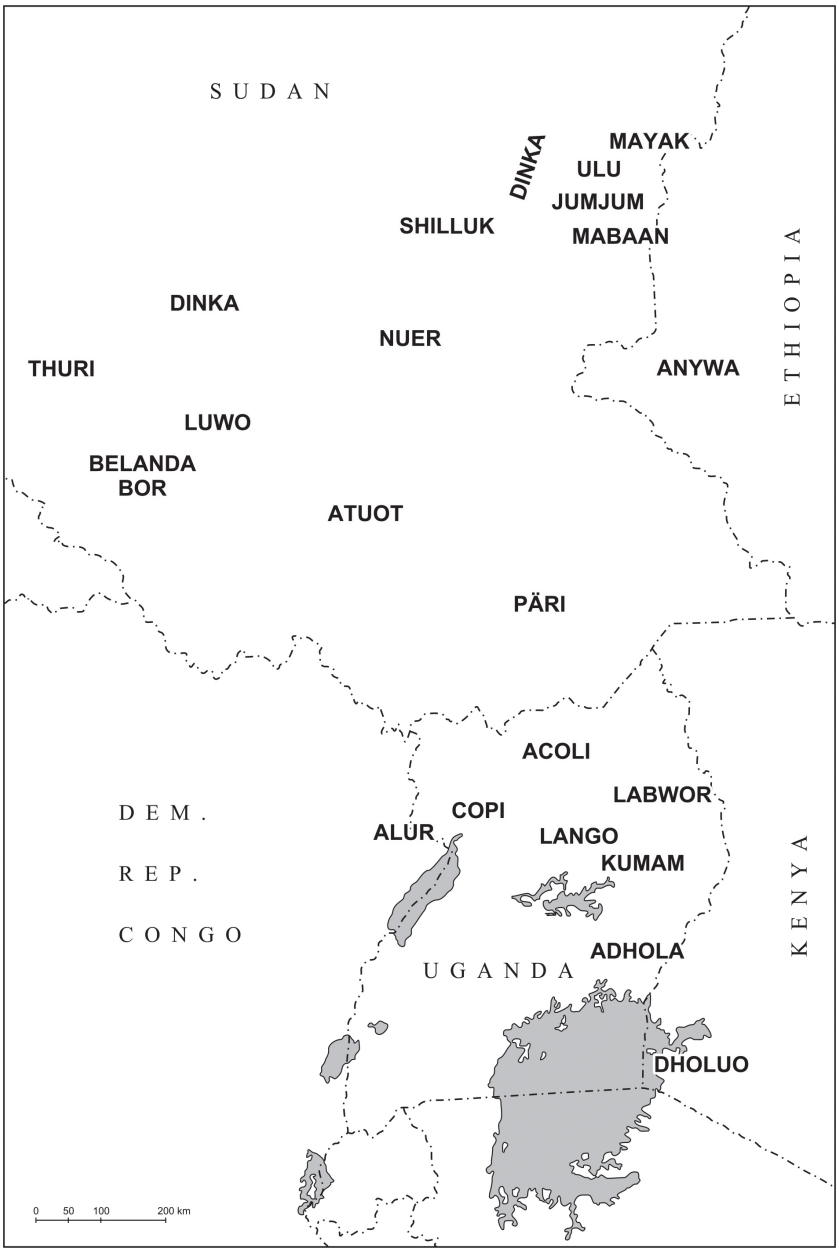
Anne Storch

1 Introduction

This chapter investigates expressions of perception and cognition in Luwo, a Western Nilotic language of South Sudan, spoken in the rural area around the town of Waw, but also by people who live in large cities such as Khartoum, Juba and Kosti. Luwo has a relatively large group of perception verbs, which exhibit some unusual polysemous extensions, whereby KNOW and SMELL play particularly interesting roles. Besides these verbs, there are dedicated word classes that denote specific sensations: words that denote smells constitute a class of their own in Luwo, and another separate word class, ideophones, is semantically specialized as well: ideophones tend to exclusively describe visible events such as motion and gestures, but hardly ever perceptions of sound, smell, or intensity of perceivable qualities. This chapter will first present data on the various predicative expressions of cognition and perception, which in some contexts also have evidential meanings. Then it will concentrate on smells, and finally on ideophones, also taking a look at their relevance for narrative speech styles. Whether the way in which grammar of perception is organized in Luwo has something to do with cultural and social practices of its speakers will be addressed in the last section of the chapter.

There is relatively little linguistic and ethnographic material on Luwo and its speakers. This is surprising, as Luwo as a salient vernacular language of the Waw area had also been used in market economies, Western education and missionary work throughout colonial (and postcolonial) times (Santandrea 1946, 1977).

[1] I am grateful to the speakers of Luwo who taught me their language and shared their insights into it with me: Pierina Akeelo Zubeir, Joseph Modesto, Henry Malual, Mohammed Lino, Albert Apai. My thanks are due to Sasha Aikhenvald, Gerrit Dimmendaal, Beatrix von Heyking, Marilena Thanassoula and two anonymous reviewers for their many helpful and inspiring comments. Fieldwork in Sudan and Uganda was sponsored by the German Research Society, to whom I remain grateful.



Map 2.1. Luwo and its neighbours

Luwo speakers are very often multilingual, and many families tend to prefer exogamous marriages. As a result, Luwo converges to neighbouring languages, such as Dinka and Bongo. There are also an astonishing number of Italian loanwords that stem from contact with missionaries from Verona ("Comboni Brothers").

Luwo also exhibits morphological and syntactic features which are in general meaningful for our understanding of the area's linguistic history. Close similarities both in terms of the lexicon and the grammar are shared with Thuri, Shilluk, and most Southern Lwoo varieties (e.g. Acholi, Lango, Adhola, and so on), which seem to be medieval split-offs from Luwo (Storch 2005: 412 f.). Map (2.1) shows the present location of Luwo and its neighbours.

1.1 *Typological Profile*

Luwo is an OVA/SV language with a pragmatically-based split-ergative case system (Buth 1981; Storch forthcoming), which differs from those of other case-marking languages such as Päri and Shilluk (Andersen 1988 & 2000, Miller & Gilley 2001).

The noun morphology is characterized by suffixed number-marking morphemes which derive from classifiers, and by prefixed derivational morphemes. The language has developed complex non-linear morphology through close contact with Dinka, which most prominently exhibits morphologically relevant tone and vowel quality changes. Like many Eastern Sudanic languages, Luwo organizes its number-marking system as a tripartite system with marked singulatives, plurals and singulars. This particular number-marking system has been extensively described by Dimmendaal (2000), and with regards to Western Nilotic in Storch (2005). It is based on the conceptualization of referents as either uncountable (whereby a singulative noun is derived from the unmarked mass/plural noun), individual (whereby a marked plural is constructed on the base of the unmarked singular form), or not specified in terms of individualization or cohesiveness (both singular and plural are marked for number).

Property concepts are mostly lexicalized in state-changing verbs, but a separate word class for olfactory terminology is set apart from this pattern. Verb inflection primarily operates by affixation, whereby the conjugated verb consists of a pronominal prefix or suffix, an affixed TAM-morpheme and in some forms an auxiliary. The pronominal prefix is used in intransitive clauses, reflexive clauses or wherever the pronominal affix refers to a participant, but not the agent of a verbal action.

An interesting feature that is shared with Western Nilotic languages such as Shilluk and Belanda Boor concerns the striking diversity of the lexicon, where synchronically numerous terms without shared etymologies are used for related concepts. The verbal lexicon is particularly rich in different roots which express fine-grained differences between actions of the same kind. This specifically holds true for action verbs, and one consequence of this is that such verbs tend to be less polysemous than state verbs. An example of semantically closely related verbs, all expressing ingestion, is (1):

(1) maath 'drink (water)'
lwɛ̀th 'drink (soup, tea)'
náŋ 'lick (porridge, honey)'
nɔth 'lick (helwa, i.e an oriental sweet)'
dhɔ̀ɔ̀dh 'suck (of a child)'
cwííc 'suck (through straw, pipe)'
dád 'gnaw (maize, fruit)'
cam 'eat (food, i.e. dumpling, mush, bread)'
ɲám 'chew'
cwét 'eat (meat)'

1.2 *Verb Phrase and Evidentiality*

Verbs in Luwo express actions, inchoative meanings, and states. Though such meanings may be attributed to verbs in most languages, verb semantics in Luwo exhibit idiosyncratic features as they seem to exclude some basic meanings in the field of perception, namely olfactory perception, which—as already stated above—is mainly encoded by a separate word class. Obviously, specific properties such as odour are conceptualized as time-stable, non-dynamic ways of being, while verbs in Luwo typically express transitional states, ways of becoming, and different types of more or less dynamic events.

All full verbs have to be marked for aspect, tense and mood, as well as for person, while auxiliary verbs can be identified by the lack of aspect-marking in certain constructions. State verbs are ambitransitive (unlike the other verb classes whose valency is fixed) and exhibit singular and pluractional stems; the latter mark the plural of the S-participant. Examples for singular and pluractional stems are given in (2.a) and (2.b).

(2.a) á-à-náà-puòdhí
1sg-PERV-INFER-be_thin.CAUS
I was made thin

(2.b) gɛ́-à-náà-puòòdhíè
3pl-PERV-INFER-be_thin.CAUS.PL
they were made thin

These examples also illustrate, besides the inflectional and derivational morphology of verbs, that perfective constructions can take markers that indicate the source of information. Here, a prefix *náà-* is observed, which expressed that the speaker has no first-hand information about the proposition, but bases his or her argument on assumptions and inference. There is another perfective form, which lacks such a separate evidential marker, and here it is the perfective marker which, as a semantic extension, expresses that the speaker has directly witnessed the event in question. As a consequence, an action or event is framed as completed only when the speaker was able to gather first-hand information (either visual, oral, or other) about completion—only an event whose completion has been witnessed could actually be considered completed. The following examples contrast both perfective forms:

(3.a) Ø-à-cʌ́mɔ̀
3sg-PERV-eat.AP
s/he ate/has eaten [speaker as witness sure that action is completed]

(3.b) Ø-à-náà-cʌ́mɔ̀
3sg-PERV-INFER-eat.AP
s/he ate/has eaten [speaker has not witnessed that action was completed]

Examples (3.a) and (3.b) largely mean the same, but the first one denotes a clearly completed action (directly witnessed by the speaker), while the second form not necessarily denotes a completed action, as the speaker was not present when it took place. The construction in (3.a) can also express a low degree of affectedness of the speaker in some contexts, where the source of information is of marginal relevance (e.g. 'he eats food [but does so in completion of another action—buying food, cooking . . .]'). Another example helps to illustrate, too, that this form indicates completion of the action:

(4.a) Ø-à-cʌ́mɔ̀ ù-mádh-é
3sg-PERV-eat.AP IMPERV-drink.TR-3sg
s/he ate and then drank [directly witnessed by speaker]

(4.b) ɲìthìình à-kè-pɔ́ɔ̀d-↓é ù-gɔ́ɔ̀d-↓é[2]
child PERV-DUR-beat.TR-3sg IMPERV-run-3sg
s/he was beating the child and then ran away [not witnessed by speaker]

While the *à*-prefix denotes an action that had been performed (as a process) and was completed by the time a second action was to take place, the morpheme *á-ké-* in (4.b) expresses that the action took place in the past, but may still be going on, or may still be of relevance. The speaker has not witnessed its completion and has no evidence for the truth of the utterance. This is in general characteristic for evidentials in Luwo, which only occur in the perfective, but not in the imperfective aspect.

This fairly limited framing of cognition and truth—as an extension of only the perfective aspect, and with just one specialized inferential evidential—is accompanied by a relatively large set of perception verbs and epistemic verbs. These will be explored in the following paragraph, thereby also demonstrating that Luwo, which doesn't share the diversified systems of evidentials of its close relatives, such as Shilluk, distinguishes and expresses the source of information rather by using different lexemes than by a variety of grammatical constructions.

2 Perception Verbs

Luwo has a number of perception verbs which may have several semantic extensions, sometimes leading to meanings of cognition. Unlike state verbs, perception verbs do not have pluractional stems, and unlike less agentive verbs which often are intransitive (e.g. *thɔ̀w* 'die') they are always transitive. Perception verbs may be detransitivized though, and in this process the stem vowel is lengthened, making them more marked (e.g. *ŋáy* → *ŋàày* 'know').

That perception verbs differ from action verbs and inchoative verbs alike becomes obvious when looking at the behavior of aspect markers: The perfective marker may be substituted by a zero-morpheme with verbs that denote time-stable concepts rather than actions, and this is exactly what happens in constructions with perception verbs (see 5.a). Note that the zero-morpheme in the place of the perfective marker cannot presently

[2] Note the downstep of the third person marker after the verb. All verbs with a HL tone pattern correlate with a downstep on the suffix *-é*; it is not yet understood what exactly triggers this behavior of the person marker.

be analyzed as being of pragmatic or semantic relevance; rather, both forms *Ø-* and *à-*marked constructions with perception verbs—appear to be free variants.

Compare the two possible constructions which exist for derived intransitive verbs:

(5.a) Ø-ŋʌ̀ʌ̀y-é
PERV-know.DTR-3sg
s/he knew

(5.b) à-tóòr-↓é
PERV-break.DTR-3sg
s/he broke

In the transitive construction of these verbs, the suffixed subject marker is used as well, but an object marker plus the aspect marker (here: *à-*) always appear. Note that the object marker is not a clitic.

(6.a) á(n) à-ŋʌ́y-é
1sg.O PERV-know.TR-3sg
s/he knew me

(6.b) ŋɔ́ à-tôr-↓é
3sg.O PERV-break.TR-3sg
s/he broke it

Perception verbs such as 'know' construct regular imperatives, as well as deverbal nouns, e.g.:

(7.a) ŋàyí, pl. ŋèyú (ŋɔ́) 'know (it)!' (in the sense of 'learn (it)!')

(7.b) ŋʌ́y 'know' →ŋʌ́yɔ̀ 'knowledge'

2.1 *Knowing and Other Ways of Understanding*

In the examples above, the verb 'know' refers to cognition, in the sense of knowing about a referent or just encoding knowledge as an abstract concept. The verb *ŋʌ́y* is not a state verb, but is less agentive than action verbs, as it cannot construct directional stems (itive, ventive) for example. However, 'know' also encodes 'understand, realize' when it refers to events or when it appears in a causative construction. Here, it expresses more agentive, dynamic and active concepts of cognition, such as in the following examples:

(8) à-ké-**ŋʌ́y**-wàn ríc-é kécá ɲááków
PERV-DUR-**know.TR**-1pl.EXCL young-NOM DEM girl
ù-yí-é nì díŋ
IMPERV-agree.TR-3sg SC fast
then we young (men) were learning/getting to understand (that) this girl will agree fast

(9) án à-méɛ̀g -↓é **ŋʌ́y** ŋɔ́
1sg.O PERV-make.TR-3.sg **know.TR** 3sg.O
he made me understand it

Besides the verb 'know', there are other verbs which can express cognitive meanings. The basic semantics of these verbs, however, have to do rather with perception and emotion than cognition, and the context of the clause—different arguments, for example more agentive or more experiencer-like subjects, types of objects, peripheral arguments, and so on—is in principle responsible for the semantic shift these verbs undergo, in terms of intrafield or interfield polysemies. The following verbs have been found to express various ways of perceiving and knowing, even though not all of them map into cognition:

(10.a) perception verbs with interfield polysemy
yóód 'see, find'
par 'remember, think'
ŋéc 'recognize'
cʌ́y 'search, strive to know'

(10.b) perception verbs with intrafield polysemy
mʌ̀ŋ 'look at'
nìì̀d 'see'
gɔɔj 'touch'
lìŋ 'hear'
ŋʌ́y 'know'
ŋwaay 'smell'
kʊ̀ɪc 'ignore, know not'

It seems that the most common pattern here is framing cognition as the result of a telic action. Even though any type of cognition as state can be elicited, the preferred construction in texts and dialogic language has realizing and understanding as process-results. These are often expressed by *yóód* 'see, find', instead by *ŋʌ́y*. Here, cognition is conceptualized as an active process which involves a rather high degree of volitionality. In the examples below, transfield polysemies play a role, as they illustrate semantic relations between the domains of emotion, vision, and cognitive

perception. Intrafield polysemies may occur well, for example in (14, 16). An example of the basic meaning of *yóód* is given in (11):

yóód 'see, find'
(11) án à-**yóód**-é ké cá
1SG.OP PERV-**see.TR**-1SG LM DEM
s/he saw me over there

Non-visible object arguments trigger interfield polysemy, whereby *yóód* expresses 'hear' when it refers to 'word', as in (12), and 'realise' when referring to 'thing that the diviner found out', as in (13):

'see, find' → 'hear, obey'
(12) lúb-ɔ̀ nì à-**yóód** -gɛ́n
word-SG SC PERV-**hear.TR**-3pl
the (Christian) word that they have heard/listened to

'see, find' → 'realise, come to know'
(13) gín ma-à-**yóód**-é ŋàd-é thoor-é
REL RELAT-PERV-**realise.TR**-3SG person-NOM divination-NOM
what the diviner then has found out

Visible arguments that are seen only after a search, where 'see' acquires a volitional, telic quality, trigger a shift towards 'detect' (14), or towards 'seize', as in (15), where a journey into the forest is involved in the event. In (16), motion of the agent and removal of an obstacle (a fence) trigger the meaning 'discover'. Consider the following examples:

'see, find' → 'detect'
(14) é cáŋ ní jìbɛɛr Ø-à-bɛɛnɔ̀ paa-wàn
TOP day.SG while <NAME> 3SG-PERV-come.AP village-POSS.1PL.EXCL
bóó ù-**yóód**-é kow-á àkɔ̀ɔ̀l gɛ́
banana IMPERV-**detect.TR**-3SG grandfather-POSS.1SG <NAME> 3PL
kàn ábwɔ̂lɔ̀ cííy-é gɛ́ né paàjò
DEM <NAME> wife-POSS.3SG 3PL LOC house
one day Zubeir came to our village, Boo, and detected that my grandfather Akol and his wife Abwolo were in the house

'see, find' → 'grasp, seize'
(15) é céè dɔ́mì ù-**yóór** oc me-dwɔ́ɔ̀ é
TOP when forest IMPERV-**seize.TR** fence RELAT-be_big.PL TOP
ŋɔ́ à-gɛɛr
3SG.O PERV-build.DTR
when he was in the forest, it was seizable that a huge fence was built there

'see, find' → 'discern, discover'

(16) ù-ŋwɔ̀ɔ́d-é tyên-é ùù ma-Ø-à-ɲíŋɔ́
IMPERV-stand_up-3sg toe.PL-POSS.3sg and RELAT-3sg-PERV-look.CAUS
è-**yóód**-í ŋɔ́ é gén bɛ̀ɛ̀dà ɲìthíính
3sg-**discover**-CAUS 3sg.O TOP 3pl it_is child
he stood on his toes and looked, and he discovered that there were actually children

Seeing in all these examples induces cognition as the result of combining various actions and events of vision. As we shall see in the following section, this correlation between attempts to perceive and understanding or knowing is not achieved by other perception verbs.

2.2 *Sensory Perception*

Most of Luwo's other sensory perception verbs do not exhibit salient transfield polysemies, even though *lìŋ* 'hear' can express 'understand' in the sense of 'listening to s.th. audible', as in (17):

lìŋ 'hear'

(17) lúb-ɔ̀ me-ràj ù-**lìŋ**-gén
word-SG RELAT-be_bad.SG IMPERV-**hear.TR**-3pl
they hear bad news

The other verbs of sensory perception refer to the physical perception domain and rarely show any intrafield mapping of a specific perception domain into another. Verbs that express vision (without showing any semantic extension into the domain of cognition) very often form part of propositions that refer to more static events, where S is not very agentive in the sense of searching, looking around, trying to get a glimpse of something, and so on, but rather is watching without moving the body, or experiencing as sight or a view. Examples are:

mʌ̀ŋ 'look at'

(18) à-**mʌ̀ŋ**-é báŋ cwɔ̀r ɲìmín
PERV-**look.TR**-3sg at husband.SG.PERT sister.SG.MODF
he looked at the husband of his sister

nìid 'see'

(19) dhècwɔ̀w gín à-**nìid**-ɔ̀ én ù-béènɔ̀
man REL PERV-**see.TR**-3pl.INCL be_present IMPERV-come.AP
the man whom we saw is coming

Examples (20, 21) illustrate that 'touch, feel' expresses a much more dynamic action, sometimes also meaning 'hit' instead of 'feel', depending on the context and the semantics of the core participants.

gɔɔj 'touch'

(20) ɲááków à-**gɔɔj** ɲìdhɔɔg-é
girl PERV-**touch.TR** boy-ERG
the boy touched the girl

(21) yí-**gɔɔj**-á!
2SG-**hit.TR**-1SG
I hit you!

As indicated above, none of the verbs of sensory perception briefly dealt with here primarily expresses the concept of recognition or awareness, e.g. as the result of a process of sensing and experiencing. The notion of knowledge and truth is rather insignificant here, and the experience of mystical knowledge hasn't been recorded as a semantic extension of any of these verbs either. If it were for these verbs of perception, and the perception/cognition verbs *ŋáy* and *yóód* discussed further above, one could be tempted to conclude that Luwo is not very rich in means of expressing knowledge in terms of enlightenment, or in a mystical sense, but rather as part of telic and agentive concepts that have to do with 'finding out', such as in examples (12) onwards, 'learning', as in examples (7.a, b), and with various ways of watching and other modalities of sensual perception.

Moreover, most of these have to do with perception that doesn't involve ingestion, such as seeing, hearing, and touching, which are all perceptions whose scope are referents that are part of the world outside the body. Some of the verbs we have looked at so far have more agentive S-participants than others, but they all have in common that S/A is not immersed or affected physically-internally by perception, or affected intrinsically as in emotive experiences, for example (Wierzbicka 1999). This is interesting with regards to 'touch', which has an extremely wide scope in other languages and cultures, mapping into sensory experiences of various kinds, emotion, experiences of healing, mystical immersion, salvation, pain, and so on (Classen 2012). In Luwo, these concepts of sensation and experience can be expressed by another verb, *ŋwaay* 'smell'. This verb is closely related to another, rather specialized verb, namely *ŋéc*.

2.3 *'Recognize' as Search and Action*

Before 'smell' and the conceptualization of odour will be explored, it is relevant to first take a closer look at the verb 'recognize', which helps clarifying the different concepts of 'know', and also the etymological background of 'smell'.

Both Luwo folktales and the available ethnographic sources on this group (Santandrea 1948, 1977 & 1969) suggest that knowledge is closely associated to searching and being actively involved in gaining knowledge. For example, divination as a process of finding out and coming to know about hidden things is expressed as search, as in the following name for 'diviner' (which is one of several terms or titles for diviners):

(22) ŋàt cʌ́yɔ̀
person search
seeker (of hidden things), diviner

In tales, the idea of obtaining knowledge is often expressed by 'search', and the result has the connotation of 'find', as we have already seen above. The verb *ŋáy* 'know, understand', which was discussed at the beginning of § 2 does not express these meanings, but a rather static form of cognition. In most texts of the corpus available to me, 'know' is not expressed by *ŋáy*, but by the verb *ŋéc* 'recognize'. Both verbs are most likely not etymologically related and occur in complementary distribution rather than being pragmatically marked variants.

As can be seen in the following examples, *ŋéc* expresses cognition as an active and goal-oriented action. It is often used in imperfective, durative constructions, expressing knowing as a continuing action (e.g. examples 23, 24).

(23) lúb-è ní à-wɛ́d-é ŋàd-é àmùɔ́l-é gɛ́
word-PL REL PERV-write.TR-3sg person-NOM insane-NOM 3pl
pàdh **ŋéj**-í ríí-gɛ́n yír ŋɔ́gɛ́
exist_not **know.TR**-CAUS self-POSS.3pl BEN person.PL
ma-à-kwáàn-ò wárgà
RELAT-PERV-read.TR-1pl.INCL book
the words which the diviner then wrote cannot make themselves known to ('be recognized by') people who read paper

(24) ú-**ŋéj**-é
IMPERV.FUT-**know**-3.sg
he will know/be knowing

In (25), knowing is the result of religious experience through a Bible translation project:

(25) à-náà-**ŋéj**-á lúm-é ké
PERV-INFER-**know.TR**-1SG word-POSS.3SG COP
dhé-paàr-wàn
mouth.MODF-place.MODF-POSS.1PL.EXCL
now I know his word in our language

In other contexts, *ŋéc* expresses 'recognize' as an event of vision and cognition, as in the first verbal clause of (26) and in (27). In example (27), knowing as an event and process (and not as a state or situation) is linked to agentivity of the A-participant and to transitivity. Both examples refer to the result of a search for a person's brother.

(26) ù-**ŋéj**-é ɔ́ɔ̀-é Ø-à-ŋééjɔ̀
IMPERV-**recognize.TR**-3SG brother-POSS.3SG 3SG-PERV-recognize.DTR.AP
he then recognized his brother, he just knew

(27) né ŋɔ́ à-**ŋéj**-ì ké dwɔɔg-ì ù-wɔ́m-ì
if SG.O PERV-**recognize.TR**-2SG FOC go-2SG IMPERV-bring-2SG
ŋɔ́
3SG.O
once you recognized him you go and bring him

In terms of the semantic extensions of expressions of cognition which are made less agentive and more autobenefactive, Luwo departs from well-attested patterns and exhibits other possibilities. This becomes obvious when the derivational morphology of sensory verbs in Luwo is explored.

3 Anticausative and Ambitransitive Constructions

While there are specific verbs that encode 'know', 'learn', 'see', and so on, and that may exhibit salient polysemy, the verb *ŋáy* 'know' is rather inflexible semantically. It does, however, produce derived stems. One of these denotes 'smell', suggesting that in Luwo KNOW and SMELL are closely related concepts. This contrasts to some extent to our observation that sensory perception verbs which refer to sight tend to express cognition more than verbs referring to other perception domains. We have seen that the verbs *yóód* 'see, find' and *ŋéc* 'recognize' are more polysemous than other perception verbs (*lɨ̀ŋ* 'hear', *gɔɔj* 'touch'), and express concepts of knowing and understanding. However, there are a number of less

volitional verbs which specifically express vision, such as *mʌ̀ɲ* 'look at', *nʉ̀ʉ̀d* 'see', and which do not exhibit semantic extensions into cognition.

The only sense we have not yet dealt with is smell, and its sibling, taste. Before we deal with the semantic particularities of this aspect of perception, the grammatical construction of 'smell' needs to be explored. Smelling is expressed in the following way:

(28) ríà à-**ŋwaay**-é O V-SA
perfume PERV-**smell**-3sg
s/he smelled perfume

(29) waar (à-)**ŋwaay** kɔ̀th SP V SMELL
cloth (PERV-)**smell** sesame_smell
of sesame smells the cloth

The verb looks strikingly like the verb for 'know', *ŋʌ́y* which in all examples recorded so far (cf. examples 5–8 above) does not exhibit any meanings related to smell, even though a rather common pattern of semantic extension of 'smell' is 'detect s.th., find out, think'. Such meanings, however, are expressed in Luwo by *yóód* 'see, find', but not by *ŋʌ́y* 'know'. But what is *ŋwaay* then? An answer comes from the following example. The verb 'scratch' occurs as an active stem, from which an anticausative stem can be derived. Compare the following forms:

(30.a) 'scratch', active stem
Ø-à-ké-gɔ́ɔ̀ŋɔ̀
3sg-PERV-DUR-scratch.DTR.AP
s/he was scratching

(30.b) 'scratch', anticausative stem
Ø-à-ké-gwóòŋò
3sg-PERV-DUR-scratch.AC.AP
s/he was scratched (for some time)

In Luwo, anticausative verbs are derived from action verbs by means of vowel quality alternation. The verbal stem vowel is always shifted to its non-breathy functional counterpart. This strategy is very similar to that of Labwor (König 2010), for example. Anticausative action verbs express an event that affects the subject as patient-experiencer (or undergoer), but do not provide any means to express the agent of causation. With 'know', a verb that is not a real action verb (unlike 'recognize', 'find', etc.) the situation is slightly different, and the resulting anticausative stem has an

S-argument which expresses an actor who acts and endures at the same time. 'Smell' is conceptualized here as a perception that is much less controllable by S than sight, touch, etc. The source of the smell-event stands in the position of O, but represents an adjunct of the predicate.

Moreover, the anticausative stem of 'know' is not productive any longer, as speakers would not be able to spontaneously link this form with the active stem—which they could do with action verbs, where anticausative derivation is very productive. It is possible that 'know' originally is a verb that could be considered an active verb, perhaps in analogy to 'recognize', whereas other perception verbs are not. The frozen character of the anticausative form of 'know' also needs to be seen in the context to its use as a high-frequency form.

In the examples presented above, smell consequently is something that invades and affects the subject's body, obviously making it a patient as well. It is interesting that the (inanimate) recipient of a smell, in example (26), namely *waar* 'cloth' is not marked as agent. This is due to the case-marking pattern of the intransitive construction. While the ergative case marker *-é* is suffixed to A in transitive OVA clauses, it does not occur in intransitive clauses. Here, the core argument S stands in the absolutive case, which in Luwo is morphologically unmarked. Hence, the word for 'sesame smell' in (29) above is not a core argument, but modifies the verb.

We thus have two grammatically marked forms of the cognition verb *ŋáy* 'know', one referring to controlled cognition and volitional sensing (active), and one referring to uncontrollable perception (middle voice), namely 'smell'. Compare the following forms:

(31.a) á(n) à-ŋáy-é
1sg.O PERV-know.TR-3sg
s/he knew me

(31.b) á(n) à-ŋwaay-é
1sg.O PERV-know.AC.TR-3sg
s/he smelled me

Even though middle voice is not a grammatical category in Luwo, its semantics and functions are clearly expressed through the language's verb-derivative possibilities. And not only 'smell' is semantically middle, but also 'think', which is expressed by a reflexive construction of *par* 'remember'. Consider the following example:

'remember' → 'think'

(32) wíŋ-è Ø-par-é parɔ̀ ké cá
head-POSS.3sg PERV-remember.TR-3sg memory LM DEM
s/he thinks by herself as such:...

KNOW can thus be described as at least two different processes and events in Luwo: On the one hand as an activity which relates to SEARCH, RECOGNIZE and so on, and on the other hand as an uncontrolled event which relates to autobenefactive actions and experiences of being overwhelmed by sensations.

3.1 *Smell and Taste Terms*

It is possible that Luwo originally had other smell verbs, but this is not attested. However, it is very characteristic for this language that small differences among smells can be expressed in a very detailed manner by a rather large variety of different lexemes.[3] Unlike the examples given for ingestion verbs in (1), smell terms form a word class by themselves. They are not verbs, adjectives, or ideophones, but morphosyntactically differentiated ophresaesthemes, which cannot inflect for TAM or take a relational prefix and so on (Storch & Vossen 2007, Storch 2004). Examples for the use of smell terms are:

(33.a) dhɔ̀g à-náà-dɔɔŋ bʌ́dh yír
mouth PERV-INFER-become neutral reason.MODF
kʌ́ʌ́
long_time_without_meat
the mouth has become tasteless because of hunger/starving for meat

(33.b) kwom-è bàd
body-POSS.3sg armpit_smell
his/her sweat-smelling body

(33.c) ŋɔ́ kɔ̀th
3sg sesame_smell
it is like the smell of sesame

[3] Developed smell and taste vocabularies are also found in other Western Nilotic languages. Most of them are Southern Lwoo languages, whose closest relative in the Northern Lwoo group is Luwo (Storch 2005). In Chopi (Storch 2011) and Kumam (Storch 2005), smell terminologies refer to both natural and supernatural phenomena and might rather reflect world view and wisdom than just the categorization of referents according to their respective smell. Mayak (Burun group, Storch 2005) exhibits a similar phenomenon.

Examples for more smell terms are given in (34):

(34) cáù 'smell of raw fish'
kúr 'flowery perfume'
tɪù 'pus smell'
cér 'smell of urine'
lɛ̂m 'odour of flower, pollen'
wàc 'smell of fermented flour'
bàd 'smell of sweat under armpits'
pɛ̀ɛ̀d 'smell of rotten meat'
kɛ́ɛ̀c 'aggressive smell of smoke'
ŋìr 'smell of unripe beans'
kɔ̀t 'light scent of flowers'
tík 'smell of uncastrated he-goat'
kɔ̀th 'sesame smell'
bʌ́dh 'smell of breath or of saliva'

Luwo has a developed terminology of tastes as well, but these all are verbs. There is no verb which encodes the general meaning of 'taste', but verbs for specific tastes. These are:

(35) làw 'taste salty'
cɛ̀r 'taste unripe (like sugar-cane)'
lɛ̂m 'taste sweet (like sugar, honey)'
wʌ̀c 'taste sour (like unripe mango)'
kɛ́ɛ̀c 'taste bitter (like pepper, mahogany)'
ŋáu 'taste unripe (like fruit)'
cwʌ̀t 'taste bitter (like unripe guava, guava leaves)'
ɲwɛ̀ɛ̀th 'taste sweet (like cooked meat)'
bʌ́t 'taste like cooked beans just about to spoil'
lwɛ̂ŋ 'lose taste'
kɛɛm 'taste not bitter and not sweet'
ɲʌ̂y 'taste of cooked oily food'

Differences between smell words and taste verbs in terms of agreement patterns are exemplified in (36.a) and (36.b, c), respectively. While smell words don't inflect and are arguments of the verb *ŋwaay*, taste verbs inflect:

(36.a) ú-ŋwáay kɔ̀th
IMPERV-smell.FUT sesame_smell
it will smell like sesame

(36.b) ú-lém
IMPERV-taste_sweet
it will taste sweet

(36.c) ú-lémlêm
IMPERV-taste_slightly_sweet
it will taste a bit sweet

Only very few of the terms given in (34, 35) can be etymologically related to smell and taste terms in other Lwoo languages (e.g. *lêm* 'be/taste sweet', in Chopi also 'taste nicely cooked meat'). A verb **ŋwey ~ *ŋway* 'smell', however, is widespread as is a root **ŋec* for 'know'. This may indicate that in Luwo and in other Lwoo languages there existed a common concept of SMELL as being distinct from KNOW. Ehret's comparative data, however, suggests a Western Nilotic root *wɔm*, deriving from 'nose' (Ehret 2001: 294) as a common root for 'smell'.

We can summarize at this point that 'smell'—a derived stem of 'know' in Luwo—and 'recognize, get to know' are different concepts in a number of closely related Lwoo languages, which also share the feature of specialized smell terms. Hence, smell can be assumed to have played a somewhat particular role, even though its historical cultural context remains unknown for the time being.

The other widespread root for 'smell', *wɔm*, suggests that the Luwo verb *ŋʌ́y* 'know' and its derived stem *ŋwaay* 'smell' originally encode a fairly distinct concept of cognition, different from both *ŋec* 'recognize' and *wɔm* 'smell' (which could have been something like 'sniff' originally). Moreover, the widespread occurrence of *ŋwey ~ ŋway* 'smell' may speak in favour of the hypothesis that Luwo 'know' is originally derived from this verb, with a meaning such as 'be immersed in knowledge'. Hence, the original development could have been something like 'smell' → 'know, be immersed in knowledge' → 'smell (antipassive)'.

4 Transmission of Knowledge

If cultural roles of different perception domains can be correlated with the way the senses are encoded, then the transmission of knowledge should be revealing for our understanding of how the society organizes a hierarchy of the senses. We have seen that KNOW as an agentive action has much to do with SEARCH in Luwo. Making knowledge obtained available to others can involve a large variety of strategies, and the management of secret knowledge may be entirely different from that of public or

generally available knowledge. One important factor, however, in passing on wisdom and knowledge to other people is the narration of tales and stories.

In an attempt to discover the possible origins of Luwo smell words, an extensive list of several hundred ideophones was analysed by the present author. Without discovering the origin of smell words in Luwo, they shed some light on the cultural semantics of word classes instead. Ideophones are typically used in narration where they are an indispensable part of storytelling, and their appropriate use characterizes a skilled, socially respected storyteller. In Luwo, ideophones allow for a painstakingly accurate description of visual events or those events that can be evoked by the storyteller (see Dingemanse 2011: 34 f. for a characterization of ideophones as words of *fundamentally depictive nature*). Luwo ideophones hardly ever refer explicitly to sounds, smells, and haptic sensations. A brief overview is given in the following examples:

A. COLOUR

(37) ŋàk 'bright red', thìríc 'bright red', cɔ̀ɔk 'bright green or yellow', burr 'bright white', nìlíp 'pitch dark, very black'

B. FACIAL EXPRESSION, PHYSICAL STATE

(38) ŋaaŋ 'look happy because s.b. else has bad luck', cár 'look as if doing well (e.g. in exams)', báŋbáŋ 'compound is flooded', wídwíc 'extremely clean and shiny', bàlą̀ŋ 's.th. flashing', túl 'fire burning far away, vision of smoke at horizon'

C. DIRECTED TRANSLOCATION

(39) kwaŋkwaŋ 'come near with fear', mɔ̀rmɔ̀r 'a lot of people/cattle moving together', maanmaan 'pour down all water on ground (spoiling it)', paaw 'pour out water at once', kɛlkɛl 'come near, leaving much space in between'

D. UNDIRECTED LOCOMOTION

(40) kunákuná 'walk with head bowed down', càjàcàjà 'shuffle along', címcím 'tiptoe', liblib 'sneak, creep (like cat)', kɛ̀ɛ́rkér 'walk weakly, close to falling down', cìpcìpcìp 'walk like a dog', tàktàgè 'walk like a drunk person'

E. BALLISTIC MOTION

(41) ryɛ̂dh 'fall into mud', lɔ̀t 'fall down from high (fruit from tree)', lùt 'falling from tree after losing balance', jìk 'fall to the ground without moving legs', yúàk 'fall down lightly', tɔ̀k 'beat s.th.', wày 'pile of things falling down'

F. SEPARATION

(42) ryámryàm 'breaking things', tɔ̀ltɔ̀l 'dust comes up after beating on cloth', ŋidŋidè 'cut with knife that is not sharp', ŋàay 'to cut in the middle (e.g. fruit with knife)', pàc 'slip away'

G. TRANSPORT

(43) kàjkàjì 'pulling s.o. around in a merciless way', lwɔ̀glwɔ̀gí 'hold s.b., but not firmly', làŋèlàŋè 'softly moved by the wind'

H. EMERGENCE

(44) cárrárré 'vision and sound of lightning', cúgcúk 'move/happen straight away', hàrhàr 'flame coming up suddenly'

I. OSCILLATION AND FIXATION

(45) kɛɛrkɛrè 'softly swinging', yâŋyâŋ 'wind blowing into tree', rìgrìg 'shivering because of old age or alcoholism', kwàjìkwàjì 'shivering because of fear'

J. CHANGE OF STATE

(46) célâŋ 'to appear suddenly', rup 'reduce s.o. quickly, lose weight quickly', wic 'eat all up', wɛɛɲ 'lighten up again', pét 'become angry with s.b. very suddenly'

Even though some of the ideophones refer to EMOTION, TOUCH, HEAR, etc. as well, they more than anything else encode motion. They do not highlight these senses, e.g. as TOUCH in (34), but the movements that are characteristic for these actions and events. Most of the ideophones listed here or in the present author's corpus were enacted and thus made visual by a storyteller.

These examples suggest that sound symbolism indicates distance as well: properties that can be perceived from a distance are described by referring to ideophones, while sensations that involve getting close to an object or a place are never encoded by this highly specialized word class. Vision is used in the same way a skilled storyteller describes a scene, organizes the story, points at actors and actions from a distant location, for example sitting on a village square, under a tree and so on.

There are two aspects of poetic language that are interesting for our understanding how the visual perception domain is valued culturally in Luwo society. First, ideophones are language that could be made visible, as they often go along with gestures, acting and moving—rather than sitting while narrating. An example of this multimodal use of poetic and expressive language is the following sentence:

(47) ŋàt-koor kwɛɛr à-bʌ́ʌ̀l-↓é nì cʊʊr
person-watch hoe PERV-throw-3sg SC IDEO
[sit] [raise right arm, stand]
the watchman threw a hoe at something far away

Here, the narrator imitates the movement of the watchman and then sits down on a chair again in order to continue the story. The ideophone not

only allows a correlation of auditory and visual domains—in the sense that the audience *listens* to a story, but also is made *see* its dramatic aspects—but also the imitation of events, in the sense of a recreation of former perception events. And this is the second aspect of poetic language as an expression of culture through visible actions. As the narrator also is an actor, her interpretations of an event through imitating motion become evidence of truth, as the narrated event is through a gesture made happen once more.

This is also the case when emotions are made visible, such as in the following example:

(48) capíiya ù-cʌ́mɔ̀ nì cár
<NAME> IMPERV-eat.AP SC IDEO
[raise eyebrows, move head up and forward]
Sophia (child) eats nicely and satisfyingly

By imitating the child's expression while properly eating her food, the narrator here evokes emotions such as satisfaction and relief. The emotive expression of the ideophone is only achieved in combination with the facial expression of the narrator and then can be shared by the audience. Here, a culturally salient technique, namely storytelling with the help of ideophones and gestures, bridges the gaps between the various perception domains, such as seeing, hearing, and feeling.

5 Some Conclusions

Narration, and educative communication (which also is dyadic communication), being one of the fundamental elements of human interaction and social life, has "eyes on top" (Van Beek 2010) in the perception hierarchy of Luwo. However, in other (non-dyadic) communication types, the role of immersion is emphasized, both in the semantic extensions of sensual verbs and in the existence of a separate smell word class. Instead of exhibiting a separate root for 'smell', Luwo synchronically derives 'smell' from 'know', and correlates cognition, vision and searching in other constructions, where a variety of perception verbs apart from 'know'/'smell' are used.

Finally, the situation found in Luwo is interesting diachronically. The root for 'smell' which is found in Luwo is attested widely in almost all branches of Western Nilotic (present author's own corpus), and in a large variety of other Nilotic languages. It is therefore possible that the verb's historically first meaning is 'smell', which in Luwo may have undergone

semantic shift (or enlarged its semantics?) towards 'know'. The present situation—'smell' as an anticausative of 'know'—should then be a later development, perhaps through reanalysis of both forms, or a more recent construction which makes the original meaning of 'know', namely 'smell' transparent. One argument for this hypothesis is the lack of any primary verb for 'smell' in this language, and the presence of a rather large inventory of specialized smell terms.

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CHAPTER THREE

SOURCE OF INFORMATION AND UNEXPECTED INFORMATION IN !XUN—EVIDENTIAL, MIRATIVE AND COUNTEREXPECTATION MARKERS

Christa König

1 Introduction

The following is based on the W2 dialect of !Xun (in short W2), formerly called Northern Khoisan, now called either !Xun (Heine and König forthc.) or Ju (as e.g. by Güldemann and Vossen 2000). !Xun, as a cover term for the dialect cluster, consists of three major dialect groups, namely the Northwestern dialects, among them the W2 dialect, the Central dialects, and the Southeastern dialects, among them Jul'hoan (see Dickens 2005). The W2 dialect is spoken in northern Namibia near the Angolan border. With roughly ten to fifteen thousand speakers, !Xun is among the traditional forager languages of the Khoisan area with the largest speaker community (see König 2008).

!Xun has a basic AVO-constituent order (see 1.a), with an isolating structure. In all !Xun dialects, serial verb constructions (SVC) are of importance. W2 has an asymmetrical SVC-type which comes close to verb compounding. Asymmetrical SVCs can be seen as a salient feature of the area, it occurs also in the !Ui-Taa languages (formerly called Southern Khoisan). There is no cross-referencing on the verb, core participants such as subject and object can be omitted. Grammatical information is mostly expressed by clitics or particles. Unlike most other !Xun dialects, W2 has a rich system of tense, aspect, and modality, expressed by clitics preceding the verb stem. Most of them are omissible (see König and Heine 2001, and König 2008). A transitive clause in W2 shows the structure given in (1.a): The subject, A or S, precedes the verb, while the object follows. As (1.a) illustrates, no encoding of any temporal or modal information is necessary, no cross-referencing on the verb is possible. !Xun is a highly context dependent language, which means that although the language provides a considerable amount of grammaticalized markers, usually expressed by clitics or particles, hardly any of them is obligatory. It also means that

the meaning of an utterance depends to a certain amount on information given in the linguistic and extra linguistic context.

I will briefly introduce a few markers which are of importance in the coding of the information structure as discussed in the present paper. Among them are the topic marker *má*, the question marker *kwá*, and the negation markers *lōā* or *nǂàn*.

In the W2 dialect, the topic marker *má* is obligatory in certain clause types. Among them are declarative clauses, such as (1.a). The topic marker *má* has been grammaticalized to a kind of subject case marker. It is still used as a productive topic marker, in that a topicalized participant appears clause initially with *má* being placed at the end of the topicalized participant (see 1.d). In certain areas which are more connected to the focal domain, the topic marker does not appear, among them are imperatives (see 1.e), other expressions of deontic modality, questions (see 1.b), and subordinate clauses preceding the main clause. The topic marker is expanding its use in that these restrictions are being given up by some speakers.[1]

Sentence questions are formed by the question marker *kwá* (often reduced to *á*), which appears in the second position of a clause (see 1.b). Tense and aspect information, if expressed, appears before the verb in the order ADVERB—NEGATION—ASPECT—TENSE—VERB (see 1.c).

(1.a) Càālò má cʔŋ̀ gǂú
Calo TOP drink water
Calo is drinking water

(1.b) Càālò á ā cʔŋ̀ gǂú
Calo Q PROG drink water
Is Calo drinking water?

(1.c) Càālò má xāŋ́ lōa a cʔŋ̀ gǂú
Calo TOP then NEG PROG drink water
Calo is then not drinking water

(1.d) gǂú má Càālò cʔŋ̀
water TOP Calo drink
as for the water, Calo drinks it

(1.e) cʔŋ̀
drink
drink!

[1] The topic marker *má* is a salient feature of the Northwestern !Xun dialects, particularly W1 and W2, the two western dialects. Most of the remaining dialects do not have any grammaticalized topic marker.

(1.f) nll̀àn cn̄̀
NEG.IMP drink
don't drink!

There are two negation markers in W2, the default negation marker *lōā* (see 1.c), and *nll̀àn*, used in negated imperatives and some modally marked expressions (see 1.f). The negation marker *nll̀àn* can be seen as an indicator for the deontic value of the utterance.

2 Definitions

In the following I will present four markers which have one thing in common: They encode aspects of information, two of them are concerned with the source of information presented in the utterance, and two with the unexpectedness of the utterance. All markers are grammaticalized means, but none of them is used obligatorily:

> Grammatical means encoding the source of information have been called evidentials. Evidentiality[2] is the indication of the nature of evidence that exists for a given statement, that is, whether evidence exists for the statement and/or what kind of evidence there is, or in Aikhenvald's words: Evidentiality is a linguistic category whose primary meaning is source of information (Aikhenvald 2004:3).

Aikhenvald distinguishes between two major evidential types, called type I and type II. Type I is an indirect system where the nature of the evidence supporting the statement has to be inferred. Type II is a direct one where the nature of the evidence is given directly. The latter subsumes the following subtypes: Twofold systems for witness vs non-witness, firsthand vs secondhand (sometimes also vs third hand), and visual vs non-visual (i.e. auditory).

The majority of languages show a twofold system. Up to five differentiations are documented; e.g. in inferential systems which distinguish various degrees of inferences, such as physical evidence, and general knowledge assumed in accordance with the speaker's expectations.

According to a map provided by Aikhenvald (2004:303), showing the worldwide areal distribution of evidentials, continuous areas of evidentials are particularly common in a belt stretching from North America

[2] For further studies on evidentiality see Aikhenvald and Dixon 1998, Aikhenvald 2003, De Haan 2001, 2005a & b.

to the northern part of South America. Central America shows isolated instances of evidenitals only. An additional continuous area of evidentials is found in mainland Asia. Papua New Guinea and Australia show isolated instances of evidentials. For Africa, only one isolated instance is mentioned (in West Africa). According to Aikhenvald (2004), about a quarter of the world's languages have some type of grammatical evidentiality. In Africa, however, grammaticalized evidentiality seems to be nearly absent. The few cases mentioned in the literature include Shilluk (Miller and Gilley 2007), Luwo[3] (Storch, this volume), Sissala (Blass 1989), Fur[4] (Waag 2010), the Bantu language Beya Lega (Botne 2003:448–449), and Tima (Schneider-Blum and Dimmendaal, this volume). Whether the rare occurrence of evidentials in Africa is due to lack of information or to the fact that the languages indeed have no grammaticalized evidential markers remains unclear. Based on experience in other domains (e.g. ergativity or split S in Africa) it is very likely that the actual number of languages with evidentials is higher than has been established so far.

!Xun has a two-term evidential system.[5] The evidential system belongs to what has been called the witness vs nonwitness or *firsthand* vs *non-firsthand* type. A *firsthand* evidential indicates that the information was obtained through direct observation by the speaker. Usually this is from visual observation (*eyewitness*), but some languages also mark information directly heard with information directly seen. A firsthand evidential is usually contrasted with a *non-firsthand* evidential, which indicates that the information was not witnessed personally but was obtained through a secondhand source or was inferred by the speaker. Or in Aikhenvald's wording, firsthand terms typically refer to information acquired through vision (or hearing, or other senses), and non-firsthand covers everything else (Aikhenvald 2004: 26).

Encoding an utterance as unexpected information belongs to a category which has been called mirative: The term 'mirativity' refers to the linguistic marking of an utterance as conveying information which is new, unexpected and surprising to the speaker (see DeLancey 2001). I will adopt Aikhenvald's definition of mirative which is more elaborate:

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[3] According to Storch (this volume) all verbs are obligatory marked for evidentiality in Luwo.

[4] In Fur, the two systems are not separated. According to Waag (2010:258–261) there are 6 particles each of which has an evidential and a mirative function.

[5] Unless otherwise indicated, the term "!Xun" refers henceforth to the W2 dialect, on which this paper is based.

> Mirativity is a grammatical category whose primary meaning is speaker's unprepared mind, unexpected new information, and concomitant surprise. (Aikhenvald 2004: 209)

There is a connection between evidential and mirative in that evidentials can expand their meaning to cover mirative as well. According to Aikhenvald there are several ways in which an evidential (except firsthand and visual), may extend its meaning to mirative. A non-firsthand evidential may show the following meaning extension:

> Lack of firsthand information → speaker's non-participation and lack of control → unprepared mind and new knowledge → mirative reading. (Aikhenvald 2004: 208)

Although there are languages where the mirative meaning is expressed by an evidential, in !Xun the two domains are to be separated: The mirative marker and the counterexpectation marker are expressed differently with markers of their own.

3 Means of Expression

3.1 *General Remarks*

In the following, four markers are presented, namely the evidential markers *mèká* for firsthand information, *cālā* for non-firsthand information, *kòhà*, a mirative, and *kò*, a counterexpectation marker. Table 1 gives an overview of these four markers.

The evidential markers *mèká* and *cālā*, the mirative *kòhà*, and the counterexpectation marker *kò* are all independent clitics which basically occur within the verbal complex in the modality slot (see figure 1). The latter is used as well by modal markers expressing epistemic modality, such as *cē* 'could, should', and deontic modality, such as *nllūú* 'should', 'must', and *ō* 'must'. This position suggests that the evidential markers are likely to originate from verbs via serial verb constructions where formerly full verbs developed schematized modal meanings. The lexical semantics of the verbs is unknown though.

Table 3.1. The evidential, mirative and counterexpectation markers in !Xun (W2)

Item	Approximate meaning	Function
mèká	'I see that', 'I hear that'	first-hand evidential
cālā	'they say that'	non-firsthand evidential
kòhà	surprise	mirative
kò	'I erroneously expect that'	counterexpectation

ADVERB	NEGATION	MODALITY	ASPECT TENSE	**VERB**	DERIVATION	T[6]	PASSIVE

Figure 3.1. The verb structure in !Xun

Figure 1 shows the structure of linear ordering of grammatical categories associated with the verbal complex.

To establish a syntactic profile of the markers involved it may be helpful to look at their behavior with regard to the following features:

– whether or not they allow the topic marker *má* to be used,
– whether or not they appear with the question marker *kwá* without expressing a question,
– which negation marker they take (the default negation marker *lōā* or the imperative negation marker *nllə̀n*), and
– the position they occur in, in addition to the default modality slot.

As will be shown below, the markers differ with regard to these features, and/or each marker shows some flexibility with regard to them. The use of the topic marker *má* as a subject case can be seen as an indicator of the degree to which a particular utterance is associated with the topical domain. Lack of the topic marker and/or use of the question marker *kwá* in non-interrogative use, can be seen as indicators of the degree to which the utterance is associated with the focal domain. The use of the imperative negation marker *nllə̀n* can be seen as an indicator of the degree to which the utterance is associated with deontic modality. And finally, the positions where the markers can be placed can be seen as an indicator of their degree of grammaticalization.

3.2 *The Firsthand Evidential* mèká

This firsthand evidential conveys the meaning that the speaker witnessed the reported news him/herself with his/her own senses, typically as an eyewitness or earwitness.

The firsthand evidential *mèká* usually combines with the topic marker *má* (see 2.b). A conversation of two speakers (A and B) might be as follows.

[6] The transitive suffix (abbreviated as T) stands for a type of generalized 'applicative' which increases the valency of the verb by one.

The firsthand evidential underlines the truth value of the statement, paraphrasable as 'Since I have witnessed it with my own eyes there is no doubt that the following is true', as in (2.b):

(2.a) speaker A
djù lxòà hà̀ ndòà cú kwá ǁāē
person N1 DI lie.sg Q die.sg
is that lying person dead?

(2.b) speaker B
djù lxòà hà̀ ŋ̄ŋ má mèká lāē
person N1 PR TOP FIRSTH.EV die.sg
this person is dead [as I saw it myself]

With first person, the firsthand evidential can be used e.g. to correct a wrong assertion that the speaker made about the hearer. In example 3, two persons (A and B) argue about the question whether the child of B is dead. A reports the rumor that the child of B is dead. A uses the non-firsthand evidential to mark his statement as a non-directly perceived information, a reported information (*hearsay*). B retorts by claiming the opposite. B uses the firsthand evidential to underline the directness of the information his statement is based on: Since B has seen it with his own eyes there is no doubt that his child is alive. His direct source of information is more reliable than the indirect source of speaker A.

(3.b) and (4) are both answers to (3.a), both highlighting the fact that the assumption of A is wrong, in (3.b) by using a negative statement 'my child is not dead!', and in (4) by using an affirmative 'my child is alive!' The firsthand evidential occurs with the default negation marker *lōā* (see 3.b).

(3.a) speaker A
à dàbà cālā kwá lāē
2sg child NONFIRSTHAND.EV Q die.sg
[I heard] your child is dead

(3.b) speaker B
mí dàbà má mèká lōā lāē.
1sg child TOP FIRSTHAND.EV NEG die.sg
my child is not dead [as I saw it myself]!

(4) speaker B
mí dàbà má mèká lxə̀à
1sg child TOP FIRSTH.EV alive
my child is alive [as I saw myself]!

The topic marker is not obligatory with the firsthand evidential, as (5) indicates.

(5) kā mèká kàhīn
N4 FIRSTH.EV be.good
it is good [as I saw it]

The firsthand evidential can also be used with first person; it then has the connotation 'to be sure of' (see 6).

(6) mí má mèká tcˈà ḿ
1SG TOP FIRSTH.EV steal food
I stole the food [I know by directly seeing it]

In a conversation between speakers A and B, the following might happen. In (7), the firsthand evidential refers to an ear witness. In (8.b), the firsthand evidential used with first person subject is most profitably to be analyzed as an inferential evidential:[7] the speaker signals that he has firsthand information about the predication made since it concerns himself ('since I woke up I am sure that I had fallen asleep'):

(7.a) speaker A
bà kwá tcāˈā mí
2SG Q hear 1SG
are you listening to me?

(7.b) speaker B
mí mèká tcāˈā à
1SG FIRSTH.EV hear 2SG
I am listening to you!

Or:

(8.a) speaker A
mtcē kwá bà kē ǒ
what Q 2SG PAST do
what were you doing?

(8.b) speaker B
mí mèká kē tcˈá
1SG FIRSTH.EV PAST sleep
I slept [I know]

[7] INFERENCE: based on visible or tangible evidence, or result (Aikhenvald 2004:63).

A combination of the firsthand evidential *mèká* and the mirative marker *kòhà* is possible (see 9). The firsthand evidential signals that the speaker takes full responsibility for the statement, while the mirative highlights the fact that this statement is a surprise to him. In the following example this has the effect of an apology: Although it happened it did not happen on purpose:

(9) speaker B
mí mèká kòhà kē tc'á
1sg FIRSTH.EV MIR PAST sleep
oh, I slept! [I know—it is surprising]

All uses of *mèká* with first person are pragmatically highly marked, in the sense that they are used to correct a wrong expectation or assumption made by others, as in (8.b), or even one which one had about oneself, as in example (9).

The evidential marker *mèká* is not used in questions (see 10.b).

(10.a) hà̀ má ǁáúlè tícē
N1 TOP hunt what
what is he hunting?

(10.b) *hà̀ má mèká ǁáúlè tícē
N1 TOP FIRSTH.EV hunt what
what is he hunting?

In narrative discourse, *mèká* is used either at the peak of the narration or at the end when the main point of the story is being presented. An old man had to sleep on a tree because his hand got stuck in a tree hole when he tried to eat the honey inside the hole. 'My hand is stuck!' (see 11) is the desperate answer of the old man to a stranger asking him: 'What are you doing up there?' In (11), *mèká* is used in an exclamation not with speaker reference but with hearer reference: The firsthand evidential refers to the addressee meaning: '[As you see,] my hand is stuck!'

(11) mí glāō mèká nlú'm̀
1sg hand FIRSTH.EV stuck
my hand is stuck [as you see]!

It has been argued by Aikhenvald that evidentials are used *inter alia* for lying:

> Attitudes to truth—that is, whether or not telling lies is an accepted social practice—appear to be irrelevant to the ways in which evidential are employed, since evidentiality is not about truth or validity of information. We saw in § 3.7 that a language with evidential allows one to lie in rather sophisticated way: one can provide the right facts with false evidential, or get the right information source and false information. (Aikhenvald 2004:358)

There are two examples where the firsthand evidential is used to tell a sophisticated lie in narrative discourse. First, in a story of a turtle and a jackal who are competing with each other in a race in order to see who is faster. The jackal loses the race three times. Each time the jackal calls the turtle and the latter answers from far ahead. The third time, the turtle answers with the firsthand evidential *mèká*, which is an example for an ear witness evidential (see 12). Example (12) is suggestive of a lie in that it is a different turtle who answers from far ahead, not the one which was at the starting point of the race.

(12) mèká ā tì tcà'ā l'hō tà hǎ kwēé
FIRSTH.EV PROG search hear face and N1 say
and obviously [the turtle] answered from the front and the jackal said:

In the second example, the rabbit is fooling the elephant by telling him that the two should put their physical power together in order to put down trees. After the third tree which the elephant has put down, allegedly with the help of the hare, the hare makes the claim in 13, which is ostensively a lie, expressing the main point of the story. The rabbit strengthens his lie by adding the firsthand evidential. (13) can count as an example of use of the right verb with the wrong evidential since obviously the elephant didn't recognize that they did not use their joint strengths; rather, it was he alone who was doing the hard work. Note that *mèká* is connected to the topic domain since it usually appears with the topic marker.

(13) gkhúíñdò láú-ā-kòè mèká kàhīn
strength add-T-RECI FIRSTH.EV be.good
to combine each other's strength is good [as we saw]!

The firsthand evidential typically refers to eyewitnesses (see examples 2.b, 3.b, 4, 5, and 6), but it covers also earwitnesses (see 7.b), and inferred witnesses for first person (see 8.b). In 11 it expresses firsthand information referring to the speaker. It is used to tell sophisticated lies (see 12 and 13). Mostly it appears in exclamations, but declarative propositions are also possible (see 12). The firsthand evidential has the effect that the speaker takes over responsibility for what he says.

3.3 *The Non-Firsthand Evidential* cālā

The non-firsthand evidential typically conveys that the speaker has reported evidence (hearsay), that is, non-witnessed evidence, at least for the statement made. In addition, the non-firsthand evidential covers inferred evidence (see 24 and 25).[8] Frequently, the non-firsthand evidential is associated with doubts by the speaker as to whether the information is correct (see 14 and 15). The non-firsthand evidential frequently combines with the question particle *kwá*, (or *á* in its reduced form) (see 14 and 15, compared with 17 and 20.a). The presence of the question marker does not necessarily turn the clause into a question, but the non-firsthand evidential can occur in questions as well (see e.g. 18.a). Formally, there is no difference between (18.a) and (14). Both fulfill the requirement of a question. However, in (14) and (15), the question marker does not turn the clause into a question: The question marker can be seen as an indicator of the focal status that the statement gets with the non-firsthand evidential: The question marker is simply triggered by the non-firsthand evidential. That the utterance has focal status is corroborated by the fact that, basically, the topic marker *má* is not allowed (see 16). There is however some variation. For some speakers, topic marking is ungrammatical, for others it is possible, though odd (see 16). In addition, there are a few examples where the topic marker is generally acceptable (see 17). The variation of the topic marker with *cālā* is in line with the general behavior of the topic marker (see section 1, and König forthcoming).

Both facts, the frequent use of the question marker and its tendency to be mutually exclusive with the topic marker, indicate that the non-firsthand evidential *cālā* belongs to the domain of focus.

(14) ǁxāí á cālā glè
ǁXai Q NONFIRSTH.EV come
[They say that] ǁXai is coming [but I am not sure that he will come]

---

[8] For convenience of the reader the examples are presented here already:

(24) mí má kā ǁàè n!ùm̀ kā ŋ̄ŋ̀ kā-è cālā n!!á'm̀
1sg TOP PROG? hold rock N4 PR N4–REL NONFIRSTH.EV hit
g!!à è-tcā
lie_down.pl 1pl.EX-DU
I hold this rock so that it cannot fall down and kill us

(25) kā kā má !ùǔqn má hà̀ cālā ǁháí hà̀ ǁxōē
when N4 TOP freeze TOP N1 NONFIRSTH.EV pull N1 tail
when it [the water] froze [the hyena] tried to pull its tail out

(15) hǎ á cālā kē ú l'àn hǎ
N1 Q NONFIRSTH.EV PAST go with N1
he is said to have left together with her [but I doubt it]

(16) *?ǁxāí má cālā glè
ǁXai TOP NONFIRSTH.EV come
[they say that] ǁXai is coming [but I am not sure that he will]

(17) hǎ dèbē má cālā !!èhì
N1 children TOP NONFIRSTH.EV be_stupid
his children must be stupid [as I heard]

The non-firsthand marker downplays the responsibility that the speaker is taking over for his statement.

As has been mentioned above (see section 3.1), negation is an additional indicator for the status of *cālā*, which is negated by the default negation marker *lōā* (see 18.b). In a conversation of speaker A with speaker B, the following might be said:

(18.a) Nlhùmē cālā kwá ǁāē?
Nlhume NONFIRSTH.EV Q dead.sg
[they say:] Nlhume is dead?

(18.b) Nlhùmē cālā kwá lōā ǁāē
Nlhume NONFIRSTH.EV Q NEG dead.sg
Nlhume is not dead [as I heard from somebody]

Or:

(19.a) yà kwá cālā tc'à mí ḿ
2pl Q NONFIRSTH.EV steal 1sg food
you steal my food [as I heard from somebody]!

(19.b) lōā djù má lōā kē tc'à yà ḿ
NEG 1pl.EX TOP NEG PAST steal 2pl food
no! we didn't steal your food!

In both conversations (18 and 19), speaker A asks about something he only knows from indirect sources. In (18.b), the hearer answers using the non-firsthand evidential again, indicating that his source is also indirect, although his statement contradicts the assumption made by speaker A. In (19), speaker A blames speaker B of being a thief. With the non-firsthand evidential, the reproach may appear a little milder than without.

Used with first person subjects, the non-firsthand evidential *cālā* gets the reading 'as I heard, somebody says about me/us', typically if an

assertion is ostensibly untrue. The question marker *kwá* is not obligatory (see 20.a), though possible (see 20.b).

With regard to the position of the evidential marker *cālā* there is some remarkable variation: It either appears in the modal slot preceding the verb, and in this case it has to appear after the question marker (see 15, 19.a), the latter being placed by default in second position of the clause, also called the Wackernagel position. Alternatively, the evidential marker *cālā* appears directly after the subject before the question marker (see 18.a, 18.b, 20.a, 20.b, 21.a). Syntactically this makes a significant difference in scope: If *cālā* is placed after the question marker it is part of the verb, like a verbal inflexion, and has semantic scope over the verb phrase. If however it is placed before the question marker it no longer can be seen as a verbal particle but rather is an independent particle being attached to the referent it refers too, typically the subject. Example (18.b) can be paraphrased as 'N|hume, as I heard of him, is not dead!' instead of saying something like 'N|hume is dead, as I heard', which would more likely reflect the meaning when *cālā* is placed in the modality slot of the verb. The evidential marker placed adjacent to the referee may emphasize even more the fact that it is non-witnessed information only.

(20.a) mí cālā kē cn̄ djūí kē kwā ŋ̄ŋ̀
1sg NONFIRSTH.EV PAST drink beer TR here
[somebody said, as I heard, that] I drank beer here

(20.b) mí cālā kwá kē cn̄ djūí kē kwā ŋ̄ŋ̀
1sg NONFIRSTH.EV Q PAST drink beer TR here
[somebody said, as I heard, that] I drank beer here

(21.a) m̄hm̀ cālā kwá ǁáúlè !xō
1pl.IN NONFIRSTH.EV Q hunt elephant
[somebody says, as I heard, that] we are hunting an elephant

(21.b) m̄hm̀ má tá óá ǁáúlè nhǎù
1pl.IN TOP actually FUT hunt rabbit
[but] we actually are going to hunt a rabbit!

Examples from narrative discourse lack the question marker and show again the order where *cālā* is placed directly after its referee or in the adverbial slot before the negation marker (as in 22). In narrative discourse, *cālā* is primarily used in exclamations in the dialogue structure to encode crucial information.

Examples (22) and (23) are taken from the same story about a young hyena and a jackal. In both cases (22 and 23) *cālā* encodes information

which is somewhat shocking for the speaker or the addressee since it proves that the speaker or the addressee has been cheated. A young hyena has lost one eye because the jackal stabbed it. The young hyena and its mother then chased the jackal. At some point the young hyena grabbed the jackal, but the jackal fooled the hyena again by pretending to be chewing something. The jackal promises to share the food with the hyena and orders the latter to bring a piece of bark to put honey on. The young hyena releases the jackal, and tells its mother about the promised food. There the mother shouts: 'The jackal has no container [as I heard]!' (see 22); Note that the mother has not seen the jackal herself. By this information, it becomes clear that the jackal lied to the young hyena and made the story up to escape. A while later the jackal reveals his lie to the young hyena and produces a new lie by claiming: 'But he has fur on his chest [as I heard]!' What the jackal means to say is that the hyena was in fact catching the jackal, which is true. The non-firsthand evidential however is inadequate since the jackal is talking about himself and knows by first-hand information that it was him who had been grabbed by the hyena. By giving the impression that it was only reported information, he conceals his personal identity. In (22), the lie of the jackal is revealed by the evidential, and in (23) a new lie is produced by using the wrong evidential with the right verb.

(22) hǎ kūndòˈà cālā ǁōā gè-ā hǎ ǁōā gè-ā tāqn̄
N1 then NONFIRSTH.EV NEG be-T N1 NEG be-T container
he has no [container], he has no container [as I heard]!

(23) hǎ cālā tcōān ŋ́!ŋ́-mà !xˈúí
N1 NONFIRSTH.EV chest inside-DIM fur
but he has fur on his chest [like a lion, as I heard]!

In (24), *cālā* is used with future reference as an inferred evidential on reasoning to tell a sophisticated lie. The jackal tells the hyena that the rock has to be held up because otherwise it would fall down on them and they would be dead. Since it is a hypothetical utterance, the non-firsthand evidential puts emphasis on the assumption[9] that the rock will hit down on them and kill them. This is a lie by which the jackal keeps the hyena busy so that it has time to catch and eat fish:

[9] ASSUMPTION: based on evidence other than visible results: this may include logical reasoning, assumption, or simply general knowledge (Aikhenvald 2004:63).

(24) mí má kā ǁàè̀ n!ùm̀ kā ŋ̄ŋ̀ kā-è cālā
1sg TOP PROG? hold rock N4 PR N4–REL NONFIRSTH.EV
n!!á'm̀ g!!à è-tcā
hit lie_down.pl 1pl.EX-DU
I hold this rock so that it cannot fall down and kill us

Later in the story, the jackal fools the hyena again, telling it to catch fish by putting its tail into the water so that the fish bites into its tail so that the hyena can pull the tail out and catch the fish. When the hyena however puts the tail into the water, the water freezes immediately so that the hyena cannot pull its tail out. The narrator uses the *cālā* evidential to express inferred evidentiality for the observed action that the hyena tries to pull its tail out. The inferred information is based on observation. This is a fatal situation for the fooled hyena, who had hoped to catch fish but, instead, got stuck in the ice. Example 25 is one of the rare occurences where *cālā* appears not in an exclamation but in a declarative clause.

(25) kā kā má !ùùqn má hà̀ cālā ǁhái hà̀ ǁxōē
when N4 TOP freeze TOP N1 NONFIRSTH.EV pull N1 tail
when it [the water] froze [the hyena] tried to pull its tail out

Given that !Xun has no obligatory evidential system, the non-firsthand evidential seems to be primarily used when the reported statement is either in contrast with the expectation of the addressee, or when the speaker wishes to clarify a statement that he only has indirect knowledge about, or when the speaker wishes to tell a lie.

3.4 *The Mirative* kòhà

The particle *kòhà* signals surprise that something unexpected happens, hence expressing the notion of a mirative. The mirative marker changes a neutral statement into one signaling surprise (compare 26.a and 26.b).

(26.a) hà̀ má hà̀ è
N1 TOP N1 DEM
he is here

(26.b) à má kòhà à è
2sg TOP MIR 2sg DEM
oh you are here [surprise]!

Instead of the topic marker *má*, the question marker kw*á* or *á* can be used. *kòhà* is still used as a full verb to express surprise, as in (27.a). In (27.b)

the same content is presented with *kòhà* being used as a mirative particle preceding the verb in the modal slot.

(27.a) lāálè lxòà kwá kɔ̀hà
jackal be_alive Q MIR
the jackal must be alive! [lit. this is a lively jackal!]

(27.b) lāàlè má kɔ̀hà lxòà!
jackal TOP MIR be_alive
the jackal must be alive! [surprise]

As a mirative marker, it is used like a particle preceding the verb, appearing in the same slot as the other evidentials. As in the case of *cālā*, there is some variation with regard to the co-occurrence with the topic marker or question marker: Both can be used without any difference in meaning (cf. 28.a and 28.b), and neither of the markers need to be present; absence of both the topic marker and the question marker is acceptable as well (see 41.a).[10]

(28.a) dàbà má kɔ̀hà glè

(28.b) dàbà á kɔ̀hà glè
child TOP/Q MIR come
the child is really coming [I didn't expect it]!

Kɔ̀hà appears in the modal slot of the verb preceding the tense and aspect slot (compare 29.a with 29.b, where its use is excluded).

(29.a) kā má kɔ̀hà kē gè
N4 TOP MIR PAST be
so it really existed! [surprise]

(29.b) *kā má kē kɔ̀hà gè
N4 TOP PAST MIR be

In narrative discourse, there are examples where the mirative is placed outside the verbal slot in an unusual word order: The mirative marker

[10] For convenience of the reader the example is presented here already:
(41.a) làālè kū ndɔ̀ˈà kɔ̀hà hŋ́-ā mí kē !!ɛ̀hì-kxˈàò
jackal then MIR see-T 1SG TR stupid-person
the jackal must regard me as a stupid person

appears clause initially after the topic marker *má*, which serves here as a clause boundary marker, separated from the verbal slot by the locative participant in (30.a) and the subject in (30.b).

(30.a) tà kā hã̀ hŋ́ tcàhā-m̄̀hè má hã̀ kū-ndòˈà glè !òō gl̀là
and N4 N1 see calf-DIM.pl TOP N1 LOC-DI come lock stand.pl
yīí !ùhnùn kā-ndòˈà má kɔ̀̀hà tcàhā-m̄̀hè !xˈā kā-ndòˈà
N3 enclosure N4–DI TOP MIR calf-DIM.pl heart N4–DI
má gè-ā gl̀ùì
TOP be-T hyena
and when he saw the calves he came to lock [the calves standing] in the enclosure, but among these calves there must have been a hyena

(30.b) kāndòˈà má kɔ̀̀hà l̀àālè kūndòˈà kwàlà
then TOP MIR jackal then be_absent
the jackal must be absent!

The mirative marker can be used in questions as well, usually to form a question (see 31 through 33). It can also be used with the question marker without turning the clause into a question, but rather making a surprising statement (see 34).

(31) hã̀ á kɔ̀̀hà glè
N1 Q MIR come
is he really coming? [surprise]

(32) hã̀ á kɔ̀̀hà óá glè
N1 Q MIR FUT come
will he really be coming? [surprise]

(33) bà kwá kɔ̀̀hà ú
2sg Q MIR go
are you going? [surprise]

(34) é m̄̀hm̀̀-tcā kwá kɔ̀̀hà ā l̀hái-ā-kwè
INTERJ 1pl.IN-DU Q MIR PROG pull-T-RECI
oh, it seems, we two were pulling each other! [surprise]

Kɔ̀̀hà is negated by the default negation marker *lōā*, placed after *kɔ̀̀hà*, or before (compare 35, 36 and 37). The position where *kɔ̀̀hà* follows the negation marker is the modal slot, the preceding position is the slot used by adverbials otherwise.

(35) l̀àālè má kɔ̀̀hā l̀ōā l̀āē
jackal TOP MIR NEG die.sg
the jackal did not die! [surprise]

(36) hà̀ má kò̀hà lōā lxòà
N1 TOP MIR NEG be_alive
it is not alive! [surprise]

(37) kā má lōā kò̀hà kē gè
N4 TOP NEG be PAST be
so it didn't exist! [surprise]

Like the firsthand and non-firsthand evidentials, the mirative *kò̀hà* is also used as a cheating device in lies. There is a productive pattern at the beginning of narrative discourse: The main actor presents his plans, which usually contain a lie. The mirative expresses a reaction of surprise that the fooled addressee may show—in accordance with the expectation of the main actor when presenting the plan. One strategy is that the main actor is going to tell a lie to someone he wants to fool, saying something like this:

(40) mí má kò̀hà hŋ́ glʉ̀ù ō ǁà̀hìn-ā ō hà̀ ō
1sg TOP MIR see hyena PURP tell-T PURP N1 PURP
glè gù lxūúnnu
come catch.sg crocodile
I must see the hyena to tell it to come to catch the crocodile lying there

The surprise expressed by *kò̀hà* in (40), refers to a future event and describes the reaction the jackal expects from the hyena when being told that they should catch a crocodile for eating. The lie consists in the fact that, first, the jackal does not intend to participate in the dangerous adventure of catching the crocodile but has the plan to send the hyena alone, and second, that the jackal knows that crocodiles are far too dangerous to be cought and eaten. The mirative refers to a hypothetical future event describing the surprise of the addressee, rather than that of the speaker.

In addition, the mirative is used in narrative discourse to express the main point of the story, particularly at the end of the story. This also applies to the present story, where the hyena becomes aware that it had been fooled by the jackal, resulting in exclamations by the hyena, as in (41.a) and (41.b):

(41.a) làālè kū ndòˈà kò̀hà hŋ́-ā mí kē !!ɛ̀hì-kxˈàò
jackal then MIR see-T 1sg TR stupid-person
the jackal must regard me as a stupid person

(41.b) bà má kò̀hà hŋ́-ā mí tcˈā ǁáé
2sg TOP MIR see-T 1sg sleep die.sg
you seem to see me as if I were sleeping like being dead [= being too stupid to understand anything]

Another main point of the story containing a mirative is expressed by the hyena who has never seen a turtle before. It expresses its surprise like this (see 42a):

(42.a) hŋ́ ílò má kòhà kí kúlú
look God TOP MIR HAB make
look! (what) God has created!

The reply of the turtle in (42.b) contains a mirative as well. The surprise of the turtle is a lie in that the turtle let the audience wait for it on purpose because they were showing no respect for it.

(42.b) yà kòhà n!ōxā ǁú-é !àn mí
2pl MIR already PROG-PAST wait 1sg
you were already waiting for me [surprise]?

Another example of surprise meant for the addressee and not for the speaker appears in the story about a jackal who fools the hyena. The jackal has only female goats and suggests to the hyena, who has only male goats, to put one male goat to its female goats in order to get offspring. The hyena agrees. The jackal promises to share the offspring with the hyena. One year later the hyena comes to the jackal in order to collect half of the offspring. But the jackal refuses, arguing that male goats do not give birth and therefore the hyena is not entitled to collect any of them. They fight with each other and decide that a neutral court should be consulted. The court is lead by the turtle, who decides that the jackal is right and the hyena is wrong. The turtle does so with the following words:

(43) bà kòhà nlūún ˈn!!èhī kū ndòˈà nǁàqē ǀú-í gǁāˈàè
2sg MIR must know then men NEG-HAB give_birth
tà bà kū ndòˈà kwēé
and 2sg then say
[the turtle said:] "you should know [surprise] that men never give birth!"
and you say:

The surprise in (43), expressed by the turtle, refers to the addressee, the hyena, which is so stupid that it did not know that male goats cannot give birth.

Of all the four markers discussed in this paper, the mirative marker *kòhà* is by far the most frequent one. In narrative discourse, it is basically restricted to the dialogue structure in exclamations. It is often used at the end of stories at the point where the truth is revealed by the speaker as a surprising observation since he has been cheated. (see e.g. 44)

(44) bà kòhà dcŋ̃-kx'àò!
2sg MIR lie-AGENT
you are a liar! [surprise]

The mirative[11] differs in a number of ways from the evidentials, and it may combine with them. It expresses new, surprising information for which the participant concerned is unprepared. It appears in statements, mostly in exclamations and indirect questions, and it appears in negative sentences. It is used to tell lies, and it can refer to future events. The surprise is 'objective'—the event is not necessarily unexpected to the speaker, but to anyone else involved in the conversation it is.

3.5 *The Counterexpectation Marker* kò

The counterexpectation marker *kò* can be used only when an expected action does not take place. With *kò* the speaker expresses his disappointment that something he wished to happen did not. It typically appears in statements with the topic marker *má*.

(45) hã̀ má kò glè tā hã̀ má ǁˈàn
N1 TOP CE come and N1 TOP sick
he is supposed to come but he is sick [therefore he will not come]

(46) à má kò g!ˈòhò tā à má kē cŋ̀ djūí
2sg TOP CE work and 2sg TOP PAST drink beer
you were supposed to work but [instead] you were drinking beer [and therefore you couldn't work]

(47) hã̀ má kò ǁáúlè !xō, tā hã̀ má xāŋ́ ǁáúlè nhã̀ù
N1 TOP CE hunt elephant and N1 TOP then hunt rabbit
he is supposed to hunt elephant but then he hunts a rabbit

Kò can not only refer to the expectation of the speaker but to that of any other person, as e.g. in (48), which has a first person subject. In (48), the counterexpectation marker occurs with the mirative. The mirative has the effect of an apology, like: "I should have done something, but I didn't, and what I did instead was surprising to me—so I did not do it on purpose":

(48) mí má kò tcòã̀q ǁˈāē tā má kòhà kē tcˈá
1sg TOP CE cut grass and 1sg MIR PAST sleep
I was supposed to cut grass but I surprisingly slept

[11] The mirative in !Xun differs from the mirative in Quechua (Adelaar, this volume) in that it appears in negation and mostly in exclamations.

In questions, *kò* is either used when the speaker witnesses something which according to his expectation the addressee should not do, as e.g. in (49), where the speaker observes a thief trying to steal something (see 49).

(49) mtícē kwá bà kò ǹ̀?
what Q 2sg CE do
what are you doing? [asked if addressing someone who is not supposed to do what he is doing, e.g. a thief]

Or the speaker asks in a more neutral way what the expectation is (compare the neutral question in (50) with (51.a), which includes the counter-expectation marker). In the answer of (51.b), *kò* can only be used with the connotation that it did not happen.

(50) hà̀ má ǁáúlè tícē
N1 TOP hunt what
what is he hunting?

(51.a) hà̀ má kò ǁáúlè tícē
N1 TOP CE hunt what
what is he hunting/supposed to hunt?

(51.b) hà̀ má kò ǁáúlè !xō
N1 TOP CE hunt elephant
he is supposed to hunt elephants but he didn't

The counterexpectation marker *kò* shows the structural behavior of an imperative mood: It is negated by the imperative negation marker *nllaǹ* only, *lōā* is not allowed (see 53). And it takes the imperative habitual marker *kú* only (see 55). TAM markings follow *kò*, while the negation marker precedes or follows (see 52). When following the negation marker, *kò* appears in the modality slot, when preceding it it appears in the adverbial slot.

(52) hà̀ má nǁàn kò ú!
or: hà̀ má kò nǁà ú!
N3 TOP NEG.IMP CE NEG.IMP go
he is not supposed to go!

(53) hà̀ má kò nǁaǹ ǁáúlè !xō
*hà̀ má kò lōā ǁáúlè !xō
N1 TOP CE NEG(.IMP) hunt elephant
he is not supposed to hunt elephants!

(54) à má kò kē nǁàǹ cŋ̀ djūí!
2sg TOP CE PAST IMP drink beer
you were not supposed to drink beer!

(55) hà má kò kē nǁǎǹ kú cŋ̀ djūí kā hà ǁàè̀-ā
N1 TOP CE past NEG.IMP HAB.IMP drink beer N4 N1 hold-T
tí kē TB ǁˈà-ān tí
PAST TR tuberculosis sick-T PAST
he was not supposed to drink beer anymore because he had tubercolosis [lit: he was held by TB sickness]

The counterexpectation marker is by far the least frequently used of the four. Unlike the mirative marker it frequently has a deontic connotation and is restricted to referring to situations which did not take place or, if uttered in a command, which should not take place.

4 Discussion

The meaning differences between the four markers discussed above can be seen in the following examples which vary in the information marker only. In (56.a), no information marker is present; it is a neutral statement. With the non-firsthand evidential in (56.b), the speaker highlights the fact that his knowledge is based on indirect information only. The firsthand evidential in (56.c) highlights the fact that his knowledge is witnessed and therefore reliable. In (56.d), the speaker highlights the fact that the statement comes as a surprise to him. With the counterexpectation marker in (56.e), the speaker highlights his expectation that the statement should be reality but, unfortunately, it is not.

(56.a) hà má gē-ā Kòŋgō
N1 TOP be-T Okongo
he is in Okongo

(56.b) hà má cālā gē-ā Kòŋgō
N1 TOP NONFIRSTH.EV be-T Okongo
he is in Okongo [as I heard from somebody]

(56.c) hà má mèká gē-ā Kòŋgō
N1 TOP FIRSTH.EV be-T Okongo
he is in Okongo [as I see—I know from seeing]

(56.d) hà má kòhà gē-ā Kòŋgō
N1 TOP MIR be-T Okongo
He is in Okongo [surprise]!

(56.e) hà má kò gē-ā Kòŋgō
N1 TOP CE be-T Okongo
he is supposed to be in Okongo! [but he is not]

To illustrate the use of the different information markers, I will present them in the frame 'ǁXāí comes': *mèká* expresses a firsthand evidential, which means that I know via direct evidence (see 58.b), *cālā* expresses a reported evidential (58.c), and *kòhà* a surprising situation (58.d). The non-firsthand evidential marker *cālā* can also be used in negated questions (see 57). In (58.e), the same frame is used with the counterexpectation marker *kò* expressing a strong command.

(57) ǁXāí á cālā lōā glè
ǁXai Q NONFIRSTH.EV NEG come
ǁXāí is not coming [as I heard]?

(58.a) ǁXāí kwá glè
ǁXai Q come
is ǁXāí coming?

(58.b) ǁXāí mèká lōā glè
ǁXai FIRSTH.EV NEG come
ǁXāí is not coming [as I saw]

(58.c) ǁXāí cālā lōā glè
ǁXai FIRSTH.EV NEG come
ǁXāí is not coming [as I heard from somebody]

(58.d) ǁXāí má kòhà lōā cūún glè
ǁXai TOP MIR NEG yet come
ǁXāí has not yet come [surprise]!

(58.e) ǁXāí kò nǁàn glè
ǁXai CE NEG.IMP come
ǁXāí is not supposed to come!

The non-firsthand evidential used with a second person subject in a question by speaker A in (59.a) can be answered with the firsthand evidential with first person in the answer of speaker B to correct the wrong assumption of speaker A (see 59.b).

(59.a) mtícē kwá bà lōā kē glè-ā g!!òhò
why Q 2sg NEG PAST come-T work
why didn't you come to work?
bà kw-ē cālā tcˈā
2sg Q-PAST NONFIRSTH.EV sleep
did you sleep? [as I heard from somebody]

(59.b) lōā! mí mèká lōā kē tcˈā
NEG 1sg FIRSTH.EV NEG PAST sleep
no! I didn't sleep [as I know]

Evidential, mirative, and counterexpectation marking in !Xun in general changes an unmarked assertion into a pragmatically highly marked one. This might be due to the fact that it is not obligatory. Therefore, whenever one of the four markers is used, the speaker wishes to outline either that the source of information is only non-witnessed, or witnessed, or that the statement comes as a surprise or that the statement is contrary to expectation. Neutral statements are possible without using any of the four markers. If no evidential marker is used, it is left open what the source of information for the statement was, if no mirative or counterexpectation marker is used, it is left open whether the statement comes as a surprise or not or whether it contradicts an expectation. Evidentials are used particularly in contrast to views by others assumed to be incorrect, to correct certain views, or to launch a lie. Considering the fact that !Xun is a highly context dependent language, it makes sense that the use of evidentials is not all that frequent.

The flexibility that the evidentials show with regard to their position, their syntax, that is, whether they have to occur in a question or not, the use of the topic marker, the kind of negation marker they take—all these factors indicate that the evidential system shows some freedom of use. Historically, the evidential markers appear to go back to verbs, even if their etymological sources are opaque. The use in the modal slot bears witness to their verbal origin.

The evidentials and the mirative take the default negation marker *lōā*, the counterexpectation marker takes *nllə̀n*, which is used for imperatives and other deontic expressions. With regard to the question marker and the topic marker there is some significant difference among the four in that *mèkáa* and *kò* clearly favor the topic marker whereas *cālā* and *kə̀hà* allow various strategies: the question marker is mutually exclusive with the topic marker, or else neither of the two markers is present. With *kə̀hà*, the use of the topic marker is more frequent than with *cālā*. With regard to the position of the markers discussed here, all show the same range from being placed within the verbal complex in the modality slot, i.e. in the adverbial slot, or even outside it.

5 Conclusions

It has been shown that !Xun has a twofold grammaticalized evidential system, distinguishing a firsthand and a non-firsthand evidential expressed by clitics which basically are part of the verb phrase but exceptionally

may independently be placed adjacent to their referee outside the verb phrase. According to Aikhenvald's typology (2003, 2004), !Xun has a direct evidential system (called type II by her) of a sensory kind. Two differentiations are made: A first hand evidential, indicating direct physical evidence (typically 'see' but also 'hear', 'feel'), opposed to a non-firsthand evidential (typically reported, such as hearsay, inferred), indicating only indirect or reported evidence.

The mirative and the counterexpectation markers are not covered by extensions of the non-firsthand evidential but have a system of their own. They are expressed in the same slot. Firsthand evidential includes eyewitness, and other senses such as 'hear', or 'feel'; the non-firsthand evidential includes reported such as hearsay, and inferred knowledge. The reported evidential often has a connotation of conveying unreliable information. The information markers show no restriction with regard to first person, tense and negation.

The evidentials and the mirative marker can be combined. First person firsthand evidential highlights the directness of the source of information. Sometimes the speaker uses it to contradict a non-firsthand (hearsay) evidential uttered earlier by the hearer. The evidential system is used to either step back from responsibility by choosing the non-firsthand evidential. The evidentials and the mirative are productively used for cheating, to present a lie when using the wrong verb with the right evidential or the right verb with the wrong evidential, or expressing the addresssee's surprise when having been fooled. This is a productive too, particularly used in narrative discourse.

The difference between the mirative and the counterexpectation marker in !Xun lies primarily in the fact that the latter always has a deontic impact. Unexpectedness can be expressed by both, but with the counterexpectation marker *kò* the speaker emphasizes the fact that he himself does not allow it, or does not want it. The counterexpectation marker always has a negative connotation which is not present with the mirative marker.

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CHAPTER FOUR

A QUECHUAN MIRATIVE?

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1 Introduction[1]

A number of Quechuan language varieties spoken in the Central Peruvian Andes, more specifically, in the northwestern part of the department of Junín and adjacent areas of the departments of Lima and Pasco, feature a special category of verb forms that has the exclusive function of denoting the surprising nature or unexpectedness of an ongoing event or situation. From a perspective of grammatical organization, this category functions as a 'tense' and constitutes, together with a number of other tense categories, the unmarked or indicative mood in the verbal conjugation of the language varieties in question. Thus, it stands in a paradigmatic relationship with other categories that mainly convey temporal (and occasionally aspectual) functions, such as past, past habitual, present and future. In a grammatical study of the varieties spoken in the province of Tarma in the department of Junín (henceforth Tarma Quechua),[2] this 'tense' denoting unexpectedness has been defined, under the denomination of *sudden discovery tense*, as a category that "refers to events that have been going on unnoticed and which are suddenly discovered by the speaker or by another person playing a central role in the narrative" (Adelaar 1977: 96). A straightforward English translation for this Quechuan tense category could be introduced by the phrase "it turned out that…". Its semantic characteristics are closely akin to those of the category of *mirative* as defined in recent typological literature (DeLancey 1997, 2001; Aikhenvald 2004: 195–215).

A noteworthy feature of the mirative in Tarma Quechua is that it is mainly used in objective, non-emotional statements. Although it refers to

[1] I am grateful to Alexandra Aikhenvald, Kees Hengeveld, Hella Olbertz, Anne Storch and an anonymous reviewer for their valuable comments.

[2] These varieties belong to the southern representatives of Quechua I, one of the main subdivisions of the Quechuan language family along with Quechua II. The denominations Quechua I and Quechua II were taken from Torero's (1964) classification.

situations that may have been surprising to the speaker at the moment he/she became aware of them, its main function lies in the impact it has on the audience. Tarma Quechua miratives are most frequently found in narratives. However, the boundary between narrative and conversational accounts in Quechuan languages is not a strict one, and miratives can also be found in interactive contexts with the same connotation of objectivity.

In many other Quechuan languages, as well as in Aymara (Matt Coler pers. comm.), the mirative reading emerges as a secondary usage of one of the indicative tenses (Narrative past, Remote or Mythical past, Perfect, etc.) that also cover other, more familiar interpretations. A peculiarity of the Quechuan language varieties spoken in the Central Peruvian area delineated above is that their tense system includes a category of forms that has no other function than to convey mirative meaning.

One of the questions that will be addressed in this article is whether or not the provisional semantic definition of the Tarma Quechua Mirative is compatible with the notion of mirativity as generally used in the linguistic literature. The uniquely distinct character of the mirative category in Tarma Quechua will be made visible by contrasting it with other subsystems of Tarma Quechua morphosyntax, such as aspect, negation and evidentiality. It will be shown that the Tarma Quechua Mirative does not behave like an evidential category, that it functions independently of aspect (though not of tense!), and that it is incompatible with negation.

First, however, the formal characteristics of the Tarma Quechua Mirative and its possible historical background are presented in a comparative perspective.

2 Form and Origin

The mirative verbal 'tense' in Tarma Quechua is marked by means of an affix *-na-*.[3] Like other tense-marking affixes, it appears in combination with cross-referential person-marking affixes referring to an agent (A/S) and, when relevant, also to a patient (O/IO), which must be a human or humanized participant in the speech act. Forms denoting agent/subject alone or 'direct' relations between participants and/or non-participants that are in compliance with a person hierarchy 1>2>3 take simple cross-referential endings, as shown in Table 4.1:

[3] As other Quechuan languages, Tarma Quechua is predominantly suffixing. All affixes are suffixes.

Table 4.1. Direct cross-referential endings of the Tarma Quechua Mirative

1 A/S [> 3 O/IO]	-na-:*
2 A/S [> 3 O/IO]	-na-y[ki]**
1 A/S > 2 O/IO	-na-q
1+2 A/S [> 3 O/IO]	-na-nči[k]***
3 A/S [> 3 O/IO]	-naq

* The vowel length that indicates 1 A/S may have originated from a segmental affix *-y* (Adelaar 1984).
** The element *-ki* (dialectally *-gi*) of the *-y[ki]* ending is not pronounced, except word-finally. If it is omitted in word-final position as well, stress (normally penultimate) remains located on the syllable that precedes the omitted element.
*** The element *-k* in *-nči[k]* is optional in some dialectal varieties but absent in others.

By contrast, the counter-hierarchical ('inverse') relations are expressed by means of combined cross-referential endings, as shown in Table 4.2:

Table 4.2. Inverse cross-referential endings of the Tarma Quechua Mirative

2 A/S > 1 O/IO	-ma:-na-y[ki]**
3 A/S > 1 O/IO	-ma:-naq
3 A/S > 1+2 O/IO	-ma:-na-nči[k]***
3 A/S > 2 O/IO	-šu-na-y[ki]**

, *: see Table 4.1

The affix *-naq* '3 A/S Mirative' deserves special attention because it contains an element *-q*, which is not otherwise found as a 3 A/S marker. Probably, the original Mirative ending can be reconstructed as **-ñaq*, a form which is still found in some phonologically conservative Central Peruvian varieties (Huanca Quechua, Pacaraos Quechua). As it seems, **-ñaq* was originally used only as a 3 A/S form, but it could be combined in a compound paradigm with inflected forms of the auxiliary verb *ka-* 'to be' in order to denote all other attested cross-referential forms. This situation is still found in Pacaraos Quechua (province of Huaral, department of Lima). Apparently, the Tarma Quechua Mirative paradigm, which does not involve any overt forms of the verb 'to be', consists of contracted forms based on such a compound paradigm.[4]

[4] Black *et al.* (1990: 264), who use the label 'narrative past' in their study of the Quechua of Northern Junín and Southeastern Pasco, provide an unambiguous example of *-naq* with

The reconstructed form *-*ñaq* can tentatively be derived from a combination of **ña* 'already' with the agentive nominalizing affix *-q*. This element *ña* operates in many Quechuan varieties as an affix or a lexically free adverb.[5] Nominalized verbs containing the affix *-q* are used in most Quechuan languages with forms of the auxiliary verb *ka-* 'to be' in a compound tense paradigm that denotes Habitual past. Consequently, **-ñaq* may be analyzed diachronically as a combination of Habitual past with **ña*, except that the latter appears in an anomalous location before the nominalizing affix.

In the Huanca varieties, which are spoken in the Andean part of the department of Junín south-east of Tarma Quechua, reflexes of either **-naq* or **-ñaq* are found according to localities.[6] Although contracted forms are preferred over analytic constructions with *ka-*, both options have been attested. Descriptive studies of the Huanca varieties (Cerrón-Palomino 1976, Wroughton 1996) apply the label 'Narrative past' (Spanish *pasado narrativo*) to the forms at issue, suggesting that they are used, at least in some of these varieties, both as a narrative past and as a means to convey mirative meaning. A collection of texts reproduced in Wroughton (1990: 81–150) contains evidence that this is definitely the case for varieties spoken in the area of Jauja.

Forms in *-naq* (or its reflex *-na:*) are found throughout the remaining (northern) varieties of the Quechua I branch. These forms convey different types of meaning, and a semantic value akin to mirative is usually one of them (cf. Howard 1988: 130–131, Weber 1989: 114–115, Hintz 2011: 84).[7] In some of the northern Quechua I dialects spoken in the department of Ancash *-naq* (~ *-na:*) is combinable with other tense markers, which puts in doubt its status as a component of the tense system. Parker (1976: 111–2) treats it as a modal rather than a temporal element, although mirative meaning is clearly present.

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mirative meaning as defined in this article, but none that could be qualified as an instance of narrative past in particular.

[5] In Ayacucho Quechua (a Quechua II variety), the element *ña* occurs both as an affix and as an adverb with identical meanings. The adverb *ña* has to be accompanied by at least one other constituent that contains the affix *-ña* (unless the adverb constitutes an utterance by itself). Conversely, the affix need not be reinforced by the adverb.

[6] Originally a post-velar stop, **q* has undergone different types of change in the Huanca dialects.

[7] In his study of South Conchucos Quechua, Hintz (2011: 137–42) also assigns mirative meaning to a number of aspect suffixes thus distinguishing several 'miratives' with different functions and use.

In Quechua II, the mirative meaning associated with Quechua I *-*ñaq* or *-*naq* is usually expressed by means of the non-agentive participle and nominalizer in *-*shqa*, or one of its reflexes, in combination with the auxiliary verb *ka*- 'to be'. Again, both contracted and non-contracted paradigms occur. In Quechua II, the *-*shqa* paradigm regularly combines mirative meaning with other more frequent meanings.[8] Attested functions of the *-*shqa* paradigm in Quechuan languages are Narrative past (Quechua II: Ayacucho Quechua, Cuzco Quechua), Perfect or Experiential past (Pacaraos Quechua; cf. Adelaar 1986),[9] and Recent past (Quechua I: South Conchucos Quechua; cf. Hintz 2007: 16–18).[10] This situation suggests that in most Quechuan languages the Mirative is based on a semantic extension of tense-like verb forms, such as Perfect, Habitual or Narrative past, a development which resembles the rise of evidential strategies from perfect, resultative and past tenses in languages of the eastern Mediterranean basin and other parts of the world (cf. Aikhenvald 2004: 112–116).

3 Meaning and Use

The Mirative tense in Tarma Quechua and adjacent varieties indicates a fact or occurrence that is objectively surprising. Although a speaker may express surprise at an event of which (s)he had not been previously aware, (s)he may also reveal information already familiar to him/her but still likely to surprise an audience. The Tarma Quechua Mirative often refers to information that is withheld from the addressee until the speaker sees fit to reveal it, a frequent strategy in narratives of which the unexpected outcome is reserved for the end. By consequence, the speaker him/herself need not be under the impact of surprise any longer when using the Mirative. The speaker shows no particular excitement, and there is no exclamation of surprise. Essential is the fact that in a previous time span an event has occurred or a state has been in place, unnoticed by the speaker or any other person relevant to the communicative context. Characteristically,

[8] The establishment of criteria to distinguish between mirative and non-mirative use of tense categories in the different Quechuan languages is a complex task that lies beyond the scope of this article.

[9] The classificatory status of Pacaraos Quechua is undecided. From a morphological point of view it is close to Quechua I, but it may possibly occupy a position outside the Quechua I / II dichotomy.

[10] Tarma Quechua has no compound tense based on *-*shqa*. Its reflex *-sha* has mainly an attributive function and cannot be combined with cross-referential affixes, except in one very specific construction.

actions performed during one's sleep or in a state of unconsciousness are expressed in the Mirative (cf. Cerrón-Palomino 1987: 273). The Mirative can also be used in recounting dreams (see Floyd 1999: 64–65, cited in Aikhenvald 2004: 345, for an example from Huanca Quechua).

In Tarma Quechua, as in the neighbouring Huanca varieties (Floyd 1999, cf. Aikhenvald 2004: 203), the Mirative can also indicate an expected surprise, the uncertain outcome of an experiment still to be undertaken or an impending revelation (see Section 8 below). Such exceptional usage clearly shows that the classification of the Mirative as a tense is related to grammatical organisation, rather than to genuine temporal semantics.

According to DeLancey (2001), "the term *mirativity* refers to the linguistic marking of an utterance as conveying information which is new or unexpected to the speaker." In Aikhenvald (2004: 209) mirativity is defined as "a grammatical category whose primary meaning is speaker's unprepared mind, unexpected new information, and concomitant surprise." As we can see, the definitions by DeLancey and Aikhenvald broadly match the semantic description of the Tarma Quechua Mirative, except that the requirement of newness or unexpectedness does not necessarily apply to the speaker's state of knowledge. The Tarma Quechua Mirative stands out for its non-emotional, matter-of-fact connotations. It remains a question if the Quechuan Mirative must be placed outside the general concept of Mirative, or if the current definitions and semantic and functional characterizations of Mirative in grammatical descriptions of other relevant languages should be reformulated.[11]

Quechuan languages are known for the existence of sharp semantic and functional divisions between the different grammatical subsystems and the high level of organization of the latter.[12] Apart from its seemingly arbitrary classification as a tense, the Tarma Quechua Mirative is no exception to this rule. In the following sections we will see how the Mirative is incorporated within the tense system (4) and how it can be combined with aspect markers (5) and with evidential markers (6). A constraint on the occurrence of the Mirative in negative sentences is presented in section (7). In section (8) we discuss the use of the Mirative in

[11] In a recent paper, Hengeveld and Olbertz (forthcoming) propose a new definition for the mirative based on the newsworthiness or unexpectedness of a proposition. Such definition appears to fit the Quechuan category under discussion quite felicitously.

[12] Exceptions are found in the derivational morphology internal to the verb form, in particular in Quechua I, and in the fluid transition between the categories transitive and intransitive in the Andean languages in general.

interrogative utterances with special attention for the experimental Mirative (see above), which from a formal point of view is also an interrogative utterance. The incompatibility of the Mirative with exclamations is illustrated in section (9) with examples from Highland Ecuadorean Quichua collected by Olbertz (2009).

4 Mirative and Tense

In Table 4.3, the relation between Mirative and tense in Tarma Quechua is illustrated with an inventory of the 3 A/S forms of the tenses of the (unmarked) indicative mood. It clearly shows the paradigmatic relation between Mirative and the other indicative tenses, even though the semantic contribution of Mirative can be characterized as modal, rather than temporal.

Table 4.3. Tense in Tarma Quechua

Present/unmarked	wata-n	'he/she ties (it)'
Future	wata-nqa	'he/she will tie (it)'
Past	wata-ra	'he/she tied (it)'
Mirative	wata-naq	'it turns out that he/she had tied (it)'
Habitual/narrative past	wata-q	'he/she used to tie (it)'. 'he/she would tie (it)'[13]

5 Mirative and Aspect

Tarma Quechua has a rather transparent verbal aspect system consisting of three mutually exclusive categories: Perfective, Progressive and Customary. Although one of the tenses, the Habitual, may have an aspectual overtone, tense and aspect are grammatically separate. There is no fusion of tense and aspect markers in portmanteau morphemes. The use of aspect markers is subject to some grammatical constraints and considerations of register (cf. Adelaar 1988, see also § 7). Many speakers use aspect markers in all contexts in which they are allowed. Otherwise, verbs that are not marked for aspect refer to general truths. As the following examples show, the Mirative is freely combinable with all three aspect categories: Progressive aspect in (1), Customary in (2), and Perfective in (3).

[13] The Habitual/narrative past is a compound tense, which contains forms of the verb 'to be' with all personal reference markers other than 3A/S and 3A/S > 1O/IO.

(1) turumanya inti-ta-m muyu-ra-**ya:-naq**
rainbow sun-ACC-CERT turn-CONT-**PROG-3A/S.MIR**
a rainbow was surrounding the sun

(2) chawra-qa cha:-qa ka-**ku-na[q]**[14] alqu
then-TOP that-TOP be-**CUST-3A/S.MIR** dog
so it turned out that he was a dog [not a human being as he had appeared to be]
(San Pedro de Cajas)[15]

(3) yarga-**ra-**:ri-**na-**: masya:du karu-ta-m
go_upward-**PERV**-PL-**MIR**-1A/S too_much far-ACC-CERT
we realised that we had climbed too far

6 Mirative and Evidentials

Tarma Quechua has a transparent system of evidentials consisting of three mutually exclusive categories: Certainty, Reported and Conjectural. The 'Certainty' evidential implies a firm conviction on the side of the speaker. It does not always mean that the speaker has witnessed the communicated state or event in person, but the utterance contains information that (s)he can vouch for. The 'Reported' refers to facts communicated by rumour or hearsay. Its use implies that the speaker feels no personal responsibility for the truth value of what (s)he is communicating. Understandably, the Reported evidential is frequently used in narratives. If the source of the information is a known person who can be identified by name, a quotation construction will be used, rather than a Reported evidential. The 'Conjectural' evidential is mainly used to indicate a guess of the speaker. In that case there are no firm indications that the utterance is actually true, but it refers to a situation or event that can provide a plausible explanation for a state-of-things familiar to the speech act participants.

The use of evidentiality markers is not strictly obligatory, but most speakers use them in all contexts in which they are allowed. Evidentiality is marked at the sentence level, usually (but not always) after the first constituent of the sentence. As can be deduced from the examples (1) and (3), the Mirative is freely combinable with the evidential that marks

[14] In some dialectal varieties of Tarma Quechua the final *-q* of the ending *-naq* can be silent in word-final position.

[15] The variety of San Pedro de Cajas differs from the variety spoken in the surroundings of Tarma in a number of phonological aspects. Its morphosyntax, however, is nearly identical. We only indicate the dialect provenance of data that are not from the immediate neighbourhood of Tarma itself.

Certainty. A further example of this combination from the related dialect of Pacaraos, which behaves in the same way in this respect, is given below under (4). It shows that the presence of the evidential marker of Certainty does not imply that the speaker has witnessed the event when Mirative is involved.

(4) altu-ĉaw ka-yka-nqa-y-kama-**m**
highlands-LOC be-PROG-NOMZ-1A/S-DLMT-**CERT**
intrega-rqa-ma:-**ñaq** mamá-y
give_away-PERV-1O/IO-**3A/S.MIR** mother-1POSS
while I was staying in the highlands, my mother had given me away [in marriage]

Example (5) shows that the Mirative is also combinable with the Reported evidential. The Reported speech marker is used here because the sentence is part of a narrative which in its totality is derived from hearsay.

(5) ima-**sh** ga-**naq**, rachak-**shi** kinra-n kinra-n
what-**REP** be-**3A/S.MIR** toad-**REP** side-3POSS side-3POSS
ĉura-naka-ra-:ri-**na[q]** ĉaski-yubay-si
place-RECIP-PERV-PL-**3A/S.MIR** relay_runner-COMPAR-ADD
what had actually happened? The toads had posted each other on different spots along the track as in a relay-race

(Vienrich 1961: 36)

The Tarma Quechua Mirative has not been attested in combination with the Conjectural evidential marker. This should not come as a surprise because the Conjectural always refers to situations that are not necessarily true, whereas the Mirative refers to facts or events that are not in doubt.

7 Mirative and Negation

The Tarma Quechua Mirative does not occur in negative sentences. This rather unexpected conclusion can be drawn from two considerations. Firstly, no instances of Mirative in negative sentences are attested in our data. Secondly, main verbs in negative sentences that convey an element of sudden awareness or unexpectedness are not marked for Mirative, but for some other tense. The following examples illustrate this. In (6), the main verb of the sentence is in the plain Past tense, not in the Mirative. In (7), the Habitual is used in its Narrative past interpretation in an utterance with a clear mirative overtone.

(6) **man**-ta qam ka-**ra**-y-**chu** chay o:ra-qa, nuqa
not-CONTRA you be-**PAST**-2A/S-**NEG** that time-TOP, I/we
rikaĉaku-rka-ya-**ra**-q-ta
look_out-PL-PROG-**PAST**-1A/S>2O/IO-CONTRA
you were not there then [although we had agreed to meet there]. We were looking out for you

(San Pedro de Cajas)

(7) chay-bita ali yarba-rgu-tbi-n-qa, **mana**-m ni
that-ABL well think-DIR-SUBORD.DS-3A/S-TOP not-CERT not_even
imay ĉa:-mu-na-n-si ga-**q**-**chu**
when arrive-VENT-FUT.NOMZ-3A/S-ADD be-**3A/S.HAB-NEG**
then, when he thought about it properly, [he realized] there was no way to ever come down again

The incompatibility of Mirative and negation remains unexplained. However, it should be observed that Tarma Quechua exhibits a similar constraint on the co-occurrence of aspect and negation. Aspect markers are banned from the main verb in a negative sentence, as has been ascertained through tests in which speakers were asked to negate verbs marked for aspect. In those cases, aspect markers were systematically removed and all aspect distinctions neutralized. As it seems, the answer must be sought in the overall way negation is conceived by speakers of Tarma Quechua. Negation apparently makes both Mirative marking and aspect marking irrelevant.

It should be observed that the incompatibility of Mirative and negation is by no means a general feature of the Quechuan languages. In Pacaraos Quechua Mirative and negation are combinable (8).

(8) peru say **mana**-sh arros-ta mika-ri-**ñaq**-su
but that **not**-REP rice-ACC eat-PL-**3A/S.MIR**-NEG
but, reportedly, it turned out that they did not eat rice[16]

8 Mirative and Interrogative: The Experimental Mirative

As we have seen in example (5), the Mirative is occasionally found in interrogative expressions. In a majority of cases such interrogative expressions occur as embedded questions in an utterance in which the addressee is encouraged by the speaker to perform an experiment of which the out-

[16] Possible cases of mirative use in negative sentences have been attested in Cuzco Quechua as well (Cusihuamán 1976: 171; Xiomara Sánchez, pers. comm.).

come, for as yet unknown, is expressed in the Mirative form in combination with both an interrogative element and the Reported speech evidential. The interrogative element can either be an interrogative pronoun (WH-expression) (9), or the affix *-chu*, which marks a polar question (10). Note the highly conventional nature of this construction with its three obligatory components (Mirative, Reported speech marker and interrogative element). In it, the Mirative does not refer to an event in the past or present, and the Reported speech evidential does not refer to information from hearsay, but rather to knowledge to be obtained by an action that still has to be performed.

(9) wipi-ru-y ma: **ayga-sh** ga-**naq**
weigh-PERV-2A/S.IMP let_us_see **how.much-REP** be-**3A/S.MIR**
weigh it, let us see how much it is!

(10) ma: tupa-yu-y kuyu-ri-**naq-chu-sh**
let_us_see bump_into-DIR-2A/S.IMP move-INCEP-**3A/S.MIR-INTER-REP**
why do not you give it a push to see if it moves or not!

As we have noted before, this highly specific construction has a wider distribution than just Tarma Quechua. It has been attested as a so-called 'challenge construction' by Floyd (1999) for the neighbouring Huanca dialects (cited in Aikhenvald 2004: 203). The utterance in (11) does not contain a hortative verb form, as the previous examples do, and the Mirative is not part of an embedded question. However, the semantic effect is similar.

(11) ma: **mayan**-man-**shi** chay illay-kuna-:-ta u-**ña**
let_us_see **who**-ALL-**REP** that money-PL-DEF-ACC give-**3A/S.MIR**
let us find out who he gave the money to

(Floyd 1999: 150)

More neutral examples of the use of Mirative in interrogative sentences, not involving any challenge or uncertain outcome, can be found in (5) and in the following example from Pacaraos Quechua (12).[17]

(12) wikuña aská-**s** ka-rqu-**ñaq** o icha-lá-s
vicuña many-**INTER** be-PERV-**3A/S.MIR** or few-DIM-INTER
did you find that there were many vicuñas or just a few?

[17] In Pacaraos Quechua polar questions are indicated with an affix *-su*, which is usually reduced to *-s* after a vowel when the affix occupies the word-final position. In that case stress is maintained on the preceding vowel.

9 Mirative and Exclamation

As we have noted before, the Mirative in Tarma Quechua does not imply any emotional expression. Characteristically, mirative statements are objective in character. In Tarma Quechua, as in most other Quechuan languages, exclamations are easily recognized by the presence of specific clitic elements or by a shift of stress to the word-final syllable (or a combination of both strategies). None of the Miratives that are part of our data have been found in such specific exclamatory contexts.

For examples that illustrate this state-of-affairs we may refer to a study by Olbertz (2009) on the use of Miratives in Highland Ecuador. In Ecuadorean Highland Quichua, statements in the Mirative form are objective and non-emotional (13), whereas exclamatory utterances of surprise (14) do not take the Mirative, but the unmarked Present tense form.

(13) kipi llashak-mi ka-**shka**
bundle heavy-CERT be-**3A/S.MIR**
the bundle is heavy indeed

(Olbertz 2009: 70)

(14) ima-shina kay wañu-shka kusa manchanai-ta
what-COMPAR this die-NOMZ husband terror-ACC
miku-**n**-arí
eat-**3A/S.PRES**-EMPH
how terribly this dead husband is eating!

(Olbertz 2009: 73)

The objective character of the Quechuan Mirative is also illustrated in example (15) from Pacaraos Quechua, which is parallel in meaning to (13).

(15) aya-ku-**ñaq** miku-na-yki
spicy-CUST-**3A/S.MIR** eat-NOMZ-2POSS
your food is spicy indeed

10 Mirative in Andean Spanish

In the variety of Spanish spoken in the Andean countries, also known as *castellano andino*, a mirative interpretation has become associated with some of the compound tenses of the Spanish verbal system. In Peruvian Spanish this role is fulfilled by the pluperfect (*pluscuamperfecto*). This is illustrated in example (16), which represents an Andean Spanish translation of a Quechuan Mirative.

(16) así **había_sido** la voluntad del Taytacha
like_that **be.3S.PLUPERFECT** ART.F will of.ART.M God
that is how God's will turned out to be

(Escalante and Valderrama 1992: 118)

Since Spanish originally had no mirative tradition, this seems to reflect a clear case of linguistic diffusion from the indigenous Andean languages to the language of the European colonizers in its local variety (cf. de Granda 2002: 103–121; Cerrón-Palomino 2008: 142; Aikhenvald 2004: 297).

In a comparative study of the common structures of the Quechuan and Aymaran languages, Cerrón-Palomino (2008: 142) discusses a 'non-experienced past', also called 'narrative' or 'mythical' past, which refers to events that do not involve voluntary participation of the subject. He adds that this temporal category, which is considered characteristic for the languages in question, has a second usage, a 'surprise' past, which would have been adopted by Andean Spanish as a local interpretation of the *pluscuamperfecto* (pluperfect) paradigm. This 'surprise' past coincides with the use of the Quechuan Mirative as attested in Central Peru. It is precisely in the Central Peruvian varieties that the Quechuan Mirative is used today in its most unambiguous form. It is not unlikely that language contact with these varieties at a relatively early stage of the colonization process may have been responsible for the reinterpretation of the pluperfect as a mirative in the Andean variety of Spanish.

11 Final Consideration: Is the Quechuan Mirative Like Other Miratives?

As we have seen, the Quechuan Mirative category does not fit the various definitions of mirative that can be found in the literature very neatly. It stands out as an objective and non-emotional type of communication, in which a sensation of surprise has acquired an objective character without necessarily affecting the speaker any longer. As a matter of fact, this is almost never the case in our data. In most examples, the mind of the speaker is no longer unprepared at the moment of speaking. Naturally, surprise and unexpectedness are at the origin of any communication in the Mirative tense, but at the moment of communication itself the element of surprise is more likely to affect the addressee or any other person rather than the speaker him/herself. A contrastive study of the Mirative in different genres, such as story-telling and spontaneous conversation, is a prerequisite for a thorough understanding of the possibilities of the

Quechuan Mirative. So far, most examples found in the literature belong to the narrative genre, but there are no indications that the interpretation of the Mirative category in interactive contexts would be noticeably different.

The Quechuan Mirative cannot be seen as an extension of the evidential system. Apart from its emergence out of the tense system, the Mirative has few connections with other subsystems of the Quechuan verb. It is compatible with aspect and two of the three evidentials, and the interaction between it and these categories is minimal. Categories such as the Quechuan Mirative have been found in surrounding languages as well, either as independent categories or as categories derived from other usage, and it seems on its way to becoming an areal feature.

The Mirative in Tarma Quechua shows a high level of grammaticalization, in particular, because it does not have to share its form with other uses, such as Narrative past. This seems reason enough to include the Quechuan-type Mirative in a catalogue of terminology relevant to linguistic typology, when necessary under a different label than the more direct expressions of surprise that have also been referred to as miratives. Possibly, a distinction between the labels 'Mirative' (for the Quechuan type) and 'Surprisive' (for the traditional type) could bring a solution. A more suitable alternative may be to abandon the term 'Mirative' for the Quechuan category at issue and replace it with some more specific denomination such as 'Revelative'.

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CHAPTER FIVE

SEEING, HEARING AND THINKING IN KOROWAI, A LANGUAGE OF WEST PAPUA[1]

Lourens de Vries

1 Introduction

This article investigates linguistic (and some anthropological) aspects of perception and cognition expressions in Korowai, a Papuan language of uncertain affiliation[2] spoken by around 4000 persons in the area between the upper Becking and Eilanden Rivers, and east of the headwaters of the Becking River, in the Digul Basin of West Papua, Indonesia. We limit our attention to seeing, hearing and thinking in Korowai, both for reasons of space and availability of data.

Van Enk and De Vries (1997) published a grammar and texts of Korowai. The anthropologist Stasch wrote a doctoral dissertation and a number of other important publications on Korowai cultural and linguistic practices (Stasch 2001, 2007, 2008a/b, 2009) that are my sources for the cultural aspects.[3] The cultural aspects relevant to the linguistic analysis of see, hear and think concern beliefs about the opacity of minds of others, the distinction between two ways of talking about the minds of others, and

[1] This paper could be written because of a visiting scholarship at the Cairns Institute of James Cook University in 2010. Thanks are due to Prof. Aikhenvald, Prof. Dixon and the members of Language and Culture Research Group for comments and discussion. I also benefitted from the comments of the participants of the Workshop on the typology of perception and cognition held at the University of Cologne, 24–27 November 2010.

[2] Van Enk and De Vries (1997: 9) assumed that Korowai was an Awyu-Ndumut language but this was not based on reconstructive work. Wilco van den Heuvel and Ruth Wester at the VU University Amsterdam are currently working on language relations in the Digul Basin based on reconstruction of proto morphologies in the area.

[3] I would like to thank Rupert Stasch for sharing his unpublished fieldnotes, for insights into the cultural background and for critical comments on the linguistic side of the article, both in terms of correcting factual errors, bringing new data to my attention and in the analysis of volitionality, the use of the verbs of hearing to express knowledge and the verbs *de-* 'to say' and *-te* 'to be'. Any remaining errors of flaws in the analysis are entirely my responsibility.

the place and function of references to intestines, gall, liver (and combinations of these in exocentric compounds) to refer to the minds of others.

These cultural aspects are reflected in a number of linguistic practices and distinctions, e.g. in linguistic marking of the distinction between discourse about the minds of others from the inside perspective, of what goes on in the 'guts' of people, and discourse about the minds of others from the outside perspective, from the perspective of visible and audible, often culturally scripted manifestations of inner states. The cultural aspects are also reflected in the patterns of contextual meanings of perception and cognition verbs, in disambiguating say/think readings of verbs of speaking and finally in the grammatical distinction between controlled and uncontrolled thinking.

Expressions of thinking come in two contrastive construction types in Korowai, volitional and non-volitional; in the volitional type we find verbs of saying and idioms of 'planting' thoughts in the 'intestines-gall' or 'mind' where the thinking person is agentive and expressed as a grammatical subject.[4] In the non-volitional type the thinking person is not expressed as an agent but as an experiencer. The experiencer is not subject but theme in an experiential predication that has (compound) nouns referring to 'guts' as subject.

The grammatical constructions that express perception and cognition in Korowai must be understood in the context of distributive, thematizing and quotative patterns of language use. These patterns are part of what might be called the areal pragmatics and areal semantics of New Guinea[5] (De Vries 2005, 2006).

The first section of the paper gives linguistic and cultural background information, most of it from the perspective of New Guinea as a linguistic and cultural area. The second section discusses Korowai verbs of seeing and hearing and the third section deals with expressions of thinking. The

[4] Korowai grammatically groups A and S as subjects. Subjects (and objects) are unmarked and this sets them apart from oblique constituents that take postpositional clitics. Subjects play a role in person and number agreement with the verb, constituent order and in switch reference marking. The constituent order in Korowai clauses is A O V in transitive clauses and S V in intransitive clauses.

[5] Foley (2000:357) defines the linguistic area New Guinea as 'that area of the southwest Pacific, excluding Australia, in which languages not belonging to the Austronesian language family can be found. Roughly, it runs from the easterly Indonesian islands of Halmahera, Timor, and Alor in the west, to the westerly island group of New Georgia in the Solomon Islands in the east'.

final section summarizes the Korowai findings and places them in the broader context of New Guinean patterns of discourse and grammar.

2 Linguistic and Anthropological Background

2.1 *Linguistic Background: Distribution, Thematization, Quotative Framing*

There are striking continuities in a number of patterns of language use in the linguistic area of New Guinea. These continuities are heterogeneous in nature and vary from ways to connect clause chains in discourse (e.g. tail-head linkage as an areal feature, De Vries 2006) to semantic framing preferences (e.g. quotative framing of cognition, emotion and other inner states, Reesink 1993) and syntactic complexity reduction strategies (e.g. distribution, see below). Of course, languages in the area vary in terms of the extent to which they follow these patterns of language use but the tendencies are strong enough to mitigate the extreme linguistic diversity in the area, a diversity that is especially intense in the lexica and morphologies of Papuan languages.

The areal tendencies lead to high frequency of certain expression types and ultimately to freezing of frequently used forms into language-specific grammatical constructions. These speakers' preferences are not necessarily unique to Papuan languages or the linguistic area of New Guinea. However, the relatively high frequency, intensity and unmarked nature of these patterns probably is distinctive for Papuan speakers. In the framework of this article we can only briefly introduce those areal patterns of language use that are relevant to the grammar of perception and cognition in Korowai, namely distributive, thematizing and quotative patterns.

2.1.1 *Distribution*

In the majority of Papuan languages the verb is the head of the verbal clause, and the only obligatory constituent. The nominals in the clause could be considered optional modifiers of this head. The observation of Foley (1986:170) that 'in the great majority of Yimas clauses the verb occurs without any associated nominals at all' is true for very many Papuan languages. If there must be nominals, Papuan speakers try to have no more than one nominal modifying the verb in the clause, and no more than one modifying element in the nominal phrase. Thus 'two fat pigs' is preferably expressed as 'two pigs, fat pigs' and 'in the early morning Burufare cut the pork with a knife' as 'it-became-light and Burufare came

and took a knife and cut the pork'. Heeschen (1998) has shown in great detail for the Papuan language of Eipo, a Mek language, how the preference to have no more than one modifier per NP or clause leads to systematic distribution of nominals over series of clauses and of modifiers over serialized phrases.

The distribution tendency is not a set of grammatical constraints but a preference in language use to reduce syntactic complexity in phrases and clauses. Non-distributive forms, for example a clause with two or rarely three lexical arguments, are structurally possible and do occur but when they are used, they are marked and occur in specific contexts, acquiring special meanings in opposition to their unmarked, distributive counterparts. Heeschen (1998: 308) and Farr (1999: 340) for example, describe the use of non-distributive forms by Eipo and Korafe speakers in summarizing and concluding contexts. Distribution is a powerful force in the area of New Guinea and a motor behind very significant grammaticization trajectories. For example, distributive pressures in conjunction with coordination reduction fuelled the development of switch reference and clause chaining in Awyu-Ndumut languages (De Vries 2010). The Korowai example (1)–(2) is typical for the kind of flat, linear type of verb dominated discourse that results from distributive pressures in many Papuan languages:

(1) elo-bo-do ulmekho duol-mo
sleep-stay.3sg.REAL-DS shoot.SS put.into-SUPP.3sg.REAL
he^{i} was sleeping and he^{j} shot (him)

(2) ulmekho duol-mo-tofekho gebelipekho-dakhu melil-an
shoot.SS put_into-SUPP.3sg.REAL-DS start_from.sleep-SS fire-LOC
fele
fall.3sg.REAL
he^{j} shot (him) and he^{i} started from his sleep and he^{i} fell into the fire

2.1.2 *Thematization*

Thematization is the term Heeschen (1998) uses for the discourse preference that is exemplified by the following opening utterances of a Korowai myth of origin:

(3) mül-xuf-efè af-efè lamol fu-bo-xa
former-time-THEME then-THEME universe put-3sg.PERV.REAL-CONN
abül-fefè yu lamol menil fe-nè fu-daxu
man-THEME he universe fire get-SS put-SS
in former times, then, the one who had created the universe, he took fire and set the universe on fire . . .

(Van Enk and De Vries 1997: 163)

In (3) the theme marker -(*f*)*efè* occurs three times. The first three constituents are syntactically not integrated in the clause chain that follows, they are a juxtaposed series of thematic constituents that have pragmatic relations of relevance to the clauses that follow but are syntactically and intonationally separate units, with a pause after each theme preceded by a rising contour on the theme clitic. It is not just noun phrases that are made into themes, fully finite clauses can be thematized as well. Clauses that function as thematic NPs are frequent in Papuan languages, often translated into English as adverbial (especially conditional) and relative clauses (De Vries 2005, 2006). In its canonical form a theme is an extra-clausal constituent that precedes a clause or clause chain and that presents information as a given domain with respect to which the following clause is relevant; the relevance relation in combination with absence of syntactic integration is typical for thematization (Dik 1978: 19).

When speakers very frequently employ thematization strategies in language use, the conditions are met for freezing or conventionalization into grammatical patterns with language-specific meanings. An example of this would be the development of specialized theme/topic markers from deictics in some Papuan languages because Papuan languages very often use place deictic elements to mark themes (*this* man *here*, he is my father) and in some cases, as in Korowai, these deictics lose their deictic functions and specialize into dedicated theme markers (De Vries 1995). Another grammaticization path is the gradual intonational and syntactic integration of thematic constituents in the following clause. The themes drop their (often deictic based) theme markers and pause phenomena disappear when the thematization freezes into conventional clause structures with a range of specific grammatical functions including experiential constructions (De Vries 2006). This happened in Kombai (de Vries 1993), Inanwatan (De Vries 2004) and Korowai (Van Enk and De Vries 1997) and resulted, among others, in experiential constructions where the human experiencer is expressed as an initial thematic constituent followed by a body-part noun as subject and a verb that agrees with that inanimate body-part subject. The point with agreements of verbs in experiential constructions is negative: they do not agree with the human experiencer and this is marked, unexpected and in doing so the lack of control of the human experiencer is signaled. Below we will return to the grammatical contrast between controlled and uncontrolled cognition expressions in Korowai.

There seems to be a certain division of labor between thematization and distribution tendencies in Papuan narrative texts. Thematization occurs

especially in discourse initial sections when the time, place, participant and main themes are introduced, and in discourse final sections with summarizing and concluding functions (Heeschen 1998: 309). Thematization combines with non-distributive forms in these contexts to form discourse units in which the number of NPs, both extraclausal and intraclausal, is relatively high. Such sections are not organized around progression of events and recapitulative tail-head linkage (De Vries 2005) is hardly present. Once the story is under way, distributive tendencies become more dominant and the number of NPs per verb goes down drastically, with tail-head linkage connecting the often lengthy and 'verby' chains. Thematization occasionally occurs once the story is underway but as a marked phenomenon, in conditions of thematic re-orientation. Narrative and procedural texts published by Van Enk and De Vries (1997, Korowai), De Vries (1993, Kombai), Heeschen (1998, Eipo) and Farr (1999, Korafe) all exhibit this pattern. Farr (1999) uses the terms thematic paragraphs and chaining paragraphs for this division of labor. Of course, thematic paragraphs occur also outside narrative texts in genres not dominated by the event line, with discourse conjunctions providing major means of connecting sentences.

2.1.3 *Quotative Framing*

Quotative framing to express a very wide range of meanings has been observed in many Papuan languages (Healy 1964; Reesink 1993; De Vries 1993). Papuan speakers strongly prefer use the frame of (reported) conversation, with deictically (semi-)direct quotation clauses, with quote-marking morphology and/or verbs of speaking, not only to report speech acts, but also to talk about many other domains including intention, cognition, emotion, perception, indirect causation.

The use of direct quotes, with their own deictic centre as shown by first person verbs, to express intention, emotion, thoughts and other inner states is often the unmarked way to express these domains and in some contexts even obligatory (e.g. in constructions with motion verbs in Kombai, De Vries 1993: 96). Of course, not all Papuan languages use the conversational template for the same things or with the same frequencies and levels of grammaticization; perhaps, the most widespread use of quotative forms in Papuan languages is in the domain of intention ('want'), especially in contexts of motion verbs (he came to buy a pig = he came and said/saying 'I want to buy a pig'). The quotative framing preference is not restricted to Papuan languages of New Guinea, it also occurs in other areas of the world, for example in the native languages of South America

(e.g. Aguaruna, Larson 1978; Kwaza, Van der Voort 2002; Quechua, Adelaar 1990). But quotative framing is highly frequent and very widespread in New Guinea. Awyu-Ndumut languages but also their neighbours, Ok and Marind families, just love quotative strategies, they are everywhere and have been described in the earliest missionary linguistic sources, e.g. Drabbe (1955, 1957, 1959).[6] Healy (1964: 29) described the use of quotative clauses in Telefol with 'to say, think, see, know, feel' and calls the use of direct speech forms for the expression of non-verbalised thought 'direct cerebration'.

Here is an example of quotative framing from Kombai (De Vries 1993: 97):

(4) yarimo kho fera-f-e-ne
garden go.SS see-1sg.INT-CONN-QUOTE.sg
he wants to see his garden (lit. 'he goes saying "I want to see my garden" ')

2.2 *Cultural Background*

There are two issues that need to be addressed in relation to the cultural contexts of the linguistic expression of perception and cognition. First, the theme of the opacity of the minds of other people, often expressed by Korowai speakers (Stasch 2008b), a theme reflected on in many New Guinea communities (Robbins and Rumsey 2008). Second, the issue of Korowai expressions that denote the human mind, with nouns referring to inner organs such as 'guts', 'intestines-gall' or 'intestines-liver' that figure very prominently in Korowai expressions to denote thinking, consciousness, intention, memory and other aspects of the human mind.

2.2.1 *Opacity of Mind and Two Ways to Talk About Inner States*

Inner states of people (thoughts, emotions, intentions) are talked about in Korowai in basically two ways. The first way to talk about minds and inner states of mind is from the inside perspective of the invisible thoughts, feelings and intentions that reside in the innermost part of human beings, the 'intestines-gall' or 'guts'. This first way of talking about inner states of others is characterized by the use of quotative framing combined with 'gutsy' nouns that refer to the mental and emotional inner center of humans,

[6] E.g. Drabbe (1955: 133) on Marind: '. . let erop hoe men de gedachte, het motief weergeeft in de directe rede.' ('Notice how the thought, the motive is represented by direct speech'). Drabbe (1957: 85) on the Awyu language Aghu: '. . *numo-gh*, aldus zeggen, betekent hier: aldus tot zichzelf zeggen, of: aldus denken..' ('. . *numo-gh*, to say thus, means here: to say thus to oneself, or: to think thus..').

as discussed in 4.1 and 4.2. The second way is from the outside perspective of visible and audible, external actional manifestations of inner states, exemplified in this section by the *xén* register, see example (5) and the discussion there.

Korowai speakers often express doubts whether a person can actually know what is going on in the mind of another person, thus questioning the whole idea of talking about the thoughts of others from the inside perspective, by ascribing intentions and thoughts to others without any clear basis, because no one can see the 'guts' of others where these thoughts are hidden. This opacity of mind motive occurs in many communities of New Guinea in some form and has been the topic of intense debate among anthropologists (Robbins and Rumsey 2008). Commenting on the Korowai expression *ye-pa ye-xul-melun* 'his-REFL his-intestine-gall'/'he has his own mind', Stasch (2008b: 395) describes the attitude of Korowai speakers towards the uncertain world of intentions and thoughts inside other human beings as follows: 'Emphasis on the impossibility of knowing or speculating about other people's intentions is widely reported from other New Guinean communities (see Goldman 1993: 280–287 for a selection of references). A typical refrain by which Korowai express the impossibility of knowing other peoples' intentions is 'He has his own thoughts', meaning loosely 'I don't know what he intends, he'll act according to his own thought.' People often wonder aloud about the possibility that their assumed relations with other people could turn out to be other than what they seem.'

The motive of uncertainty concerning the insides of other human beings gets even more relief against the background of Korowai witchcraft beliefs and practices, the heart of which is the idea that every death in the community is murder, murder committed by cannibalistic male witches called *xaxua* (Van Enk and De Vries 1997: 47–48; Stasch 2001, 2009). These witches can by anyone, your brother, your father, your uncle, your friend because they hide their true nature. These beliefs are pervasive and form a daily obsession for many Korowai speakers, strongly contributing to the idea that one cannot know the minds of others (see also Stasch 2001: 456 for link between witchcraft beliefs and beliefs about the impossibility to know others). The other side of this coin is the fear to be accused of witchcraft: a person cannot see inside others to check whether he is suspected of being a witch.

These are very real fears. In principle, every death of a *yanop* '(social) person' is caused by witchcraft. Witches are believed to hit people so that they become unconscious (*xul-melun enon-telo* 'intestines-gall

forgetful-be', see below for this expression from Stasch unpublished field notes). Suspected witches are arrested, bound very tightly with ropes, and put under extreme mental and physical pressure to confess. When I lived in the Kombai and Korowai areas in the 1980s and 1990s, these witches were then executed and their bodies or body parts sent to more distant clans to be eaten. Such executions were very regular and Stasch (2001: 435) estimates that 20% of the deaths of adult males in recent generations were witch-executions: "In fact, it is clear that Korowai practiced society-internal capital punishment at rates unparalleled in the ethnographic and historical record except by some other New Guinea peoples with similar witchcraft beliefs" (Stasch 2001: 435). At the time that Stasch did his fieldwork the executions were slowly coming to an end because of fear of government punishment.

Stasch (2008b) sees also a political motive behind frequent assertions of the type exemplified by *ye-pa ye-xul-melun* 'his-REFL his-intestine-gall'/'he has his own mind', based on the high value the radically egalitarian Korowai place on personal autonomy. Talking about the mind of others is a kind of trespassing or entering the territory of another person, and a form of threat to personal autonomy of the other.

The presence of opacity beliefs concerning the minds of others among Korowai speakers does not imply, as in some other New Guinea communities, that talk about the minds of others is strongly discouraged or avoided (Stasch 2008b) but it did create a cultural awareness of the difference between discourse about the minds of others from the inside perspective and discourse about inner states from the outside perspective of the visible and audible external actional manifestations of the minds of others. And this awareness translates into very marked linguistic signaling of this difference in which 'intestines-gall' expressions and quotative framing play a key role.

The second way to talk about the minds of others, from the 'outside' perspective, leads to discourse in which external manifestations of inner states, often culturally scripted and predictable combinations of verbal and non-verbal actions, play a key role. 'The emotion exists in and through its social correlates.' (Stasch 2001: 401). The speech register of "anger" (Korowai *xén*), analyzed by Stasch (2001: 401–402), exemplifies this second way. If you are angry with someone, you shout angry words, you take bow and arrows, ready the arrow for shooting, have very aggressive body language, with fast, nervous movements, running back and forth, away from and then again toward the person you are angry with. Or you openly refuse someone food that you should share food with on the basis

of kinship or marriage relations, as an expression of the suspension of good relations, while saying or shouting angry things.

Nobody is angry without the concomitant 'drama' and adjectives such as *xén* refer to this actional, theatrical outward manifestation rather than to an inner state *per se*. Stasch (2001: 402) writes: 'Anger' is less an essential internal condition with occasional surface manifestations, than a quality of a person's actions toward others, and a quality of relations between persons'. It is a performative notion (Stasch 2001: 401). In fact, the gloss 'angry' is misleading for 'emotion' adjectives such as Korowai *xén*, a better gloss would be "display anger". For an example of the *xén* speech register see the text published by Van Enk and De Vries (1997: 173–186) that contains this fragment about a husband who has a nasty habit of being very angry with his wife who has to do all the chores, including preparing his food but is repeatedly told not to eat it:

(5) ü gu wa-fefè i-mba-lé de-di-mo-daxu
EXCLM you there-THEME see-PROG-1SG say-say-HAB.3SG-SS
ye xén-te-lo-mo
he angry-be-TEL-HAB.3SG
hey, you there, I am watching you, he used to say and he used to be angry

Preceding and following (5) the visible and audible behavior of the angry husband are extensively described, as in (6):

(6) xul ao lu fe-nè fu lawa
intestines cleanse.SS enter.SS get-SS put.SS food_wrapping
duo fe-nè fu è yu lu-ngga
put_into.SS put-SS put PAUSE 3SG eat-INFIN.CONN
lexé-mo-mo-tofexo gup belén-é de-di-mo
purpose-SUPP-HAB.3SG-DS.but you do'nt-EXCLM say-say-HAB.3SG
she cleansed the intestines, took them into the house, put them into a leaf wrapping and cooked it, put it down (for them) and she wanted to eat it but then he always said, 'don't you'!

The adjective *xén*, used in (5) predicatively with the verb *–telo* 'to be', is used in this text in a context where an inner state is portrayed in a discourse about the external visible manifestations of that inner state. These visible actions follow cultural scripts easily recognizable for the audience. For example, just as sharing food between husband and wife expresses and symbolizes marriage relationships in the Korowai community, openly refusing to do so is a culturally recognized action to express the suspen-

sion of that relation (and other relations expressed in food sharing). The combination of this visible behavior combined with his shouting leave no doubt in the Korowai mind about the inner state of the man. His behavior has written *xén* all over it and the behavior is a conscious and public display. That is why *xén* never occurs as an experiential predicate that expresses uncontrolled inner states (see below for Korowai experiential constructions in the domain of thinking).

2.2.2 Xul-melun *'intestines-gall' and other Gutsy Expressions*

Stasch (2008: 444–445) writes about *xulmelun*: 'The word I translate as "thoughts" here, *xulmelun*, could also be glossed as "thinking," "mind," "intention," "will," "plans," "consciousness," "awareness," "feelings," or "reasoning." The word *xulmelun* also means 'guts' or "viscera." Korowai like many other people identify cognitive and emotional deliberation with spaces of bodily interiority, specifically the internal cavity of a person's torso, and the organs there.'

Emotions, intentions, thoughts share rooms. They are all located in the intestines, liver, gall. Emotion, cerebration and other mental operations are represented without lexical differentiation under the general notion of processes and actions taking place in the guts/mind. However, Korowai makes a clear grammatical distinction between controlled actions and uncontrolled experiences or processes that unfold in the guts of people (see section 4). The following Korowai text from Van Enk and De Vries (1997: 43) describes mutual attraction and longing between man and woman rather graphically as a case of intestines melting together:

(7) wa lal ye-fi-melon alo-melu xenè
that female her-intestines-gall stand-move_up.NON1.SG.REAL next
wafil fi-melon-an melé-ai-xai-do wafil
man intestines-LOC move-move_down-NON1.SG.IRR-DS man
ye-xul-melun mesi alo-melu
his-intestines-gall_bladder next stand-move_up.NON1.SG.REAL
xenè wa lal fi-melon-an
next that girl intestines-gall-LOC
melé-ai-xai-xa-fè xolo-xolop
move-move.down-NON1.SG.IRR-CONN-THEME each-each
momu-te-lo-xa-té
longing-be-TEL-IRR-NON1.SG
the woman her intestines move up, and will go down into the man's intestines and the man's intestines-gallbladder move up and given that it will get down into the woman's intestines, they will long for each other . . .

Exocentric noun compounds and nouns referring to innermost belly organs occur in many idioms and collocations to denote both the inner processes (think, remember, know, feel) and the products of those processes (thoughts, feelings, memories, intentions). Besides *xul-melun* 'intestines-gall' we find *xul-üm* intestines-liver, *xul* 'intestines', *fi-melun* or *fi-melon* 'guts-gall' (Stasch 2008b: 452) and they play key grammatical and discourse roles in Korowai (see section 5). Here are some examples of these nouns in various contexts.

(8) ye-xul waxan-te-lo
his-intestines left-be.3sg.REAL-TEL
he was discontented

(9) xul-melun xelep-te
intestines-gall clear-be.3sg.REAL
to be sentient, have memories, become conscious'
(from the unpublished fieldnotes of Rupert Stasch)

(10) ye-xul-melun xaü
his-intestines-gall downwards
his intentions are bad
(from the unpublished fieldnotes of Rupert Stasch)

(11) khu laimekhe-te
intestines bury-3pl.REAL
they hid their thoughts
(Van Enk and De Vries 1997: 199)

3 Seeing and Hearing in Korowai

Korowai has a verb *dai-/da-* 'to hear; to listen' and *i-/imo-/ima-* 'to see; to look'. First, we describe the grammar of the verbs. Second, we will discuss some contextual senses of these perception verbs that go beyond the basic senses of 'see' and 'hear'.

3.1 *The Syntax of Seeing and Hearing*

The grammar of the Korowai verbs *dai-/da-* 'to hear; to listen' and *imo-/ima-/i-* 'to see; to look' is in line with the more general areal patterns described in section 2. Four different constructions are used.

The first construction has the second argument of the perception verb expressed as object. This construction can only be used when the object of the perception verb takes the form of a noun or a simple noun-

headed phrase, as in the Korowai example (12), from Van Enk and De Vries (1997:189):

(12) xolo-xolo aup da-té-daxu. . . .
each-each voice listen-REAL.non1.pl-SS
they deliberated and . . . (lit. they listened to each others' voice and . . .)

When the second argument is a clause, the second construction appears, the distributive construction, since the clause that denotes the perceived event must distributed out of the perception clause and receives a place in the clause chain following the clause with the perception verb:

(13) Muxalé yu imo-tofexo y-afé élo-bo
Muxalé he see-REAL.DS.non1sg his-brother sleep-be.REAL.non1sg
Muxalé he saw that his older brother was asleep (lit. Muxale he saw and his brother was asleep)
(from Van Enk and De Vries 1997:189)

This second construction is the default construction with verbs of perception, it is by far the most frequent of the four constructions in which verbs of perception occur and it is also much more frequent than the first construction in which a simple noun or noun phrase is the object of the perception verb. The reason why the first construction is less frequent than the second distributive one is the preference of Korowai speakers to introduce participants, activate them in the consciousness of the addressee and then leave them implicit as the subjects and objects of the verbs in the clause chains.

The perception clause in the distributive construction always precedes the percept clause in the clause chain[7] and since the subject of the perception clause is always different from the subject of the percept clause, the perception clause is marked for switch of subject reference (DS). Notice that the clause denoting the perceived event in distributive constructions is not a constituent of the perception clause and is not the object of perception verb in the preceding clause. There is just a pragmatic relevance

[7] Reesink (2008: 883) claims that the overall AOV or AVO order of a language determines whether a given language has a (preferred) percept-perception order (AOV) or the perception-percept order (AVO) but Korowai and Awyu-Ndumut languages as Kombai and Aghu are clear counter-examples to this hypothesis; they are strictly AOV but always have the order perception-percept in their conjoined or chained perception constructions.

relation between the two consecutive chained clauses and the addressee contextually infers the goal or patient relation that the percept clause has to the preceding perception clause.

The third construction used for the expression of perception in Korowai is based on thematization of the perception clause, with the percept as the comment. Korowai thematizes fully finite clauses with the subordinating suffix *-xa*, optionally followed by the topic marker *-fe*(*fe*):

(14) [Nu ima-lé-xa(-fe)] Theme NP [wof-e-xa gol
I see-1sg.REAL-CONN-THEME that-TR-CONN pig
pinggu-anop]NP
middle_finger-amount
I saw the three pigs (lit. given that I saw, the three pigs)
(Van Enk and De Vries 1997:114)

(15) [Nu dai-mba-lé-xa] Theme NP Sentani-fosü pesahu fiüm
I hear-PROG-1sg.REAL-CONN Sentani-from plane many
I am hearing many planes from Sentani/given that I am hearing, many planes from Sentani
(Van Enk and De Vries 1997:114)

The fourth construction used in Korowai is a reflex of the general areal tendency to use the frame of speaking and inner conversation for a wide range of domains including perception. The quoted clause represents the perceived state of affairs:

(16) Ima-te-tofexo u noxu-alef-e-xaup maf-ax
see-non1.pl.REAL-DS EXCL our-canoe-TR-inside picture-water
kuasel ibo-ibo
hook be.non1.sg.REAL-be_non1.sg.REAL
they saw that there were mirrors and fish hooks in their canoes (Lit. they saw and 'oh my, in our canoes there are mirrors and fishhooks!')
(Van Enk and De Vries 1997:189)

The quotative nature of the construction is clear from the use of the exclamative interjection and the shift of deictic center from the perception clause to the percept clause in (16).

The pragmatic relationships between the four construction types are as follows. The default choice for Korowai speakers is the second type, the distributive type. The quotative and thematized constructions are marked with perception verbs. The quotative type is only used when speakers want to portray emotional inner states of the perceivers, their attitudes to what they saw, when the events they saw shocked or surprised them or

triggered other emotions, usually with interjections in the quote to indicate shock, surprise and so on, as in (16). Below we will see that quotative forms are strongly associated with the inside perspective and with the domain of cognition while distributive constructions (he saw and she fell) are the default in the domain of perception. Now when speakers use quotative forms for the perceived event, they use hybrid constructions that start as distributive construction (the default with perception verbs) but then switch to a quotative construction (the default construction to express thoughts and other inner states), as in (17):

(17) [[Ima-te-tofexo] chained switch reference clause [u noxu-alef-e-xaup
see-non1.pl.REAL-DS EXCL our-canoe-TR-inside
maf-ax kuasel ibo-ibo] quotative clause]
picture-water hook be_non1.sg.REAL-be_non1.sg.REAL
they saw (and/DS) 'oh my, in our canoes there are mirrors and fishhooks!
(Van Enk and De Vries 1997: 189)

The thematized type is so rare in Korowai with perception verbs that we have not enough data to establish their conditions of use with any certainty. But given the division of labour between distribution and thematization in Papuan languages and given their use in other languages (see section 5) a probable hypothesis is that they are used in contexts of thematic discontinuity, when speakers discontinue the event-line and present the perception event as an off-line background for the percept clause.

3.1.1 *Contextual Senses*

The verb *dai-/da-* is used both in contexts of uncontrolled hearing, (15), and controlled listening (e.g. (18), controlled). The verb is also found in contexts of deliberation and consultation (e.g. (12) *xoloxolop aup dai-* 'to consult; to deliberate' (lit. 'to hear each others voices'), obedience, (18), and knowledge, (19). The contextual sense of 'know' occurs in the texts collected by Van Enk (Van Enk and De Vries 1997) especially when the verb *dai-* is marked for perfective (*dai-bo-* 'to have heard>to know') as in (19) but according to Rupert Stasch (p.c.) in overheard conversations both Realis and Irrealis forms of *dai-/da-* that are unmarked for aspect are used with the sense 'to know' (e.g. *nu da-le* I hear-REAL.1SG 'I know')'

(18) gexenép anè da-mén
you.pl HORT listen-IMP.pl
you must be obedient!
(Van Enk and De Vries 1997: 43)

(19) aim-xo-pé yexené è xambom a aturan lé
Kombai-there-THEME they PAUSE village PAUSE rules ?
dai-dife-ba-tél-e-xa
hear_be_almost-PERV-non1pl.REAL-TR-CONN
as for the Kombai people, given that they already knew a little about the village rules…
(Van Enk and De Vries 1997: 200)

Whereas *dai-/da-* 'to hear' is the default expression for knowing in the sense of being familiar with something or someone on the basis of having perceived and experienced that thing or person, knowing in the sense of understanding something, seeing through something, is expressed with the adjective *xelép* 'clear' in various collocations and idioms:

(20) nu ne xelép-té
I me clear-be.3sg.REAL
it is clear to me/I understand

(21) nup-to Banyo xelé-pe-nè féda-lé
I-FOC Banyo clear-CAUS-SS give-1sg.REAL
I have explained (made clear) it to Banyo

The causative, derived verb *xelépo-* 'to clear something (e.g. the ground), make a clearing, make open, make visible' that occurs in (21) with the sense 'to explain' occurs in the unpublished field notes of Rupert Stasch also with the senses 'to remember' and 'to think' and in constructions with the verb *-te* 'to be' with senses such as 'conscious', and 'reminiscent'.

The Korowai causative compound *damo-* 'make-hear' means 'let someone know/inform someone':

(22) gup-to anè da-mo-m-é dé
you-FOC HORT hear-CAUS-2sg.IMP-EXCL say.3sg.REAL
he commanded (the little bat), 'you should let me know'
(Van Enk and De Vries 1997: 174)

3.1.2 imo- *'to see; to look'*

The verb *i- /imo-/ima-* 'to see; look' is used both for controlled, e.g. (23), and uncontrolled visual perception, e.g. (13). Just as *dai-/da-* 'to hear', perfective forms of *i- /imo-/ima-* 'to see; look' may mean 'to know'. The verb also occurs with the sense 'to watch', especially when the verb has a progressive aspect, (24):

(23) bol-tena-sü imo
hole-little-through look.3sg.REAL
he looked through the little holes

(24) i-nè xami-bo-do
see-SS sit-stay.3sg.REAL-DS
they were watching and . . .

In contexts of human relationships, the verb *i-/imo-/ima-* 'to see, to look' may also mean 'to pay (positive) attention to someone within a relationship'. In the following text a prayer to ancestors is reported in which people beseech the ancestors to 'see' , that is to 'watch over' them, a prayer that accompanies pig sacrifices (Van Enk and De Vries 1997: 159–162):

(25) gexené if-e-xa gol-mél bando-xe-nè
you this-TR-CONN pig-forepaw bring-go-SS
le-mén-daxu noxu im-ba-mon-è
eat-2pl.IMP-SS us see-stay-2pl.IMP-EXCLM
you should take this forepaw of the pig, eat it and watch over us

Perception verbs of seeing and hearing are sometimes translated or glossed in the Korowai texts with translations such as 'know', (19), or 'watch over', (25), and these contextual senses go beyond perception proper. But it is important to note that these extensions only occur in contexts where the referent of the object of the verb is a visible or audible entity that can be perceived with eyes or ears.

When the object is situated in the insides, in the guts, of people, and does not have sensory qualities, cannot be seen or heard, such as intentions, conclusions, thoughts, in contexts where English can use perception verbs ('John saw that Bill was right'), in Korowai quotative framing is triggered in combination with expressions that refer to the insides ('guts') of people. This has to do with the awareness among Korowai that the world of intentions, thoughts, feelings is a world that is not accessible to the eye or ear (see section 2) and discourse about that inner world is clearly marked as talk about the 'guts' of people.

The restriction with verbs of seeing and hearing to visible and audible object arguments implies three things; first, that in all the contextual senses of these verbs (to obey, to know, to consult, to pay attention, and so on) that go beyond the domain of perception proper, the aspect of perception remains very much active, for example when the ancestors are asked to accept the pork and to pay attention to their descendants, the idea is very much there that the ancestors follow them with their eyes

and protect them, and that is why the gloss 'watching over' perhaps comes closest to the semantics of the perception verb in (25). When the perfective *daibo-* 'to have heard' is used in the sense 'to know' the object always refers to explanations, to talk that people heard. So, in (19) where *daibo-* has *xambom* 'settlement' as object, it is understood that they heard talk about village life and therefore know about that; the second implication is that grammatically, in terms of coding, these extended senses are not distinguished from core senses that involve direct perception, seeing and hearing, for example, in (19) where *daibo-* means 'to know' grammatically there is no difference with the other usages of the *dai-/da-* 'to hear' verb; the third implication of the restriction to visible and audible objects with verbs of perception, is that contextual extensions of perception verbs into the domain of the inner states of people (think, understand, conclude, and so on) were blocked. Instead, a whole range of other verbs and idioms is used for that inner domain: verbs of speaking, verbs of shooting/planting thoughts in the 'guts', experiential constructions with 'guts' with a wide range of cognitive meaning, and many expressions in which the adjective *xelép* 'clear' plays a central role (see e.g. (20) and (21)).

4 Think

4.1 *Thinking as Controlled Action*

Whereas in the domain of perception, with seeing and hearing, notions of control and volition are not expressed in lexical or grammatical contrasts, in the domain of thinking the opposition volitional versus non-volitional is expressed grammatically. Controlled thinking is expressed with the verbs *de-/di-*, 'to say' and *duo-* 'to shoot/plant/insert into'. The latter verb takes nouns that denote intestines, gall and other inner organs as object.

Quotative framing of thinking is illustrated by (26) where the verb 'to say' with a direct quotation is used to represent the thoughts of a man who was buried alive and has just come out of his grave, from a text in Van Enk and De Vries (1997: 157). To emphasize the fact that thoughts are represented from the 'inside' perspective of what is going on in the heart or mind of someone, idioms of thinking that refer to inner organs may be used, often combined with the verb *duo-* 'to shoot/plant/insert into', as in (28), sometimes in combination with quotative framing, (27).

The human thinker is cast as agent with these verbs and expressed as the grammatical subject of the verb of speaking (thought as inner speech) or planting (thoughts as things planted into the 'intestines' or 'guts'.

(26) wé mé-laimexo-baxa-ti-do mbaxa-mo-f-è
EXCL earth-bury-HOD-REAL.non1pl-DS what-SUPP-1sg.INTENT-EXCL
dé-daxu . . .
say_non1.sg.REAL-SS
. . . he thought (wondered), 'hey, they have buried (me today) and what am I to do?'

The verb *de-/di-* is used in (26), with a direct quotation, to express the thought of the man (who was buried alive, regains consciousness in his grave and then thinks 'what now?'). The buried man is the agent of the thinking action and is the subject of the *de-* 'to say; to think'.

Out of context expressions with *di-/de-* 'to say' are ambiguous between saying and thinking. To disambiguate, speakers may add 'guts' idioms such as *fi-melon/xul-melun duo-* to the quotative frame. By doing so the speaker makes clear that he is reporting thoughts, not locutionary acts, of other people, and that he engages in talk about the minds of others from the inside perspective, as in (27):

(27) [dajo-menél ye-fi-melon]part of chained clause
dajo-young.girl her-intestines-gall
[nu if-è Muxalé] part of quotative clause
I this-CONN Muxalé
[duo-tofexo]chained clause [[él y-afé-da-é nu
put_into_non1sg.REAL-DS yes his-older.brother-NEG-EXCL I
Muxalé-lo fo-p-xelüf-é] quotative clause dé[8]
Muxalé-FOC marry-1sg.INTENT-DESID-EXCL say.non1sg.REAL
the Dajo girl thought 'I really don't want to marry the older brother, I badly want to marry Muxale'

(Van Enk and De Vries 1997: 207)

The clause with the 'think' idiom may be linked to the quotation clause by chaining as in (27) or the 'think' clause may be thematized, as in (28):

(28) [nu ne-xul due-lé-xa] Theme
I my-intestines put_into-1sg.REAL-CONN
[nu ne lép-te-lo-bo]
I me ill-be_non1sg-TEL-stay_non1sg.REAL
I think that I am ill (lit. given that I think, I am ill)

(Van Enk and De Vries 1997: 114)

[8] We have not found quotative suffixes or quotative clitics in Korowai. The verb *di-/de-* 'to say' is used as a quote-marking verb, especially its medial SS form *denè* that seems to be loosing its verbal properties. When it is used as a quote-marking device, forms of *di-/de-* sometimes cliticise to the last word of the quoted clause.

4.2 *Uncontrolled Thinking*

The fully inflected verb *-te* 'to be/become' has various usages in Korowai, one of which concerns us here, its use with predicates denoting uncontrolled physical and psychological experiences in experiential constructions. In such constructions the verb is a third person singular form and does not agree with the human experiencer. For example:

(29) nu lép-te-lo
I ill-be.3sg.REAL-TEL
I am ill (lit. I (it) ills)

The verb in (29) does not agree with the experiencer *nu* 'I' because in that case the verb would have been *telo-nde* (be-1sg.REAL). The experiencer *nu* 'I' is a theme (lit. (as for) me (it) ills) that can be replaced with themes of different person and number without the verb form changing since the experiencer in this construction does not have a grammatical relation to the verb, it is not the subject. For example in (30) the theme is second person plural but the predicate remains in the 3sg form:

(30) gekhenép lép-te-lo
they ill-be.3sg.REAL-TEL
they are ill

Stasch fieldnotes contains a range of experiential predicates with *xul-melun* 'intestines-gall/thinking' denoting non-volitional experiences that involve thinking such as *xul-melun ü-telo* 'thinking is gone', glossed by Stasch as 'unconscious/unthinking/out of it', and *xul-melun-telo* 'to become preoccupied'. The following examples of non-volitional *xul-melun* expressions with *-telo* 'to be' have a first person singular theme 'I' that does not agree with the subject because the subject is *xul-melun* and the construction signals uncontrolled experiences:

(31) nə xul-melun Ndaun tanux-te-lo
I intestines-gall Ndaun only-be.3sg.REAL-TEL
I could only think of Ndaun
(from the fieldnotes of Rupert Stasch)

(32) nu xul-melun enon-te-lo
I intestines-gall forgetful-be.3sg.REAL-TEL
I am unconscious (what happens with witch/demon attack)
(from the fieldnotes of Rupert Stasch)

Quotative forms and the volitional think verbs *di-/de-* 'to say' and *xul/fimelon/xul-melun duo-* 'to plant/insert into/put into guts' cannot occur in these experiential constructions.

Although verbs of saying and quotative forms in combination with 'inside' organ idioms are the default expression for think, I found at least one other verb in the domain of thinking, the verb *aful*. This verb has 'to fight, to struggle, to wrestle' as its basic meaning but it is also used metaphorically for inner states of constantly and often worriedly thinking about something, to wrestle with something in your thoughts. This verb occurs with distributive forms, in chained form, with the clause containing the *aful* verb preceding the clause denoting what someone is constantly thinking about:

(33) wai le-nè mbayap mbala-mo-daxu
move.down.SS come-SS penisgourd distribute-SUPP.3sg.REAL-SS
séx mbala-mo-daxu afü-be-bax-i
skirt distribute-SUPP.3sg.REAL-SS struggle-stay-HOD-3sg.REAL
melél-mo-tofexo di-le-lo-tofexo
finish-SUPP.3sg.REAL-DS lacking-be.3sg.REAL-TEL-DS
sé xaim gelü-nè xe-bax-i
next tree house run-SS go-HOD-3sg.REAL
he came out and arrived and dispensed the penis-gourds, and he dispensed the skirts and then still was worried that it was finished and that were not enough, so he ran to the tree house

In (33) it says literally 'he fought/struggled and it was finished, there was not enough'. Possibly because the transcription helper thought that the more marked and specific expression with *aful* was unknown to Van Enk, the missionary who recorded and transcribed the text, he spontaneously paraphrased it to Van Enk with the far more common expression (see Van Enk and De Vries 1997, note 128 to chapter 6):

(34) ye xul duol
he intestines shoot.3sg.REAL
he thought …

5 Concluding Remarks

The perception verbs of seeing and hearing occur in four constructions in Korowai. The default construction is the distributive one (of the type: Mukhale saw and/DS his brother was asleep) and it has its basis in areal

syntactic preferences of New Guinean speakers to distribute arguments of verbs out of the syntactic domain of the clause.

Given the strong distribution tendency in the linguistic area of New Guinea, we expect that distributive constructions for the expression of perception to occur in many Papuan languages. Indeed it is found in Mian, an Ok language (Wegener 2008: 278), Manambu of the Ndu family (Aikhenvald 2008: 556), Inanwatan of the South Bird's Head family (De Vries 2004: 58), in most if not all Papuan and Austronesian languages of the Moluccas (e.g. Tetun, Buru and Taba, Reesink 2008:880), in Moskona of the East Bird's Head family (Gravelle 2010:339), Hatam (Reesink 2008:880) and Maybrat (Dol 1999), both of the West Bird's Head family, Usan (Numugenan family, Reesink 2008:883), Hua (Yagaria family; Haiman 1980; Reesink 2008: 883), Amele (Roberts 1987: 183) and Koromu (Reesink 2008:88). The fact that the juxtaposed, conjoined, chained or serialized constructions of the type "John saw (and) Pete fell" occur all over New Guinea in genealogically and typologically very different languages (including Austronesian languages of the area) points to the areal nature of distribution.

The second construction used by perception verbs of seeing and hearing in Korowai is the thematized form (of the type: given that John saw, Pete fell).

Given the general areal thematization tendency discussed in section 2, again we expect such constructions with the perception event as a given theme or background for the percept also in other languages of the linguistic area of New Guinea. Indeed they have been reported for Savosavo (Wegener 2008: 277) and the languages mentioned by Reesink (2008: 884), Usan (Reesink 1987:244), Hua (Haiman 1980:67) and Koromu (Priestley 2001:204). Take this example from Usan:

Usan (Reesink 1987:244)

(35) [Ne asi g-ar eng] Theme
and look.for see-3sg.FAR.PAST this-GIVEN
Ninmun wo naget igo-ai
Ninmun 3sg stand.SS stay-3sg.FAR.PAST
and when she looked and saw, (there) was Ninmun standing

What is the relationship between perception constructions based on distribution, of the type 'John saw (and) Bill fell' and those based on thematization, of the type 'Given that John saw, Bill fell'? Much research needs to be done in this area but it is very likely that the relationship between these alternative constructions for expressing perception in individual Papuan languages reflects at least some properties inherited from the contexts in

which Papuan speakers prefer to use distributive or thematization strategies, namely distributive forms in contexts of thematic continuity and thematized forms in contexts of thematic discontinuity

If that generalization is valid, we would expect thematization to be applied to perception expression in contexts of thematic discontinuity, as a more marked strategy that is used when the speaker highlights the percept against the background of the perception event, as in the Usan example (35). The event line is broken in such cases for special purposes and the perception event is expressed as off-line. Distributive expression of perception, on the other hand, would be expected to be much more frequent, the default option, used in conditions of thematic continuity when the event line is unbroken and both the perception event and the perceived event are expressed on-line, in a sequence of conjoined or chained clauses. The Korowai data on distributive perception constructions are in line with these predictions: they are both the default option and occur invariably in what Farr (1999) would call chaining paragraphs, sections of the discourse with high thematic continuity, with the time, place and participants all known and active, where the perception event and the perceived event are both chained clauses (i.e. on the continuous event-line).

The quotative construction, the fourth construction that we find with Korowai perception verbs is also a marked construction type, only used when speakers want to portray emotional inner states of the perceivers, the mental response to the perceived event. This switch to the inside/'guts' perspective triggers quotative framing in Korowai and the result in Korowai is a hybrid perception-cognition construction that starts as a distributive construction with a perception clause but then switches to a verb of speaking with a direct quotation to represent both the percept and the mental response to it. Whereas quotative framing is a marked construction with verbs of perception, it is the default construction in the domain of thinking, although Korowai speakers can use a distributive construction, with the verb *aful-* 'to wrestle, fight, struggle; to struggle in thought' (see 4.2).

Two types of thinking take place in the 'guts' of people, volitional actions of thinking in which the thinking person is in control as an agent and non-volitional thought processes where the thinking person experiences thoughts, unconsciousness, cognitive confusion or its opposite, cognitive clarity, just as he experiences illness or cold. The grammar of Korowai captures this control/uncontrolled contrast in two distinct constructions types. Further research is needed to establish how widespread the opposition

between volitional and non-volitional cognition constructions is in the area of New Guinea. Kombai, the neighbor of Korowai, makes a similar distinction between volitional and non-volitional thinking. Compare the volitional construction (36) with the experiential construction (37):

(36) yafo-fina wa-xumolei-neno
their-breath/thinking PERV-die.non1sg.NFUT-QUOTE.pl
they think he is dead (Lit. their breath (thought) 'He has died'-quote)
(De Vries 1993: 98)

(37) ya ox-o fina-ge
they water-CONN breath/thinking-non1sg.NFUT
they are thirsty (as for them it thinks of water)
(De Vries 1993: 98)

The noun *fina* 'breath; mind', with a possessive prefix denoting the thinkers, literally 'their breath/mind' is followed by a quotative construction in (36). The construction has a volitional reading in contrast to (37) where the derived verb *finage-* 'to think' is used in an experiential construction with the experiential predicate in the 3rd person singular and not agreeing with the experiencer theme 'they'.

Korowai speakers frequently express beliefs about the opacity of minds of other people and these beliefs are to be understood, not as epistemological folk theories, but as expressions of deep concerns, negatively in relation to the dangerous unpredictability of other people and positively in relation to the egalitarian desire to respect the autonomy and freedom of action of others (Stasch 2008b). These opacity beliefs lead to a cultural awareness of the distinction between talk about inner states of others from the perspective of their 'insides' and talk from the external perspective of the visible and audible actions of others that express their inner states. The latter type of discourse was illustrated in this article with the speech register of *xén* 'displaying anger'. To signal that a given discourse about the minds of others is talk from the inside perspective, Korowai speaker employ verbs of speaking and direct quotation forms that represent the inner conversation that takes place in the 'guts' of people.

To emphasize the 'inside' perspective even more, Korowai frequently add expressions that explicitly refer to intestines, gall, liver and other inner organs that stand for the mind. In volitional expressions of thinking these references to inner organs are optional (but frequent) since quotative framing in itself already signals the inside perspective. In non-volitional constructions, where quotative framing cannot be used, references to intestines, gall, liver and compounds of those, are obligatory.

Inner states cannot be seen or heard, they are not visible and audible entities that can be located in space and time, they have an elusive, propositional nature and they reside in the 'guts' of people. This nature is captured by quotative framing, thoughts as inner speech a person directs to himself in combination with gutsy idioms. Verbs of perception have a limited place in the cognition domain as they require visible and audible objects; when we find cognitive contextual senses of perception verbs (e.g. *dai-bo-* 'hear-PERV'>to know') the aspect of hearing is still semantically active. The perfective form of verbs of seeing and hearing have resultative overtones: the state that results from having heard or seen something is a mental state of knowledge. In a sense these perfective forms of see and hear verbs stand with one leg in the perception domain and the other in the cognition domain. This makes them interesting borderline cases in a language and a speech community that otherwise conceptualizes the world of inner states, including cognition, very differently from the external world of visible and audible states.

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CHAPTER SIX

PERCEPTION AND COGNITION IN MANAMBU, A PAPUAN LANGUAGE FROM NEW GUINEA

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1 General Remarks

In many languages of the world, verbs and other expressions associated with perception and cognition form a special subclass in terms of their grammatical features. They may have special properties in terms of argument marking, or require special complementation strategies or complement clauses. Verbs of perception and cognition often have restrictions on forming imperatives, or on taking part in serial verb constructions. They vary in the range of meanings covered. The verb referring to visual perception may also mean 'try', 'taste', or 'understand'. The verb referring to auditory perception may also mean 'obey', 'understand', and 'remember'. The purpose of this chapter is to discuss, in some detail, grammatical and semantic properties of verbs of visual and auditory perception, and cognition, in Manambu, a language from the Ndu family spoken in the Sepik region of Papua New Guinea. At the end, we address the role of visual perception in Manambu cultural practices.

We start with an overview of some grammatical features of Manambu.

2 Background

Manambu belongs to the Ndu language family, and is spoken by about 2,500 people in five villages (Avatip, Yawabak, Malu, Apa:n and Yuanab (or Yambon)) in the East Sepik Province of Papua New Guinea, plus expatriate communities in Port Moresby and in Wewak (Aikhenvald 2008a). Like other Ndu languages, Manambu is agglutinating with some fusion, and predominantly suffixing (two prefixes, several dozen suffixes). There is productive verb compounding.[1]

[1] Other languages of the Ndu family are Iatmul, Boiken varieties, Gala (or Ngala), Wosera/Abelam continuum and Kaunga (or Yelogu). Transcription adopted here follows

Word classes are: nouns, verbs, two subclasses of adjectives (agreeing adjectives: *kwasa* 'small', *nəma* 'big' and *yara* 'fine'; and non-agreeing (the rest)), adverbs, and numerous closed classes. Nouns have two covert genders (feminine and masculine, marked via agreement in singular only) and three numbers (singular, dual and plural) marked on modifiers and on verbs. Gender assignment for humans is sex-based; for other groups of nouns, gender choice depends on the referent's size and shape. So, a small location will be referred to as feminine, and a large one as masculine; a short stretch of time is feminine, and a long one masculine.

Nouns distinguish nine case forms: a zero-marked subject case (with the same form employed in a number of other functions, including copula complements and second arguments of extended intransitive verbs); definite or fully involved object and location case *-Vm*; dative-aversive ('for fear of') *-Vk*; with overtones to do with frustration, warnings and future projection, and incomplete involvement of the object; comitative *-wa;* terminative ('up to a point') *-Vb*; transportative 'via transport' *-say, -sap*; allative-instrumental *-Vr*; and substitutive 'instead' *-yœy*.

Verbs can be intransitive, or ambitransitive (over 80% verbs are S = A ambitransitive; but there are some S = O); there are rather few strictly transitive or ditransitive verbs. Verbal categories in main clauses include personal cross-referencing fused with tense; a variety of aspects, including habitual, completive, repetitive, etc.; mood and modalities, including irrealis (distinguishable from future only in negative clauses), imperative, purposive, desiderative, and directionals; and a complex system of marking negation. Every verb has to cross-reference the subject (A/S) and optionally another argument (if it is more topical than the subject). Directionals (up, down, across away, across towards speaker, inwards, outwards, around the place) make the verb telic.

A member of any word class can head the predicate of an intransitive main clause. Verbs take tense-sensitive verbal cross-referencing suffixes. Depending on clause type and mood, modality and aspect, either just the subject (A or S) or the subject and an additional constituent can be cross-referenced. Other word classes take nominal cross-referencing enclitics with no tense distinctions. Only verbs can head transitive clauses.

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the principles in Aikhenvald (2008a), a reference grammar of the language based on fieldwork over a period of 15 years by the present author. I am grateful to my Manambu family for teaching me their remarkable language. Special thanks go to R. M. W. Dixon and Anne Storch for suggestions and comments. Note that voiced stops and affricates are prenasalized, and so *b* is realized as *^{m}b, d* as *^{n}d, g* as *^{ŋ}g*, and *j* as *^{ɲ}j*.

Clause-chaining is a notable feature of many languages in New Guinea. Manambu is no exception. The major strategy for linking clauses involves a chain of medial dependent clauses marked for switch reference—that is, whether or not the subject of the preceding supporting clause is the same as that of the main clause. Constituent order in main clauses is predominantly verb-final; the order of A/S, O, and obliques is pragmatically determined. Constituent order in medial clauses is strictly verb-final.

Similarly to other languages of the Sepik region, Manambu has no grammatical evidentials. There are no cultural requirements to be precise in stating one's information source (this is in contrast to many small societies in Amazonia: Aikhenvald 2012: Chapter 9). The adverb *wayway* 'maybe' is used of any assumption and also for unreliable information. Numerous modal forms, including future and irrealis, are used for the same purpose.

Speech reports (introduced with the speech verb *wa-* 'say, speak') are very frequent, and are used to express thinking (cognition), desire, intention, reason etc. (similarly to Korowai and Kombai: de Vries, this volume: also see Aikhenvald 2008b).

Manambu does not have complement clauses as a special clause type. Clauses of other types—such as medial clauses and purposive clauses—are used as complementation strategies. Verbs of perception and cognition differ from verbs of other classes in the types of complementation strategies they require—this is the topic of our next section.

3 Verbs of Perception and Cognition, and Their Properties

The most frequently used verbs of perception and cognition are:

- *və-/-kət(a)* 'see, look, taste, experience, try, read'—see §2.2;
- *wukə-* 'hear, listen, smell; obey, think (about something), worry, remember'—see §2.3;
- *laku-* 'understand, know'—see §2.4.
- *mawula:m wa-* (in.the.'inside' say) 'think (that X; or something (NP)), have an opinion'—see §2.4.

Unlike most other verbs in the language, none of these verbs can ever be replaced with the generic verb *məgi-* 'do whatever'. They also share a type of complementation strategy discussed below.

3.1 *Clausal Complements of Verbs of Perception and Cognition*

Completive medial clauses are used as clausal complements in O function with the verbs of perception 'see/look' and 'hear/listen/obey' (and compounds and directional forms involving these), and verbs of cognition. The action of the clausal complement precedes that of the main clause. The semantics is that of activity or fact (Aikhenvald 2009). Verbs of perception and cognition are in bold face. Clause boundaries are indicated with square brackets.

(1) [amæy wa-lə-k] [**a-wuk**]
mother say-FEM.SG-COMPL.DS IMPV-hear/listen/obey
listen to/obey what mother said (lit. mother having said, listen/obey)

(2) [a-də wajək akətawa
DEM.DIST-MASC.SG eel+LK+DAT like_this
kur-lə-k] [ata **və-də-l**]
do/act-3FEM.SG-COMPL.DS then **see-3MASC.SGSUBJ-3FEM.SGBAS**
he saw that she'd acted like this because of the eel

If the action of the complement is either simultaneous or subsequent to the main clause, juxtaposition of main clauses is used to express a clausal complement in O function with the same verbs of perception and cognition.

(3) [wa-tua] [**a-wuk**]
say-1SGSUBJ.VT+3FEM.SGBAS.VT **IMPV-hear/listen/obey**
listen to /obey what I am saying (lit. I having said, listen/obey)

(4) [a takwa-ñan **kətu**
DEM.DIST woman+LK-child **look.upward**
və-lə-l] [du kə-da-wur
see-3FEM.SGSUBJ.P-3FEM.SGBAS.P man DEM.PROX-MASC.SG-UP
adəka rə-na-d]
DEM.DIST.REACT.TOP+MASC.SG sit-ACT.FOC-3MASC.SGBAS.VT
that young woman looked up and saw: the up-there-man was sitting there

In contrast, verbs of speech take purposive clauses or direct speech reports as complementation strategies. The order of clauses is fixed (see Aikhenvald 2008a: 535–9 on constituent order in Manambu). Verbs of perception and cognition form a subclass of verbs in terms of their complementation strategies and the fact that they cannot be substituted by the generic verb. We now turn to a number of rather subtle differences between them.

3.2 *'Sight' and Related Notions*

The verb *və-/(*kət(a)-)* covers a range of meanings, including 'see, look, taste, experience, try, read'. Grammatical tests help disambiguate the many overtones of this verb. Table 6.1 summarizes these for the verb *və-* used as a free form (not in a compound or with a directional).

Unlike in some Indo-European languages such as English, 'see' does not cover the meanings of 'know' or 'understand' (these are expressed with *laku-* 'know, understand'—see §3.4, and partly with *wukə-*—see §3.3).

Table 6.1. What does *və-* mean? Grammatical tests for the free form *və-*

Meaning	Case marking: O	Imperative	Permissive	with a sequencing clause	with *məl* 'eye'	Sections where discussed
'see, look at'	Ø-marked	no	no	no	yes	§3.2.1, §3.2.6
'look, see well' (controlled, telic)	*-Vm* 'accusative-locative case'	yes	yes	no	yes	§3.2.1, §3.2.6
'look around, notice'	*-Vk* 'dative-aversive case'	no	no	no	?	§3.2.1
'try, experience' (non-volitional)	Ø-marked	no	no	no	no	§3.2.2
'try, taste, touch' (volitional)	*-Vm* 'accusative-locative case'	yes	yes	yes	no	§3.2.2–3
'read'	*-Vm* 'accusative-locative case'	no	no	no	no	§3.2.5

We now discuss the various meanings of *və-* 'one by one'. This verb is an S = A ambitransitive.

3.2.1 *'See, look at'*

In its meaning 'see, look at', the verb *və-* takes an O unmarked for case if indefinite or not 'seen' completely:

(5) wun kayik ma: **və**
I film/ghost/picture NEG **see**
I didn't see a/any film/ghost/picture

If the object is fully seen and the action is volitional and/or telic (meaning 'look (at)', or 'see well'), the object is marked with accusative-locative case *-Vm*. (6) can also mean 'I looked at the picture, ghost or film'.

(6) wun kayka:m **və-lwun**
I film/ghost/picture+ACC/LOC **see-1FEM.SGBAS.P**
I saw the film/the ghost/the picture (fully)

The same verb can mean 'look around for' and 'notice'. Then, the object is marked with the dative-aversive case, as in (7) and (8):

(7) [brə-kə-k **və-tuə-k**] [ata wa-bər]
3du-OBL-DAT **see-1SG-COMPL.DS** thus say-3duBAS.P
after I'd noticed the two of them, they said thus

(8) [ta:y waku-də yibun-miya:k] ata
first go_out-3MASC.SGVT stick-tree+LK+DAT then
və-brə-d
see-3duSUBJ.P-3MASC.SGBAS.P
then the two looked around for the number one chief (of the village)

Telic and atelic meanings of the same verb are frequently differentiated by the case of the object. The verb *kwakə-* 'search, find' is a case in point. It has the meaning 'search for something' with its object in dative-aversive case. If the O is marked with accusative-locative case, the same verb means 'find (something)'.

If used in 1st and 2nd person imperative, the verb *və-* means 'look' (and never 'see' or 'notice'). This is consistent with the meaning of control typical of imperative constructions in general (see Aikhenvald 2010):

(9) ap 'Look (2sg/dual/plural)!'
və-tək 'Let's look (1dual)!'
və-nak 'Let's look (1pl)!'
vau 'Let me look!' (1sg)

Forms in (9) may also have a permissive meaning, 'may I look, may I try'; we return to these in §3.2.3. In idiomatic collocations, the O tends to be unmarked. In (10) the meaning of *və-* can be 'see' or 'experience':

(10) yala-wa tə-ta:y akəs bap
belly+LK-COM stand-COTEMP NEG.HAB moon
və-kwa-na-di
see-HAB-ACT.FOC-3plBAS.VT
when one is pregnant (lit. with a belly) one does not menstruate (that is, see moon)

We now turn to the 'experience' meaning of *və-*.

3.2.2 *'Experience'*

If the verb *və-* refers to non-volitional and uncontrolled experience, its O is typically unmarked for case, as in (11). This was an answer to a question about the age of the late Duamakwa:y, one of the oldest man in a Manambu community, at the time when he had met Dangwan, one of the Manambu interpreters for Walter Behrmann's 1912–13 expedition to the Ambunti area.

(11) wun wasa-yuwi bə **və-dəwun**
I cheek+LK-hair already **see-1MASC.sgBAS.P**
I already shaved (lit. I already experienced beard)

The expression *yigən və-* 'see/experience a dream' also involves 'seeing'.

3.2.3 *'Try'* (*as volitional activity*)

In its meaning 'try (as a volitional activity)', *və-* typically describes trying something by taste or touch. The manner of 'trying' is specified with a sequencing *-n* form of a verb, as in (12). The verb cannot refer to 'experiencing' something non-volitionally or by chance:

(12) ka:n **və-tua**
eat+SEQ **see/try-1sgSUBJ.VT+3FEM.sgBAS.VT**
I am trying (the new food) by eating

An imperative of *və-, ap*, can mean 'look!' or 'try!' (as shown in (9)). As is typical for imperatives (Aikhenvald 2010), it has to have a telic and volitional meaning—that is, *ap* does not mean *'See!' or *'Experience!'. A permissive 1sg form in (13) has two meanings, 'may I look' and 'may I try'. It does not mean 'may I experience', because 'experiencing' denoted by *və-* is beyond asking for permission—this is something that just happens no matter what.

(13) **vau**
see/try+1sgIMPV
may I see/look?; may I try?

A biclausal construction with a sequencing suffix *-n* can be used to make sure that the meaning of *və-* is that of 'trying' something or attempting to do something.

(14) [ka:n] [**vau**]
eat+SEQ **see/try+1sgIMPV**
may I try by eating
*may I look and eat

The verb *və-* here cannot mean 'look' (hence the starred translation).

If the verb *və-* is used in a similar biclausal construction and is marked with the sequencing *-n*, the resulting meaning is 'try and see, try and look', and not *'see looking':

(15) **[væn]** **[ap]**
see/try+SEQ **IMPV.2p+see/try**
try and see, try and look

If the verb *və-* appears with a completive medial clause as its clausal complement in O function, it can only mean 'see', as in (16) and in (2):

(16) [waku-də-k] [**və-lə-d**]
go_out-3MASC.sg-COMPL.DS **see-3FEM.sgSUBJ.P-3MASC.sgBAS.P**
she saw that he went out
*she tried for him to go out

The bound verb root *-kəta* 'try; look' is an alternative to *və-* in a number of grammatical contexts. The bound verb root *-kəta* cannot form an imperative.

3.2.4 *The Bound root* -kəta *'try; look': A Suppletive Form of* və-

The bound root *-kəta* is in a complementary distribution with *və-* within verbal compounds. It can thus be considered a suppletive counterpart of *və-*, in some of its meanings. Table (6.2) summarises the conditions under which the distribution occurs.

Table 6.2. The meanings and forms of verb(s) of vision and 'trying' in compounds

Meaning	First component in compounds	Second component in compounds	Directionals	Further formations
See	yes (18); form ***və-***	no	no	yes (§3.2.7); form ***və-***
Look	yes (18): form ***və-***	yes (19); form ***-kəta***	yes (20–1); form ***-kəta***	yes (§3.2.7): form ***və-***
Experience	no	no	no	no
Try, taste	no	no	no	no

As the first component of a verb compound (or: a single word serial verb construction, in the meaning of Aikhenvald 2006), *və-* means 'see', or 'look', as in

(17) ñən-a:m — you.FEM.SG-LK+ACC/LOC
və-təpə-tua — see-close-1SGSUBJ+3SG.FEM.NONSUBJ
I saw you/looked at you for the last time (lit. see-close)
*I tried you for the last time

Verb compounds in Manambu often develop somewhat idiomatic meanings. But if they contain *və-* as the first component, they have to do with sight and not 'trying', 'tasting' or 'experiencing'. For instance, *və-* in combination with a directional form of the verb *kar-/kra-* 'carry, bring': *və-kraki-* (see-carry.across-) means 'recognize by seeing'. A combination of *və-* with *sapwi-* 'open, be opened' as the second component of the compound, *və-sapwi-* (see-open-) means 'discover by seeing something, recognize' (see below on *wukə-sapwi-* 'discover by hearing'). The verb *və-tay-taya-* (see-SIDEWAYS.AWAY-SIDEWAYS.AWAY) means 'look appreciatively'.

The verb *və-* never occurs as a second component in compounds. The form *-kəta* has to be used then. In this context, *-kəta* can only mean 'try', as in (18) (synonymous with (14)):

(18) [kə-**kəta**-n] — eat-**TRY**-SEQ
[**vau**] — **see/try**+1SGIMPV
may I try and eat (lit. try by eating, taste)
*may I see and eat

Verbal compounds with the verb *-kəta* in the V_2 slot in combination with a directional markers describe 'looking' rather than 'trying':

(19) a then she then sat at the house post looking up
gapəm big_post+LK+LOC
ata then
rə-kətəwun sit-LOOK.UP
ra:l sit+3FEM.SGBAS.P

A directional imparts a telic and controlled meaning to the verb. A telic meaning would be incompatible with any overtone of 'trying'. Somewhat different and rather irregular forms of *-kəta* appear as a free-standing directional form of 'look' (not 'see' or 'try', since directionals are telic and controlled):

(20) [ala-wur DEM.DIST.FEM.SG-UP
aba:m head+LK+LOC
tə-ku], stay-COMPL.SS
[**kətay** **around_look**
kəti **around_look**
ata then
və-di] **see-3PLBAS.P**
having arrived up there at the end (lit. head), they looked around (inspecting)

If used with a directional, the verb *və-* cannot mean 'try', e.g. *kətu və-* (LOOK.UP see/ look-) can only mean 'look upwards', and not *'try and look upwards'.

In summary: The form *-kəta-* can be considered a suppletive form of *və-*, and is used as a second element in compounds and with directionals, and also as a directional for *və-* 'see/look' (which cannot occur with bound directional markers). Since directionals make the verb telic, the translation 'look', and not 'see', is the only one appropriate for *və-* with a directional. The directional forms of verbs of perception, 'see/look' and also 'hear/listen', indicate the direction of the gaze or of listening. The directional suppletive forms of 'look' are used adverbially, as modifiers, but never as verb roots.

3.2.5 *'Read'*

A further overtone of the verb *və-* (but never *-kəta*) is 'read'. This can be used (depending on the object) in the same contexts as 'see, look'. The accusative-locative case often marks the object of 'see' in this meaning, but does not have to:

(21) a then she-TOO book NEG see+NEG he-OBL-ONLY
lə-a:b
buk
ma:
və,
də-kə-dəka
və-də-l
see-3MASC.SGSUBJ.P-3FEM.SGBAS.P
she did not read the book, only he read it

(22) buka:m **və-na**
book+LK+ACC/LOC see-ACT.FOC+3FEM.SGBAS.VT
she is reading a (specific) book

Just like most societies of Papua New Guinea, the Manambu have no tradition of reading or writing. The meaning 'read' for the verb of visual perception is a recent innovation (alien to those older members of the community who are illiterate).

3.2.6 *Distinguishing 'vision' from Other Overtones of* və-*: A Body Part Construction with 'eye'*

Body parts *məl* 'eye' and *wa:n* 'ear' can be used with verbs 'see, experience, try' and also 'hear, listen, understand, obey'. Then the meanings of the verbs are limited to just perception: *məl və-* can only mean 'see, look', and *wa:n wukə-* means 'hear, listen' (but see more on this in §2.3). The body part terms cannot be cross-referenced on the verb, or questioned separately. For these reasons they cannot be considered objects of the perception verbs. Only a limited number of presentational adverbs can intervene between the body part and the perception verb. The verbs remain transitive—that is, they can take an object (either case-marked or not). These body part expressions are similar to complex verbs, and the zero-marked body parts behave like nominal components in complex verbs of other classes (discussed at length in Aikhenvald 2008a: 426–45). We now turn to some examples.

In (23) a child is instructed to look properly at what she is doing, and in (24) the speaker is recounting her own experience:

(23) məl **ap**
eye **IMPV+see**
look! (*try!)

(24) kətabək-a ja:p məl **və-tua**
this.way+PRED+LIKE-LK thing eye see-**1SGSUBJ.VT+3FEM.SGBAS.VT**
I saw this kind of thing with my (own) eye

Just occasionally, *məl* 'eye' can take accusative-locative case if seeing with 'one's own eyes' is focussed on:

(25) kəp-a məla:m **və-k-na-ñən**
own-LK eye+LK+LOC **see-FUT-ACT.FOC-2FEM.SGBAS.VT**
you will see (the Gala people and their ways) with your own eyes (as opposed to hearing about them)

We will see below that a construction containing the body part term 'ear' and the auditory perception verb is only superficially similar to the one involving 'eye' .

3.2.7 *Further Expressions for 'seeing'*

Manambu also has a number of fairly idiosyncratic expressions involving visual perception.

The form *kukə-* 'back' appears in a few modifier-noun compounds, including a partially predictable one *kukə-məl*, in *kukə-məl və-* (back-eye see) meaning 'look back'. If repeated, it can be used ironically to describe someone looking over and admiring themselves, as in (27). This is how a little girl was supposed to react to a traditional Papua-New Guinea style female dress 'meriblaus' which I was instructed to buy for her:

(27a) kukə-məl kukə-məl **və-kə-na**
back-eye back-eye **see/look-FUT-ACT.FOC+3FEM.SGBAS.VT**
she will look at herself admiringly (lit. eye to the back eye to the back she will see)

The verb *və-* appears in a number of formations which marginally involve vision as a means of perception. These include *və-səməl-* (see-?-) 'look around, look for', *və-səməl-səməl-* 'look for something very carefully' (the second component of the compound, *-səməl-*, is not encountered anywhere else in the language). Similarly, *və-kəka-n tə-* (see-?-SEQ have-) 'look after' contains a nonce second component *-kəka*. The form *və-və-ka-* (see-see-'move'?-) in *və-və-ka-taka-* (see-see-?-put-) 'watch carefully' contains reduplication of the verb root. An additional irregular form *və-və-ka-*, also containing reduplication, means 'see, watch' :

(27b) məl **və-və-kan** kwa-na
eye **see-RED-?+SEQ** stay-ACT.FOC+3FEM.SGBAS.VT
she is watching (us talking)

In none of these cases can the verb *və-* have the meaning of 'try' or 'experience'.

Further expressions to do with seeing or looking include: *məl sray-taka* (eye ?-put) 'look with attention'; *puku-* 'stare; also bulge'; *saypæy pəti-* 'not recognize, not notice, be forgetful'; *jaw-* 'check, watch, be on guard'. These are fairly restricted in their meanings.

3.2.8 *'Vision' and Experience in Manambu: A Summary*

The verb *və-/-kəta* in Manambu covers visual perception (both telic and controlled, and atelic and non-volitional), and experiencing and 'trying' something (both volitionally, and non-volitionally). The two forms are in a complementary distribution, with the form *-kəta* being used in combinations with directionals (where it refers to vision) and as a second component of compounds (where it refers to 'trying'). Combination of the body part 'eye' and the verb of experience always has the meaning of 'vision'.

The perceptual meaning of *və-/-kəta* can be considered the basic one for this verb, since it is instantiated in most contexts (see Tables 6.1–2). This is also the only meaning of the verb as the first component in verbal compounds (as shown in §3.2.4, and examples (17) and (27a)). The meaning 'experience, try' is restricted to just some contexts, and can be considered a semantic extension of the erstwhile verb of vision. Such experience also includes testing something by 'tasting' or 'touching' it. There is no other verb 'taste' in the language. The verbs *wapw-* 'touch' and *kur-* 'grab' can be used if a speaker decides to stress that the experience involves 'touching'.

An additional remark is in order. The verb *və-* is cognate to the verb of vision in other languages of the Ndu family (Abelam, Iatmul and Boiken). It is usually translated into Tok Pisin (an English-based Creole and the national language of Papua New Guinea) using the verb of vision *lukim.*

3.3 *Auditory Perception and Related Notions: Perception, Feeling, and Cognition*

The verb *wukə-* means 'hear, listen, smell, obey, understand, think about, be missing (someone), worry (about someone), be sorry for'. It is always transitive. Grammatical tests which help disambiguate its meanings are summarized in Table 6.3.

Table 6.3. What does *wukə-* mean? Grammatical tests

Meaning	Case marking: O	Imperative/ permissive	With Directionals	Conversation sustainer	Nominalizations, reduplication	with *wa:n* 'ear'	Examples
'hear'	Ø-marked	no	no	yes	no	no	(28)
'listen' (controlled, telic)	*-Vm* 'locative-accusative case'	yes	yes	yes	yes	yes	(1), (3), (30), (36–39), (43), (45–6)
'try and listen'	*-Vk* 'dative-aversive case'		no		no		(35)
'smell'	Ø-marked	yes	no	no	no	no	(29), (33)
'obey'	*-Vm* 'accusative-locative case'	yes	no	no	no	yes	(1), (3), (30), (36), (44–5)
'understand'		yes? (42)	no	yes	yes	yes	(32), (41–2), (45)
'think about'		yes	no	no	no	no	(31)
'worry, miss, be sorry for'	*-Vk* 'dative-aversive case'	no	no (one exception?)	no	no	no	(34), (40), (47)

3.3.1 *The Many Meanings of* wukə-

If the object is unmarked, *wukə-* tends to mean 'hear (unintentionally), overhear':

(28) a-də du sə bə
DEM.DIST-MASC.sg man name already
wukə-tua-d
hear-1sgSUBJ.VT-3MASC.sgBAS.VT
I already overheard the man's name

It may also mean 'smell', especially if accompanied with the noun 'smell' or something one could smell, e.g. a flower or rotting food:

(29) a ya:m **wukə-lə-l**
DEM.DIST.FEM.sg smell **smell-3FEM.sgSUBJ.P-3FEM.sgBAS.P**
she (death adder) smelt that smell

In the meanings of 'hear', 'listen', 'smell' (on purpose), 'obey' and 'think about', this verb requires an O marked with the accusative-locative case: something was fully heard, or listened to, or obeyed.

(30) [atabək-ə jaṗə-m] **wukə-tukwa**
like_this-LK thing+LK-ACC/LOC **listen-PROH.GEN**
do not listen to/obey things like this

(31) a ma: dəy-a:m **wukə-d**
then again they-LK+ACC/LOC **think/hear-3MASC.sgBAS.P**
he thought about them again

(32) dəya-di kudiya:m **wukə-na-wun**
they-pl language+LK-ACC/LOC **understand-ACT.FOC-1FEM.sgBAS.VT**
I understand their language

(33) a təp **wukə-lə-l**
DEM.DIST.FEM.sg village **smell-3FEM.sgSUBJ.P-3FEM.sgBAS.P**
she (death adder) was smelling the village (to find the man she was looking for)

If the object is marked with dative-aversive case, *wukə-* is likely to have the meaning of 'worry (about someone), be sorry (for someone), be missing (someone)'. This use of the dative-aversive case is congruent with its general meaning—to do with something negative. We can recall from §2 that the dative-aversive case is used to mark the object of verbs of fear, and is also used in warnings.

(34) [ma amæy-wa asayik **wukə-ku**] [yawi ma:
again mother-COM father+DAT **worry-COMPL.SS** work NEG
kwa:r]
do+NEG
having worried about mother and father, (I) did not work

Or *wukə-* can mean 'listen so as to try and hear something'. This is congruent with the purposive meaning of the dative-aversive case which often has overtones of future projection:

(35) a-də sa:k **wukə-n**
DEM.DIST-MASC.sg name+DAT **listen-SEQ**
rə-lə-l
sit-3FEM.sgSUBJ-3FEM.sgBAS.P
she was sitting listening for his name

When used in commands, *wukə-* always refers to controlled telic activities—'listen', 'obey', or 'smell' (especially if accompanied with noun *ya:m* 'smell' or anything one can smell, e.g. *mawa:y* 'flower'): see (29) and (36–7).

(36) lə-kə-k **a-wuk**
she-OBL-DAT **IMPV-listen**
listen to her, obey her! (not *worry about her!, *miss her! or *be sorry for her!)

(37) [wa-su-ga:y wa-su-da-k] [yabi:b **wukə-nak**]
call-UP-COND call-UP-3pl-COMPL.DS quickly **listen/hear-1plIMPV**
just in case they call up (to the house where we are), let's quickly listen

The verb *wukə-* can combine with a directional; and then it has the meaning of 'listen':

(38) [aka yi::n] [a gapum
DEM.DIST.REACT.TOP.FEM.sg go:REP+SEQ then big_post+LK+LOC
[ata **wukə-su** wa:n kui-n] ra:l]
then **listen-UP** ear give_to_third_p-SEQ sit+3FEM.sgBAS.P
having gone to another house, she sat on the big post listening to what was above

Accompanied by a complementation strategy, *wukə-* also has the meaning of 'listen', and 'obey', as in (1) and (3). It may also have the meaning of 'understand' in exactly the same contexts. To differentiate 'listen, obey' and 'understand', many speakers opt for an English form *understand*, or for Tok Pisin *harim tok* 'listen to speech; obey'. Both are used in (39) (an angry command by an exasperated mother to her unruly children). This example also illustrates a parallel use of Manambu and Tok Pisin synonyms as a means of 'pressing the point'.

(39) [ñən **a-wuk**] [*harim tok* ada] *understand*
you.FEM **IMPV-listen** listen speech 'stand'.IMPV understand
ada
AUX.IMPV
you listen! Listen to speech! Understand!

The verb *və-* 'see, look, try, experience' is not used as an attention-getting device (unlike English *see* or *look*). The second person imperative form of *wukə-, awuk!*, is. This attention-getting usage is frequent both in day-to-day life and in ritual contexts. A question *wukə-ñəna* or *wukə-mənа* 'Do you (fem or masc) hear/listen, understand?' is used as a conversation sustainer, to make sure the audience is following what is being said. It cannot possibly mean '*Are you smelling?', '*Are you sorry?' or '*Are you thinking?'.

Often just the context helps work out the exact meaning of *wukə-*. A little boy went missing and later it turned out that he had drowned—this, and the fact that we cried, provides the background for reading *wukə-* in (40) as 'be sorry (about someone), be missing (someone)':

(40) [ata **wukə-ku**] [gra-dian]
then **be_sorry-COMPL.SS** cry-1plBAS.P
then being sorry/missing (him) we cried

Speakers who tend to code-switch with Tok Pisin use *wori* instead of *wukə-* in the meaning of 'worry, be sorry', in the same context. Similarly to (39), using a word in a different language helps disambiguating the polysemous form.

Reduplicated and nominalized verb *wukə-* accompanied by an inflected form of the same verb is a way of saying 'understand', as in (41).

(41) **wukə-wuk** **wukə-na**
hear-RED:NOMIN **hear-ACT.FOC+3FEM.SGBAS.VT**
yi-yi suan yi-na
talk-RED hard go-ACT.FOC+3FEM.SGBAS.VT
she does understand (the language), talking is difficult

A reduplicated form of *wukə-* refers to 'gradually understanding something or someone':

(42) **wukə-wukə-ta-d**
hear-RED-1duSUBJ.VT-3MASC.sgBAS.VT
we gradually understand him

A nominalization with an auxiliary verb *tə-* means 'listen', rather than 'understand' or 'obey':

(43) **wukə-wuk** tə-kwa-na
listen-RED:NOMIN 'stand'-HAB-3FEM.sgBAS.VT
she keeps listening

Reduplication has many meanings in Manambu, among them intensive action, gradual action, and the formation of nominalizations (Aikhenvald 2008a).

3.3.2 *Further 'disambiguation': Objects and Body Parts*
With the object *yanu* 'magic', *wukə-* means 'know, understand'. The noun phrase *yanu wukə-d-ə du* (magic know/understand-3MASC.sgBAS.VT-LK man) means 'a man who understands magic; sorcerer'. Similarly, we saw in (29) that if accompanied by the object meaning 'smell' (or referring to something one can smell), *wukə-* unambiguously refers to smelling.

If the object is *ma:j* 'speech' (in the accusative-locative case, or in the terminative case), *wukə-* means 'listen, obey':

(44) [majəb **wukə-ku**] [akətawa kurə-d]
speech+LK+TERM **listen-COMPL.SS** like_this do-3MASC.sgBAS.P
having obeyed (his) words exactly, he acted this way

We saw above that the verb *və-* in its strictly perceptual meaning 'see' can appear with 'eye' in a body part construction. The verb *wukə-* appears in a similar construction, accompanied by 'ear'—see (45). The expression *wa:n wukə-* can mean 'listen', 'obey', or 'understand'—that is, it does not help distinguish those meanings of *wukə-* which relate to cognition from those which refer to perception and obeying someone:

(45) wa:n **a-wuk**
ear **IMPV-hear/listen**
listen/understand/obey! (lit. ear listen)

Unlike 'eye', *wa:n* 'ear' cannot be case-marked in this construction. The construction with 'ear' remains polysemous—this is in contrast to the 'eye see' construction whose meaning is only perceptual.

The noun *wa:n* 'ear' can be used with the auxiliary 'be, have' to mean 'listen':

(46) wa:n tə-na
ear have-ACT.FOC+3FEM.SGBAS.VT
she is listening

The expression *wa:n kui-* 'give ear' always means 'listen' (as in (38)). There are no parallel expressions with 'eye'.

The verb *wukə-* can combine with the full set of directionals. Then its meaning is telic—as is expected for a directional compound. Such compounds refer to listening to a sound coming from a direction expressed with the bound root. In (38) *wukə-su-* (hear/listen-UP-) describes the snake sitting on the post of the house and listening to what was happening up there in the house. Forms *wukə-saku-* (listen-OUTWARD-) and *wukə-səwəla-* (listen-INSIDE-) refer to listening to what is happening outside and inside respectively.

When *wukə-* combines with the directional *-tay-* 'sideways away', the resulting form has an idiomatic meaning 'miss, be longing for (someone)':

(47) lə-kə amaeyik **wukə-tay-a:l**
she-POSS+FEM.sg mother+DAT **hear/worry-AWAY-3FEM.SGBAS.P**
she was missing her mother

The directional can be reduplicated, and the result is w*ukə-tay-tay-* 'worry a lot (about)'.

Similarly to *və-*, *wukə-* can be used as the first component of compounds, but not as the second one. Meanings of compounds containing the verb *wukə-* are often not easily predictable from the meaning of the components. In a combination with the verb *-kraki* 'carry across', *wukə-kraki-* (hear-carry.across) means 'recognize by hearing'. This is reminiscent of *və-kraki-* (see-carry.across-) 'recognize by seeing'. The compound *wukə-sapwi-* (hear-open-) means 'discover by hearing' (see above on *və-sapwi-* (see-open) 'discover by seeing something').

The root *wukə-* combines with *-təp* 'be closed' as a second component, and the resulting compound is again idiomatic—*wukə-təp(ə)-* (think/hear-be.closed) means 'forget (completely)'. The form *wukə-mar-* 'forget (not necessarily completely)' is also idiosyncratic (the component *-mar-* is probably linked to the negator *-ma:r-*). The compound *wukə-taka-* (hear/listen?-put-) means 'provide'. The expression *wukə-n karya-* (hear-SEQ bring), literally 'hearing bring towards someone' means 'remember'.

Similarly to the verb of visual perception, using *wukə-* in compounds helps distinguishing its overtones. However, unlike the verb *və-* which refers to visual perception within compounds, the verb *wukə-* is not limited to auditory 'hearing' or 'listening'. In some compounds it refers to cognitive processes, in others to perception. It is next to impossible to decide which meanings is primary for *wukə-*. That English and Tok Pisin code-switches are used to disambiguate this verb (if necessary) corroborates this.

The verb *wukə-* is the only verb covering auditory perception in Manambu. We now turn to other verbs and expressions for cognitive processes.

3.4 *Further Means of Expressing Cognitive Processes in Manambu*

Manambu has a number of verbs and complex predicates referring to cognitive processes of 'thinking' and 'understanding'. The most frequently used is the S = A ambitransitive verb *laku-* 'understand, know, be knowledgeable, be obedient'. This verb does not combine with any directionals, and occurs in just one compound *wa-laku-* (say-know) 'give advice, make someone be aware of something'.[2]

The 'locus' of knowledge and understanding is *mawəl*, literally, 'the inside, sago pith, bone marrow, core, liver', also used in the meaning of 'mind; mindset; thinking'. If a person is clever or has positive thoughts, they can be referred to as *vyakat mawəl tə-na* 'good "inside/thinking"' have-ACT.FOC+3FEM.SGBAS.VT). A woman who is worried, concerned or fretting about something can be referred to as having a lot of 'inside' (*mawəl samasam tə-na*). 'Inside' can form a nominal compound if combined with *wukə-*. The resulting form, *wukə-mawəl*, refers to 'memory,

[2] Traditionally, different levels of 'knowledgeability' corresponded to various stages in male initiation (not practiced anymore). The lexical items for different levels of initiated men reflected the level of 'knowledge' the person would have.

reminiscence, thought'. If 'inside' is used as the subject of the verb of speech *wa-*, the resulting expression means 'I think, in my opinion'. The verb *wukə-* never has this meaning. If I remember something, I would say 'it sits in my "inside" '.

Unlike numerous Australian Aboriginal languages (see Evans and Wilkins 2000), 'ear' is not a locus for cognitive processes. It is an instrument of auditory perception, and is also associated with getting something through to someone, and 'obeying' a command. In contrast, 'eye' is a locus of 'seeing' (it is not associated with understanding or cognition). A blind person is normally referred to as someone whose 'eye is closed', or 'eye does not see'.

To express 'ignorance', or lack of thinking or understanding, one can simply negate the verb *wukə-*. (48) has four meanings:

(48) mən ma: wa:k
you:MASC NEG hear/listen/understand/obey:NEG
you are not listening/hearing/obeying/understanding

Wa:n ma: wa:k (ear NEG hear/listen/understand/obey:NEG) can refer to someone who is deaf, or not listening, or not understanding or thinking, or just mad (*kwa:m*). Other expressions covering 'ignorance' include *təkəgəp* 'nutcase' and *kulakul* 'Johny-come-lately, ignorant person'.

3.5 *The Meanings of the Perception Verbs: A Summary*

The verb *və-/-kəta* in Manambu refers to visual experience ('see, look'), and also to 'taste, experience, try, read'. The verb *wukə-* may mean 'hear, listen, smell, obey, understand, think about, be missing, worry, be sorry for'. The two verbs require the same complementation strategies, and cannot be replaced with the generic verb. Table 6.4 features a comparison between them.

The two verbs differ in their idiomatic meanings with directionals, and in complex predicates. While the body part term 'eye' helps disambiguate the 'vision' overtone of *və-*, the body part 'ear' does not do the same job for *wukə-*.

We can now summarize our findings. The polysemous patterns of *və-* 'see, look, try' can be easily disambiguated by grammatical contexts. The meaning of 'vision' is primary for this verb. This is much less easy for *wukə-* 'hear, listen, understand, obey, be sorry for'; the meanings 'obey,

Table 6.4. Some features of *və-/-kəta* and *wukə-*

Grammatical contexts	*və-/-kəta*	*wukə-*
Meaning in imperative	telic: 'look'	telic: 'listen, obey, smell'
Use as conversation sustainer	no	yes
Meaning with O in dative-aversive case	incomplete involvement of O ('look around, notice')	future projection and trying ('try and listen'); aversive connotations ('worry about, be sorry about', be missing')
Meaning with body part as part of complex predicate	'see, look'	'listen, obey, understand'
Disambiguation with Tok Pisin or English words	no	yes: *harim tok, understand, wori*

listen and understand' are hard to disentangle in Manambu. The meaning 'be sorry, miss' can be considered less basic: it is associated with the dative-aversive-marked object, which would have negative connotations due to general overtones of the dative-aversive case in the language.

There is no strong language-internal evidence in favour of the oft-quoted development from perception to cognition of the verb covering auditory perception (see the discussion in Chapter 1 of this volume). Code-switches are a means of distinguishing the meaning overtones if necessary. The verb of auditory perception in other Ndu languages (whose forms are cognate across the family) covers the same semantic ground as the Manambu *wukə-*.

We can thus conclude that vision warrants a special lexeme. In contrast, auditory perception does not; rather, it forms an integral part of a whole complex of mental activities involving hearing, understanding and doing what one is told to do. Why so?

4 What Is Special about Vision in Manambu?

Similarly to many languages and cultures in the area, the Manambu have numerous taboos and restrictions associated with 'seeing' and 'looking', and none to do with 'hearing' or 'listening'. Magic flutes and the spirit Dakul who plays them should not ever be seen by women. If a woman, or an uninitiated man, sees them, even by chance, they will become blind

(and this is what is believed to be the reason why the late Ñatabi, one of my teachers of Manambu, became blind). There are no restrictions on hearing the sound of flutes. In fact, 'hearing' the flutes is a signal for women and uninitiated men to hide, lest they catch a glimpse of the flutes.

If a woman happens to catch a glimpse of yams before the Yam festival, she will die (a recent death of an elderly woman was attributed to this). Women are not allowed to see the procession of the Yam festival.

Being able to 'see' is associated with power. Somewhat dangerous and mischievous bush spirits *apawəl* are invisible to us, humans (they hide in a haze, *bəw*, the same word as 'ashes'). But they can see us (and so they are more powerful than we are).

The special status of 'seeing' reflected in many cultural practices is likely to underlie the fact that 'seeing' is discernible as the primary meaning of *və-* in Manambu, and in languages from the same family. In contrast, hearing, understanding and obeying are part of one semantic package. Auditory perception by itself is not distinctive enough to warrant a specific lexical item just for it alone.

The inherent ambiguity of *wukə-* is consistent with the general principles of organization of the verbal lexicon in Manambu, whose semantics tends to be fairly generic. This ambiguity may also relate to the apparent lack of a cultural requirement to be precise when stating how one knows things in Manambu.

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CHAPTER SEVEN

FROM BODY TO KNOWLEDGE: PERCEPTION AND COGNITION IN KHWE-ǁANI AND TS'IXA

Matthias Brenzinger and Anne-Maria Fehn[1]

1 Introduction

Studies in the semantic fields of perception and cognition have led to the postulation of linguistic universals regarding the hierarchy of the verbs of perception (Viberg 1984) and their extensions into the realm of cognition (Sweetser 1990). Primacy of the visual domain has been claimed across all cultures and languages of the world; however, more recent research has challenged this view (e.g. Evans & Wilkins 2000). The Khoeid[2] (formerly Central Khoisan or Khoe) language Khwe-ǁAni, spoken among former hunter-gatherers in Namibia, Botswana, South Africa, as well as Zambia and Angola, seems to contradict the postulated hierarchy of the senses with vision at the top. In the following discussion, it is argued that among the three verbs of perception which may be considered basic in

[1] The authors would like to thank the Khwe and Ts'ixa speech communities, in particular Bothas Marinda and the late David Soza Naudé from Mutc'iku, Namibia, as well as Politics Kebuelemang, Tshiamo Kebuelemang and Molatlhegi Phillip Matsamo from Mababe, Botswana with whom the data for this paper were elicited and discussed. Our thanks also go to Alexandra Aikhenvald and Anne Storch for valuable comments on a previous version of this paper presented at the "International Workshop on Perception and Cognition", held at the University of Cologne, Nov. 25–27, 2010.

[2] Khoeid is a newly invented term to replace Central Khoisan or Khoe. Khoeid refers to the language family, established by Rainer Voßen in 1997. The closely related languages of this family are Khoekhoegowab, Naro, ǀGui-ǁGana, Khwe-ǁAni, Shua and Tshwa, with the status of Ts'ixa still unresolved. The former use of "Khoe", as in classificatory terms, such as "Khoe languages", "Non-Khoe" and "Kalahari Khoe" is rejected. Like the term Khoekhoe, Khoe in the spelling Khwe (formerly Kxoe) is the genuine name of a clearly defined language community and their language; it will be exclusively employed as such in the present paper. The formerly Central Khoisan or "Khoe" language family will be called Khoeid. To maintain "Central Khoisan" as a name of a language family, after "Northern" and "Southern Khoisan" and even "Khoisan" as a family no longer exist, seems to be odd. The advantage of Khoeid—as a strictly linguistic classificatory term—is that it will solve the confusions caused by the ambiguous use of Khoe in the different classificatory levels. It is highly unlikely that speakers or activists will use this technical term in a non-linguistic sense to refer to themselves as people. (cf. Brenzinger forthcoming)

Khwe—namely *mű̀* 'see', *kóḿ* 'hear' and *ǁám̀* 'taste, smell, touch'—it is not *mű̀* or *kóḿ* but *ǁám̀* which is of central importance. While *ǁám̀* is semantically rooted in oral perception with a principal meaning 'perceive food', the verb extends to internal and external feeling, eventually covering a mode of sensory perception that is essentially "holistic". It is only this holistic perception that may actually lead to knowledge, i.e. extend from body to knowledge.

The core perception verbs *mű̀*, *kóḿ* and *ǁám̀* may cover the entire range from bodily perception to cognition and understanding as well as—to a limited extent—even knowledge. When extending into the cognitive domain, however, all three verbs tend to be used in serial verb constructions linked to the verb *á̋* 'know', which as a body-part term means 'forehead'. While the default meaning of this semantic combination is 'recognize by MODE OF PERCEPTION', *ǁám̀-a-á̋* 'perceive-II-know' in many contexts does not mean 'recognize' but 'anticipate', or rather 'know what is going to happen'. Consequently, *ǁám̀-a-á̋* expresses a deep understanding of what is holistically perceived with respect to future events. Thus, *ǁám̀-a-á̋* is no longer restricted to a single sense modality.

The semantic domains of perception and cognition in Khwe reflect the speakers' understanding of the world, i.e. they are based on their belief systems and other cultural traditions. Semantic as well as grammatical properties in the fields of perception and cognition therefore add to our understanding of the Khwe's conceptualization of the physical and spiritual world as well as of the acquisition and generation of knowledge.

Finally, what can be shown for Khwe seems to also hold true for other language communities of the Khoeid language family. This claim will be substantiated by comparative data from Ts'ixa, a hitherto undocumented language spoken in north-eastern Botswana.

1.1 *The Khwe-ǁAnikhwe Language Community*

Khwe-ǁAni—a Khoeid language—consists of two main varieties, namely Khwe proper and ǁAni. ǁXom, ǁXo, Buga, Ngarange and Buma are former regional varieties of Khwe proper that have merged during the past 30 years. Even though Khwe and ǁAnikhwe differentiate their ethnic identities, they claim to speak varieties of one common language. For that reason, in the year 2000 Khwe and ǁAni speakers formed one single language committee that coordinates the standardization and development of their common language.

Roughly 4,000 Khwe-speakers live in Namibia, mainly in the Caprivi Strip, and about 1,700 in the north-western part of Botswana. Since 1989, approximately 1,300 have been living in Platfontein and Schmidtsdrift, west of Kimberley in South Africa. There are still about 300–400 Khwe (Ngarange-Khwe) moving between the Rivungu area of Angola and the Sioma plains in Zambia. Today, the largest Khwe settlements are Mutc'iku (1,200) next to the Okavango River in Namibia, and Gudigoa (800) north of the Okavango Delta in Botswana. Many Khwe in Botswana, especially those living in Maun and Khwai, have shifted to SeTswana as their first language. The approximately 1,000 ǁAnikhwe, previously also known as "River-Bushmen" live along the so-called Okavango Pan Handle, a swampy area next to the Okavango River in Botswana. ǁAnikhwe settle together with Khwe, as well as speakers of Bantu languages, mainly ThiMbukushu and SiYeyi. (Brenzinger forthcoming).

The distribution of Khwe settlements today is the result of movements and migrations which were caused by changes in the speakers' social, physical and political environments. Until the 1960s, many Khwe were still highly mobile hunter-gatherers who lived in small family units which were often separated from one another by long distances. From the 1960s onwards, they became involved in the liberation wars in Angola and Namibia, which led to their resettlement in army camps and eventually resulted in a dramatic change in livelihood. Today, most Namibian Khwe live in resettlement schemes in West Caprivi, relying on subsistence farming, the gathering of 'bush food' (from the Afrikaans *boskos*) and food aid. Regarded as inferior by neighboring Bantu groups and treated accordingly, they suffer from widespread alcoholism, illiteracy and HIV.

1.2 *The Ts'ixa Language Community*

Ts'ixa is the term most commonly applied to the local tongue and language community of Mababe, a small village located on the fringes of the Okavango Delta in north-eastern Botswana. All speakers residing elsewhere, e.g. in Maun or Gaborone, can be traced back to Mababe, so one can confidently assume that Ts'ixa is restricted to this single village. According to Voßen's (1997) historical-comparative study, Ts'ixa is a member of the Shua dialect cluster but shares phonological, morphological and lexical features with Khwe-ǁAni which may be ascribed to language contact. At present, competent speakers number less than 200, hence Ts'ixa has to be regarded as definitely endangered.

Recent research has shown that Ts'ixa is neither an ethnonym nor a term of self-reference, but rather a label employed by the Khwe of Khwai to refer to their neighbors. However, during a workshop held in April 2011, the community agreed to use Ts'ixa to refer to both their language and language community.

The Ts'ixa language community is made up of former hunter-gatherers of the western part of the Chobe National Park who may originally have spoken different, albeit related, Khoeid languages. Even today, the Mababe villagers remember what may be perceived as their actual ethnic origins, most prominently Handaakhoe and Danisin. Although the relationship with neighboring Khwe groups has been described as strained by the Ts'ixa, it is clear that most villagers share close family ties with both the Khwe and ǁAni, as well as with the Danisi and Shua living in the Nata area and around Pandamatenga.

Just like their Khwe neighbors, the Ts'ixa were mobile until the 1960s, though most of their former dwellings are now located in Chobe National Park and are therefore inaccessible to the community. They suffer from similar problems as other former hunter-gatherer groups in southern Africa, i.e. poverty, alcoholism, and an alarmingly high rate of HIV infections.

1.3 *Socio-Cultural Background*

The marginalized status of these language communities has led to the preservation of what might be considered a traditional belief system and traditional modes of communication. To a great extent, Khwe-ǁAni and Ts'ixa are still what Givón (2005: 235) terms a "society of intimates":

> Such societies are characterized by small group size, kin-based structure, daily face-to-face contact, low socio-economic differentiation, consensual non-hierarchic policy, great territorial stability and geographical isolation, slow cultural change, high information stability and homogeneity—and thus a high rate of shared knowledge, both cultural-generic and episodic-specific.

Since face-to-face interaction within the community itself is still of primary importance, westernized concepts only successively and fragmentarily enter the Khwe's life and language. In part, this is also true for the Ts'ixa, though in recent years, they have been increasingly exposed to Tswana culture and language. Still, both language communities retain cultural traits heavily based on what—according to the definition used by Nesbitt et al. (2001)—could be labeled a holistic system of thought:

> We define holistic thought as involving an orientation to the context or field as a whole, including attention to relationships between a focal object and the field, and a preference for explaining and predicting events on the basis of such relationships. Holistic approaches rely on experience-based knowledge rather than on abstract logic and are dialectical, meaning that there is an emphasis on change, a recognition of contradiction and of the need for multiple perspectives, and a search for the "Middle Way" between opposing propositions. (Nesbitt et al. 2001: 293)

Holistic thought is contrasted by its analytic counterpart, which is generally assumed to be a feature of Western societies:

> We define analytic thought as involving detachment of the object from its context, a tendency to focus on attributes of the object to assign it to categories, and a preference for using rules about the categories to explain and predict the object's behavior. Inferences rest in part on the practice of decontextualizing structure from content, the use of formal logic, and avoidance of contradiction. (Nisbett et al 2001: 293–4)

The distinction between analytic vs. holistic thought rests on a long research tradition and has been subject to studies in the field of cognitive and cross-cultural psychology. While most research deals with a holistic East Asian vs. a more analytic Western culture, in a cross-cultural investigation Witkin and Berry (1975) introduced further evidence from migratory and sedentary foraging populations, sedentary agriculturalists, and industrialized Westerners. Their study confirmed the previously assumed analytic mindset of westernized societies, but also suggested an analytic mode of thought for migratory foragers, based on their proclaimed independence as compared to the interdependence of sedentary agriculturalists.

Among the former hunter-gatherers under discussion, livelihood and mode of subsistence rely on the interdependence of all community members. Despite their hunting-and-gathering background, a holistic, highly situation-based mode of thought is prevalent, which can be seen in the Khwe-ǁAni's conceptualizations of the world. For them, God, supernatural beings, as well as one's ancestors participate actively in everyday interactions. Even though they may make their physical presence known, e.g. by slapping their relatives in protest, ancestors and God are visible only to *yəú-kx'au*, the sacred healers. Along these lines, Khwe-ǁAni, but also Ts'ixa elders, consider all aspects of their existence as being dependent on a supernatural power known as *tcóò*. *Tcóò* may threaten or save lives and constitute both "healing power" and "power hostile to life". *Tcóò* is any type of medicine and treatment, but also any poison and illness. Since the

control of *tcóò* is not limited to God and the ancestors, traditional healers and sorcerers may also use or misuse this supernatural power. Healing of severe illnesses is not an activity carried out by an individual healer alone. It is a community effort that aims to identify the causes of an illness, with the treatment of physical symptoms often being of only minor concern.

Khwe-ǁAni and Ts'ixa hold a "holistic concept of well-being" which is also mirrored by a holistic concept of human perception and cognition as found within linguistic structures. The following discussion of these concepts will focus on the verbs of perception in Khwe-ǁAni and Ts'ixa by taking their semantic extensions and grammatical properties into account.

1.4 *Typological Characteristics of Khwe-ǁAni and Ts'ixa*

1.4.1 *General Characteristics*

Both Khwe-ǁAni and Ts'ixa are related members of the Khoeid language family and share a number of typological features.

Both are phonologically rich languages, though Ts'ixa appears to have a slightly reduced click-inventory when compared to Khwe-ǁAni. So far, only the phoneme inventory of Khwe has been studied extensively (Kilian-Hatz 2008). The language comprises 70 phonemic consonants, including 35 clicks, and 25 vowel phonemes. Being a tonal language, it has 8 distinctive tones on each syllable, consisting of 3 tone levels, plus 5 falling and rising tones. Tone sandhi processes are common in Khwe, as they are in other Khoeid languages.

The dominant constituent order in both Khwe-ǁAni and Ts'ixa is AOV, which is most commonly featured in simple clauses. However, as one element is always focused, AVO and OAV are more common in narrations and everyday conversation (Kilian-Hatz 2008). In Khwe-ǁAni, there are three main syntactic verb classes: intransitive, transitive and ambitransitive, with only few ditransitive verbs (Kilian-Hatz 2008). Ts'ixa has intransitive and transitive verbs, no distransitive and only a few ambitransitive verbs.

Like other Khoeid languages, Khwe-ǁAni and Ts'ixa make use of a number of derivational suffixes to be used on nouns and verbs. However, while in Khwe-ǁAni, Tempus-Aspect-Mode (TAM) is generally expressed by post-verbal suffixes, Ts'ixa also uses TAM-marking particles that precede the verb and follow the subject. Both languages feature Person-Gender-Number (PGN)-suffixes on nouns and their dependents. Subject- and object-marking is optional in Khwe-ǁAni, while Ts'ixa has been shown to display a phenomenon known as Differential Object Marking (Fehn forthcoming); peripheral participants are marked obligatorily by

postpositions. Neuter objects or subjects are never expressed in Khwe. (Heine & Kilian-Hatz 1997).

There is no real class of adjectives in Khwe-ǁAni and Ts'ixa, but attributes may be derived from nouns by suffixes. Furthermore, state verbs often have attributive functions.

1.4.2 *Multiverb Structures Denoting a Complex Event*

According to Kilian-Hatz (2007, 2008, 2010), Khwe has two multiverbal constructions that may denote a series of closely connected events: serial verb constructions[3] ('SVC') and converb constructions. The difference between the two construction types can be put as follows:

> Whereas the main function of a SVC in Khwe is to express a complex event composed by two or more single events that happen simultaneously, the main function of a converb construction is to mark immediate succession of two or more single events. (Kilian-Hatz 2010: 137)

While the verbs of perception in Khwe-ǁAni can be part of both SVCs and converb constructions, Ts'ixa only makes use of the former. Both types will be briefly outlined.

Serial verb constructions

According to Aikhenvald (2007: 1)

> a serial verb construction (SVC) is a sequence of verbs which act together as a single predicate, without any overt marker of coordination, subordination, or syntactic dependency of any sort.

A SVC in both Khwe-ǁAni and Ts'ixa may consist of two or more verbs forming one intonation unit. Only the last verb is marked for tense, aspect and mode, the preceding verbs obligatory take the active voice suffix glossed as 'II' which in this context functions as a mere construction marker (Kilian-Hatz 2010: 118). SVCs in Khwe-ǁAni and Ts'ixa may be symmetrical, i.e. consist of verbs belonging to an open class (ex. 1.a), or asymmetrical, i.e. involve a minor verb (e.g. *caá* 'fail in doing') in a predictable

[3] To consider this particular construction type a serial verb construction is controversial, as the verbal linker (glossed as II) may be seen as a conjoining element. This paper will follow Kilian-Hatz's terminology for reasons of convenience, but acknowledges the existence of more unambiguous cases found in non-Khoeid languages such as !Xun (König 2010) and ǂHoan (Berthold & Gerlach forthcoming).

slot (ex. 1.b). Note that in the following, Ts'ixa examples are marked as such, while unmarked examples are Khwe-ǁAni.

(1.a) tí mű̃ũ̃-a ǎ́-à-tə ǂ'íyo à
1sg see-II know-I-PRES snake OBJ
I recognize (identify) that snake

(1.b) tí kóḿ-á caá-a-hã̀ khóé ǁ'ó-xo-a-tà ta
1sg hear-II fail-II-PAST person die-COMPL-II-PAST COMP
I couldn't hear properly whether the person has died [lit. I failed to hear that the person has died]

Ts'ixa:
(1.c) tí kò mű̃ũ̃-à ǎ̀ǎ́ nóxà-mà à
1sg IPFV see-II know snake-sg.M.ACC FOC.ACC
I recognize the snake

(1.d) tí kúḿ-à sáà-nà-tà
1sg hear-II fail-I-PAST
I overheard

In the languages under discussion, it is mostly symmetrical SVCs that may be translated as a single predicate or that become idiomatic in meaning. As will be shown, the semantic path from perception to cognition is marked by the lexicalization of SVCs involving a verb of perception and *ǎ́* 'know', to be translated as 'recognize/identify by MODE OF PERCEPTION'.

Converb Constructions

Until now, Khwe has been the only Khoeid language known to make use of this construction type. Similar to an SVC, a converb construction may consist of two or more verbs, only one of which takes the TAM marking. The other verb(s) take the converb marker *-kò* which is obligatorily suffixed to the active morpheme 'II'. Other than the verbs in a SVC, the verbs in a converb construction do not form a single predicate and denote a series of closely connected events rather than a complex event (ex. 2).

(2) nǂű́-á-kò tákò mű̃ũ̃ gyáò-á-kò fénstere[4] ki
sit-II-CONV then see look-II-CONV window PROX
you must sit and look through the window to see

[4] Afrikaans loanword.

According to Kilian-Hatz (2010: 134), the most frequent converb construction type in Khwe is 'manner', i.e. the first verb describes how the action encoded in the second verb is performed. Along these lines, the activity type verb 'touch' is expressed by a converb construction combining the verb *xó* 'hold' with *ǁáǹ* 'perceive'.

2 The Verbs of Perception

2.1 *The Verbs of Perception in Khoeid Languages*

In 1984, Viberg published the results of his typological study on the verbs of perception in 53 languages. Dividing the field into five sensory modalities (SEE, HEARING, TOUCH, TASTE, SMELL) and three field-independent parameters (ACTIVITY, EXPERIENCE, COPULATIVE), he put forward a hierarchy of the senses with SEE on top and TASTE/SMELL at the bottom. Since hardly any language covered the whole field by 15 independently lexicalized expressions, Viberg postulated a linguistic universal according to which verbs for higher sensory modalities may extend to lower modalities, but not the other way round (cf. Fig. 7.1).

While subsequent works on the subject (e.g. Evans & Wilkins 2000, Viberg 2001) seemed to confirm this hierarchy, none of them included data from any Khoisan language.

Only recent research by Hirosi Nakagawa (forthcoming) on the Khoeid dialect cluster ǀGui-ǁGana, involving the linguistic varieties ǀGui, ǁGana and ǂHaba spoken in Botswana, can be regarded as a step towards filling the void. Interestingly, Nakagawa's data seems to suggest a break with Viberg's hierarchy as it was postulated in 1984. ǂHaba possesses three verbs to denote sensory perception: *móò* 'see', *kóḿ* 'hear' and *ǁáǹ* 'touch, taste, smell'. Following Viberg (1984), the basic meaning of *ǁáǹ* should be expected to lie with 'touch', extending to the lower sensory modalities TASTE and SMELL. Linguistic evidence, however, suggests that the basic meaning is in fact 'taste' or rather 'perceive orally', which expanded to cover non-oral meanings such as 'touch' and 'smell'.

In ǀGui and ǁGana, the verb *kúḿ* 'hear' extended its meaning to all sensory modalities denoting non-visual perception. While this is in accordance

SEE > HEARING > TOUCH > TASTE/SMELL

Figure 7.1. Viberg's (1984) hierarchy

with Viberg's hierarchy, the existence of a hyponym of *kúḿ*, a verb *ǁáṁ* 'have a taste of', further strengthens the above hypothesis, by which a verb denoting TASTE extended to cover a higher sensory modality, namely TOUCH.

Even though, Khwe and ǁAni are closely related varieties of one language, only ǁAni shares the extension of *kóṁ* 'to hear' with ǀGui and ǁGana with respect to SMELL. ǁAni employ *kóṁ* in an extended meaning, next to *ǁáṁ*, in perceiving 'smell'.

A two-fold division with a verb for visual and another one for non-visual perception as found in ǀGui and ǁGana is a recurring feature of African languages. Younger speakers of Ts'ixa also extend a verb *kúḿ* 'hear' to cover both 'touch' and 'taste', but not 'smell', the latter being expressed by either *hùḿ* or *ǁáṁ*. The extensions of *kúḿ* in ǁAni and Ts'ixa might be explained by a conceptual transfer, possibly triggered by language contact, as several southern African Bantu languages, such as SeTswana, but also Khoisan languages such as !Xóõ (Traill 1994: 154) and possibly !Xun (Heine & König 2008: 64) extend a verb denoting HEARING to cover all non-visual sense modalities. The extension of *kóḿ* or one of its variants in some Khoeid languages may therefore be explained as an areal feature.

Voßen (1997) established Khoeid (Khoe-Sprachen) as a genealogically related linguistic unit in his essential historical-comparative study. He lists lexemes for SEE and HEARING, along with a verb *ǁáṁ* 'feel' for Khwe-ǁAni, Naro, as well as for the dialect clusters Shua and Tshwa. Even though *ǁáṁ* might have lost its basic status in some varieties for reasons outlined above, it seems that the three-fold division in the following suggested for Khwe-ǁAni actually comprises a general Khoeid feature rather than just a characteristic of Khwe and ǂHaba. In all languages taken into account by the authors, this hypothesis is supported by the retention of conceptual patterns related to the notion of body-feeling, no matter whether these are still connected to *ǁáṁ* or have been transferred to *kóḿ/kúḿ*.

2.2 *The Verbs of Perception in Khwe-ǁAni and Ts'ixa*

The Khwe-ǁAni dialect cluster has a three-verb system in the experiencer-based fields of ACTIVITY and EXPERIENCE, and a two-verb system in the phenomenon-based domain. The verbs *mű̀ũ̀* 'see', *kóḿ* 'hear' and *ǁáṁ* with a basic meaning 'perceive food', but covering 'taste', 'touch', and 'smell' express ACTIVITY as well as EXPERIENCE. For STATE, the verb *íi* 'look like'

Table 7.1. The verbs of perception in Khwe-ǁAni

		Experiencer-based Activity	Experience	Phenomenon-based state
see		mű̀ǜ̀	mű̀ǜ̀	(khóá-ná) íi
hearing		kóḿ	kóḿ	(khóá-ná) ɬ́ǐi
perceive food	touch	hold.CONV + ǁám̀	ǁám̀ + OBJ	(khóá-ná) ɬ́ǐi
	taste	ǁám̀	ǁám̀ + OBJ	(khóá-ná) ɬ́ǐi
	smell	ǁám̀ + OBJ	ǁám̀ + OBJ	(khóá-ná) ɬ́ǐi

is used in the visual domain, and *ɬ́ǐ̀* 'be like' for all remaining sensory modalities. These state verbs may combine with the verb *khóá* 'resemble' and are discussed in more detail in *section 2.4.*of this chapter.

All verbs in the experiencer-based domains of ACTIVITY and EXPERIENCE are monotransitive, i.e. they take on a direct object which may be marked by *à* or one of its allomorphs. It is important to note that neuter objects are never encoded in Khwe.

The following table provides an overview of the verbs of perception in Khwe-ǁAni. Subsequently, they will be discussed in detail with respect to the domains of ACTIVITY and EXPERIENCE.

The situation in Ts'ixa is slightly more complicated than in Khwe-ǁAni, as speakers display an idiolectal variation that is connected to age and ethnic affiliations outside the Ts'ixa language community (most commonly speakers of Bantu languages or Shua). As has already been mentioned, younger speakers in particular tend to calque SeTswana by extending *kúḿ* 'hear' to all non-visual sense modalities, with the exception of 'smell', which is mostly expressed by hùḿ. In particular older speakers of non-Shua origin use the system outlined above for Khwe-ǁAni with three basic perception verbs: *mű̀ǜ̀* 'see', *kúḿ* 'hear' and *ǁám̀* 'touch, taste, smell', all of which may cover both activity and experience, as well as combine with *khónà* to denote the phenomenon-based category. Most speakers additionally use *hùḿ* for 'smell', though it is commonly acknowledged that in this context, it can be used interchangeably with *ǁám̀*. Just like the other verbs mentioned, hùḿ may also combine with *khónà*.

Verbs denoting body action in Ts'ixa include *gáò* 'look at, search', *kyé-kyé* 'listen', *xóò* 'hold' and *zàá* 'have a taste'. These may not be combined with *khónà*, but frequently extend into the activity domain. They are not included in the table below, as their semantics are obviously not rooted in perception or perceptive action.

Table 7.2. The verbs of perception in Ts'ixa

		Experiencer-based Activity	Experience	Phenomenon-based state
see		mű̀ǔ̀	mű̀ǔ̀	khónà íì
hearing		kúḿ	kúḿ	khónà kúḿ
	touch	ǁáḿ + OBJ	ǁáḿ + OBJ	khónà ǁáḿ
perceive	taste	ǁáḿ	ǁáḿ	khónà ǁáḿ
food	smell	ǁáḿ + OBJ	ǁáḿ + OBJ	khónà ǁáḿ
		hùḿ	hùḿ	khónà hùḿ

2.2.1 mű̀ǔ̀—*SEE*

Mű̀ǔ̀ is restricted to the field of vision and thus has no intrafield-extensions to other sensory modalities. The root is widespread in Khoeid, with very little variation in its meaning (Voßen 1997). *mű̀ǔ̀* may cover ACTIVITY, i.e. 'look' (ex. 3.a), though another verb *gyaó* (Ts'ixa: *gáò*) is often used synonymously in this domain (ex. 3.b). The converb construction in example (3.b), however, suggests that the basic meaning of gyaó is actually a body action, i.e. 'using one's eyes', rather than a perceptive activity. If gyaó is used to denote the latter, it is primarily in contexts where body action is foregrounded, e.g. with the meaning 'search' or 'look for' (ex. 3.d). Ts'ixa mirrors Khwe-ǁAni (ex. 3.e), though it could be observed that *gáò* was used slightly more frequently to denote ACTIVITY than in the Khwe-ǁAni corpus (ex. 3.f). However, it still remains rooted in body action, as can be gathered from example 3.g. In what follows, examples from Ts'ixa will always be marked as such, while Khwe-ǁAni remains unmarked.

ACTIVITY

(3.a) mű̀ǔ̀ nà gùì é
look.IMP and take IMP
look and take (it)! (Kilian-Hatz 2008: 287)

(3.b) tí nǁáa gyaó-à-kò mű̀ǔ̀
1SG say look-II-CONV see
I said: look (i.e. use your eyes) and see!

(3.c) tcá gyaó-ə-tə vé
2SG.M look-I-PRES NEG
you are not looking (i.e. not using your eyes)!

(3.d) tcá khú-a-kò gyáò
2SG.M turn-II-CONV look
you, turn and search (i.e. go back and look for, e.g. the book)!

Ts'ixa:

(3.e) pítà-m̀ mű̀ù̀-nà-hà zìrá-lő̀á-zà à
<name>-sg.M see-II-PFV vulture-child-pl.F.ACC FOC.ACC
Peter saw/looked at the birds

(3.f) zìrá ti kò gáò
bird 1SG IPFV look
I am looking at a bird

(3.g) gáò-nà mű̀ù̀
look-II see
look (i.e. use your eyes) and see!

To denote experience, both Khwe-ǁAni (ex. 4.a-c) and Ts'ixa (ex. 3.e) unanimously use *mű̀ù̀*.

EXPERIENCE

(4.a) tí ǂxéí-kà mű̀ù̀-à-tə
1SG eye-INST see-I-PRES
I see with the eyes

(4.b) tí mű̀ù̀-à-tə khó-mà à
1SG see-I-PRES person-SG.M OBJ
I see a man

(4.c) cáò bérgə[5] à mű̀ù̀-vé-rè-xà
2DU.F mountains OBJ see-NEG-II-GER
have you never seen mountains before

In both ACTIVITY and EXPERIENCE, *mű̀ù̀* is a monotransitive verb and takes on a direct object which may be marked with *à* or one of its allomorphs. Though Kilian-Hatz (2003: 51) considers *gyaó* to be a monotransitive verb, it appears to be ambitransitive; when used to denote a body action, *gyaó* does not take an object and acts intransitively, while it is a transitive verb in the realm of perceptive action.

2.2.2 kóḿ—*HEARING*

Like *mű̀ù̀*, *kóḿ* in Khwe-ǁAni is limited to only one sensory modality, namely HEARING. It is used to express both ACTIVITY (ex. 5.a) and EXPERIENCE (ex. 6.a), while another verb *ǂé-ǂé* (lit. 'ear-ear') denotes the underlying body action. *ǂé-ǂé* is an ambitransitive verb that can be used intransitively

[5] Afrikaans loanword.

when denoting mere body action, but *kóḿ* is purely monotransitive in all its functions. Like any monotransitive verb in Khwe, it can be intransitivized by adding a neuter-passive (ex. 5.b) or a marker that derives state verbs (Kilian-Hatz 2008: 132).

ACTIVITY

(5.a) tcá kóḿ-a-tè vé
2sg.M listen-I-PRES NEG
you are not listening

(5.b) hĩ̋ tìyó ǂé-ǂé-ì-kò kóḿ-è 'á xó-hɛ̀ 'ɛ̀
HORT then ear-ear-IMPS-CONV hear-IMPS that thing-sg.F.OBJ
let us then listen and hear about that thing

(5.c) tcá ǂé-ǂé-e-tè vé
2sg.M ear-ear-I-PRES NEG
you are not listening (lit. not using your ears)

EXPERIENCE

(6.a) tí ǂé-kà kóḿ-a-tè
1sg ear-INST hear-I-PRES
I hear with the ears

(6.b) àhã́ã́ ápa cɛ́ré-na-kò ngyɛ́-ɛ-hã̀
yes dog sound-II-CONV pass_by-II-PAST
yes, it is the dog rustling while passing by

Kóḿ or variants thereof are found throughout the Khoeid languages with the meaning 'listen, hear' (Voßen 1997), but only in some languages does it expand to all lower sensory modalities, i.e. TOUCH, TASTE and SMELL. This latter extension does not apply to Khwe, where *kóḿ* is restricted to the auditory domain and does not have any intrafield extensions. Younger speakers of Ts'ixa, on the other hand, frequently extend *kúḿ* 'hear' to cover TOUCH, TASTE, and—to a lesser extent—SMELL.

Otherwise, Ts'ixa parallels Khwe in having one verb *kyé-kyé* (lit. 'ear-ear') to denote primarily body action (ex. 7.a) but extending into the ACTIVITY domain (ex. 7.b), and *kúḿ* 'hear' for the fields of both ACTIVITY and EXPERIENCE (ex. 7.c).

Ts'ixa:

(7.a) kyé-kyé!
ear-ear
listen! (lit. use your ears!)

(7.b) pítá-m̀ kò kyé-kyé lîì-sà à
<name>-sg.M IPFV ear-ear song-sg.F.ACC FOC.ACC
Peter is listening to the song.

(7.c) tí kò kúḿ kyé-sèrà kà
1SG IPFV hear ear-du.F INS
I hear with the ears

Apart from the verbs mentioned above, the Khwe-ǁAni lexicon is rather specific when it comes to the semantic domain of auditory perception. There is no generic term akin to the English *sound*, but specific sounds have been lexicalized independently, e.g.:

céré 'rustling sound' (made by wind, people passing by, etc.)
kx'é́ 'crying sound' (made by children, birds, mice, etc.)
ǂguú 'growl' (of lion, dog, car, strong wind, etc.)

2.2.3 ǁám̀—*Perceive Food*

Just like ǂHaba, both Khwe-ǁAni and Ts'ixa use a verb *ǁám̀* to cover the remaining sensory modalities TOUCH, TASTE and SMELL. However, Ts'ixa differs from Khwe-ǁAni insofar as SMELL is frequently covered by a verb *hùḿ*. Our own data seems to confirm Nakagawa's (forthcoming) hypothesis, according to which the basic meaning of *ǁám̀* lies with 'taste', i.e. 'oral perception' rather than with 'touch'. Taken in isolation (ex. 8), *ǁám̀* is translated as 'taste', though in unambiguous contexts the verb may also denote both ACTIVITY and EXPERIENCE for 'touch' and 'smell'.

(8) ǂ'ű́ a tí ǁám̀-a-tè vé
food OBJ 1SG perceive-I-PRES NEG
I do not smell/taste/feel [cf. touch] (e.g. the food)

Further evidence for a basic meaning 'perceive food' is found in the secondary meaning 'have a taste' and the semantic extension 'try (primarily food)'.

An explanation for the intrafield-extensions to touch and smell was provided by a Khwe consultant, who insisted that the oral perception of food involves all three modalities, e.g. touch, taste and smell. While the link between taste and smell in food perception seems obvious, the addition of touch needs further elaboration. For Khwe, the texture and consistency of food (e.g. meat, fruit, veld food) is of crucial importance, as it gives information regarding factors such as ripeness or state of decay.

Nakagawa (forthcoming) describes a highly elaborate lexicon in the field of food perception, including a large number of "elaborate taste verbs" and "food texture verbs" for the ǀGui-ǁGana cluster. Khwe and Ts'ixa seem to share several ideophones with ǀGui-ǁGana which are either "food texture verbs" or lexemes with related meanings.

Table 7.3. Food texture verbs in Khwe and Ts'ixa

Khwe	Ts'ixa	'have the texture of…
ts'àm ts'àm	ts'ám̀ ts'àm̀	easy eating, soft meat'
ǁxám̀ ǁxám̀	ǁxáǹ ǁxàǹ	sand'
kx'òàrà kx'óàrà	sóárá sóárà	dry food which was not properly cooked'
ǀq'àm̀ ǀq'ám̀	—	nice, fat meat'
xòm xóm	xúm̀ xúm̀	biscuits, soil or mushrooms'
ǀxòm̀ ǀxóḿ	—	small, crispy things'
ǀx'ə̃̂n ǀx'ə̂̃n	—	something that must be chewed, e.g. chicken breastbones'
ǂxə̃̂n ǂxə̂̃n	—	soft bones of small animals, e.g. duiker'
ǂx'óbó ǂx'òbò	—	gum'
ǂáyò ǂáyò	—	sticky food'
xúbí xùbì	—	fresh cooked beans, trunk of water lily'
xóbó xòbò	—	dry cornflakes'
ǂx'ə́ǜ̀ ǂx'ə́ǜ̀	—	raw meat with bones'
ts'óḿ ts'òm̀	—	intestines, sausage'
nǂàì nǂáí	—	something creamy, soft or slippery'
ǀqǘ ǀqǘ	—	bones when sucked on'
qàm qám	qáḿ qám̀	roasted seeds'
ǂùbù ǂúbù	—	something muddy, e.g. cold boiled potato'

ǀGui has a food texture verb *!gə́ǜ̀ !gə́ǜ̀* 'have the texture of rubbery meat' (Nakagawa forthcoming). A similar ideophone *!gə̀ǜ̀ !gə́ǘ* in Khwe denotes a bodily condition resulting from eating rubbery meat, i.e. 'have a swollen stomach' rather than the consistency of the meat itself.

Apart from the verbs specifying texture, Khwe and Ts'ixa also have a number of what Nakagawa terms "elaborate taste verbs", even though it is not clear in all examples whether they should actually be considered verbs or rather adjectives.

Table 7.4. Taste terms in Khwe and Ts'ixa

Khwe	Ts'ixa	Gloss
ǀòárá	—	'have a sour, rough taste'
ǂùì ǂúí	—	'have a nice, sweet taste'
tsérú	tsérù	'(be) sour'
kx'éú	k'áú	'(be) bitter'
q'áré	qárè	'(be) sweet'
ǂxámì	—	'(be) hot'
ǂhòá	—	'(be) tasteless'

Table 7.5. Smell terms in Khwe and Ts'ixa

Khwe	Ts'ixa	Gloss
ǁx'ǎ̀	ǁx'ǎ̀	'smell' (neutral)
cĩ ǁx'ǎ̀	—	'strong smell' (e.g. of honey badger)
xǔ̃ ǁx'ǎ̀	xǔ̃ ǁx'ǎ̀	'rotten smell' (e.g. of rotten meat or spoiled milk)
kyǎĩ ǁx'ǎ̀	kǎĩ ǁx'ǎ̀	'pleasant smell'
qáré ǁx'ǎ̀	qárè ǁx'ǎ̀	'sweet smell'

While the field of olfactory perception seems to be less developed, Khwe and Ts'ixa have nevertheless lexicalized a number of terms to refer to specific smells, involving a state verb and the generic noun *ǁx'ǎ̀* 'smell'.

As Khwe and Ts'ixa have several means to specify the meaning of *ǁám̀*, depending on the sensory modality, TASTE, SMELL and TOUCH and will be treated independently.

2.2.4 *Taste*

'Taste' comes closest as the basic meaning of *ǁám̀* 'perceive', and no semantic or grammatical means are required to specify the verb when used in this meaning in Khwe-ǁAni and Ts'ixa. However, only ǁAni has lexicalized a generic term for 'taste', the noun ǂhĩ-hɛ̀. In its genuine use, *ǁám̀* may cover both ACTIVITY (ex. 9) and EXPERIENCE (ex. 10), and is monotransitive.

ACTIVITY

(9.a) tcá yaá ǁám̀ è
2sg.M come perceive IMP
come and taste!

(9.b) tí ǁám̀-a-tè kyǎĩ ǂ'ű a
1sg perceive-I-PRES be.pleasant food OBJ
I perceive (taste) pleasant food

Ts'ixa:

(9.c) Háà-nà ǁám̀
come-II perceive
come and taste!

EXPERIENCE

(10.a) tí dòvèe a dáma-kà ǁám̀-a-tè
1sg salt OBJ tongue-INST perceive-I-PRES
I perceive (taste) the salt with the tongue

Ts'ixa:

(10.b) pítá-m̀ nlgé dòbéè ǁám̀ tsáà-m̀ à
<name>-sg.M PAST salt perceive soup-sg.M LOC
Peter tasted salt in the soup

Ts'ixa extends an additional verb, *zàá* 'have a taste' into the domain of perceptive activity (ex.11).

Ts'ixa:

(11) pítá-m̀ nlgé zàá 'yű̀ű́-sà à
<name>-sg.M NARR taste food-sg.F.ACC FOC.ACC
Peter tasted the food

2.2.5 *Smell*

ǁám̀ can be used without any specific object, if the context determines SMELL rather than TASTE. However, with *ǁám̀* being a monotransitive verb, the meaning can be specified by adding an unambiguous object, e.g. an associative construction consisting of the generic noun *ǁx'ǻ̋ǒ̀* 'smell' and the smelled object or phenomenon (cf. ex. 13.b). Even though ǁAni and Khwe share most of the conceptual features under discussion, they differ in that in ǁAni, *kóm̀* 'to hear' can be used in an extended meaning, alongside *ǁám̀*, to express 'perceiving smell' (13.c.).

ACTIVITY

(12) tcá yaá ǁx'ǻ̋ǒ̀ a ǁám̀ è
2sg.M come smell OBJ perceive IMP
you, come and perceive the smell!

EXPERIENCE

(13.a) tí ǁx'ǻ̋ǒ̀ a ǂùì-kà ǁám̀-a-tè
1sg smell OBJ nose-INST perceive-I-PRES
I perceive the smell with the nose

(13.b) xàḿ a dì ǁx'ǻ̋ǒ̀ a tí ǁám̀-a-tè
lion FOC POSS smell OBJ 1sg perceive-I-PRES
I smell the lion's smell

(13.c) xàḿ dì ǁx'ǻ̋ǒ̀-ma tí kóḿ-a-tè
lion POSS smell-sg.M 1sg hear-I-PRES
I smell the lion's smell (ǁAni)

ǁám̀ in Ts'ixa also covers SMELL (ex. 14.a), though another verb, *hùḿ*, has been lexicalized with the meaning 'smell' for both ACTIVITY and EXPERIENCE (ex. 14.b).

Ts'ixa:

(14.a) pítá-m̀ 'yű́ű́-sà ǁám̀
<name>-sg.M food-sg.F.ACC perceive
Peter smelled (at) the food

(14.b) pítá-m̀ ǀgé hùḿ ɲúníì tsáà-m̀ à
<name>-sg.M NARR smell mouse soup-sg.M LOC
Peter smelled a mouse in the soup

2.2.6 *Touch*

The meaning of TOUCH is probably hardest to specify, even by means of a direct object. For that reason, Khwe-ǁAni uses a slightly different strategy in combining *ǁám̀* with the verb *xó* 'hold' in a converb construction (ex. 15). Since 'hold' denotes an activity rather than an experience, this construction type is limited to ACTIVITY. EXPERIENCE 'feel' has to be deduced from the context (ex. 16). In both cases, however, *ǁám̀* functions as a monotransitive verb and takes on a direct object.

ACTIVITY

(15.a) tí ǂqoó a cèú-kà xò-ò-kò ǁám̀-a-tè
1SG dirt OBJ hand-INST hold-II-CONV perceive-I-PRES
I perceive (touch) dirt with the hand

(15.b) yaá xò-ò-kò ǁám̀
come hold-II-CONV perceive
come and touch!

EXPERIENCE

(16.a) natá tcá ǁám̀-a-tè nlí ta tí hĩí no
how 2SG.M perceive-I-PRES this so 1SG do when
how does it feel when I touch you like this?

(16.b) tí ǁám̀-a-tè kyấĩ a
1SG perceive-I-PRES be_pleasant OBJ
it (the touch) feels good (lit. I perceive the pleasant)

While younger speakers of Ts'ixa use *kúḿ* to denote tactile perception (ex. 17.a), *ǁám̀* may be used instead (ex. 17.b). It is also interesting to note that ACTIVITY is most commonly encoded by *xóò* 'hold' (ex. 17.c), which in this context extends its meaning to 'touch' without being part of a multi-verb construction with either *kúḿ* or *ǁám̀*.

Ts'ixa:

(17.a) tí kò ǁ'ű́-sà kúḿ
1SG IMPV bark-SG.F.ACC hear
I am touching the bark (of a tree)

(17.b) pítá-m̀ nlgé ǁám̀ gìràá-sà à
<name>-sg.M PAST perceive cloth-sg.F.ACC FOC.ACC
Peter touched/felt the cloth

(17.c) pítá-m̀ nlgé xóò gìrà-sà à
<name>-sg.M PAST hold cloth-sg.F.ACC FOC.ACC
Peter touched the cloth

2.3 *The Phenomenon-Based State Verbs* íi *and* ǂ'ǐi *in Khwe-ǁAni*

In Khwe-ǁAni, the phenomenon-based category STATE (e.g. Engl. 'look like'/'be like') is expressed by two basic verbs: *íi* 'look like' for the visual domain, and *ǂ'ǐi* 'be like' for all non-visual modalities. This two-fold division becomes transparent when taking into account the corresponding nouns, i.e. *íi* 'appearance' and *ǂ'ǐi* 'manner'. Both verbs are generally part of an SVC, most commonly with the verb *khóá* 'resemble'. Kilian-Hatz (2008: 266–7) suggests that **khṍã́* once functioned as a full verb 'be like', but has been replaced by *íi* and *ǂ'ǐi* in recent times. Today, *khóá* and its variants function as similative markers, whereas the frequently occurring variant *khóá-ná* still bears witness to its use as first verb in an SVC.

(18) tó ã́ khòà-xà Wíndùku
2pl.C know like-GER Windhoek
You know it as Windhoek

When combined with *khóá*(*-ná*), *íi* (ex. 19.a) and *ǂ'ǐi* (ex. 19.b) may or may not take on TAM-marking; thus this construction has not yet fully grammaticalized into a mere copula. There seems to be no change in meaning, regardless of the grammatical construction in which *íi* and *ǂ'ǐi* are embedded.

(19.a) lgà̃ã́ khóá(-ná) íi-yè-tè
leaf resemble(-II) look.like-I-PRES
it looks like a leaf/it could be a leaf

(19.b) nlí céré-hɛ̀ ǂ'ã́ khóá(-ná) ǂ'ǐ́i
DEM rustle-sg.F wind resemble(-II) be-like
this rustle is (sounds) like the (rustling of the) wind

According to Kilian-Hatz (2008: 307), another way for *íi* and *ǂ'ǐi* to combine with other verbs is as minor verbs in an asymmetrical SVC. In this case, the exact meaning is dependent on the position of *íi*/*ǂ'ǐi*. If they are used as last verb (V_2), the first verb describes the way the object looks/is like

(ex. 20.a). If they occur in V_1-position, however, the meaning changes to 'seem' or 'pretend' (ex. 20.b).

(20.a) tá-khò-mà ǁló-ó íi-e-tè
old-AG-3sg.M die-II look-like-I-PRES
the old man looks like being dead (Kilian-Hatz 2008: 307)

(20.b) tá-khò-mà íi-e ǁló-à-tè
old-AG-3sg.M look-like-II die-I-PRES
the old man seems/pretends to die (Kilian-Hatz 2008: 307)

The system found in Ts'ixa is slightly different, though based on *khónà*, the etymology of which probably mirrors the one outlined above for Khwe-ǁAni. *Khónà* may combine with all perception verbs (ex. 21.b–e) except for *mű̀ǜ̀*, as STATE in the visual domain is expressed by *khónà ûˀ* (ex. 21.a). According to one speaker, *khónà ǀlám̀* may be used to express STATE for all non-visual modalities, i.e. akin to Khwe-ǁAni *khóá*(*-na*) *ǂ'ű́* (cf. ex. 21.e).

Ts'ixa:

(21.a) hìí-cì mé-cí lèé khónà ìí è
tree-sg.F DEM-sg.F wildebeest be-like look-like COP
that tree looks like a wildebeest

(21.b) dùḿ-m̀ mé-m̀ kùè tí ká táxù-cì
voice-sg.M DEM-sg.M PROG 1sg ASSOC sibling-sg.F
dí-m̀ khónà kúḿ-cì
POSS-sg.M be_like hear-REFL
that voice sounds like my sister's

(21.c) tsáà-m̀ dòbéè khónà ǁám̀-nà-tà
soup-sg.M salt be_like perceive-I-PAST
the soup tasted of salt

(21.d) tsáà-m̀ ŋúníì khónà hùḿ-nà-hà
soup-sg.M mouse be_like smell-II-PFV
the soup smelled of mouse

(21.e) 'é-m̀ kà xúnú-m̀ xàḿ !'ùdí khónà ǁám̀ è
3sg.M ASSOC snore-sg.M lion roar be_like perceive COP
his snore sounds like a lion's roar

3 Transfield Extension to Cognition

Sweetser's (1990) claim that the perceptive verbs denoting vision are universally the most productive when extending from the perceptual into

the cognitive domain has been challenged by Evans & Wilkins (2000). Their study on 69 Australian languages revealed that the transfield figurative projection of sense verbs into the domain of cognition is far more open to cultural variation than intrafield extensions are (Evans & Wilkins 2000: 547).

As stated above, the language communities treated in this article tend to perceive the world and its mechanisms in a situation-based, holistic fashion that is mirrored by cultural practices, conceptualization patterns and language structures. Following the decisive role of cultural variables claimed by Evans & Wilkins (2000), a closer look at the transfield extensions found in Khwe should be expected to reveal additional properties underlying the verbs of perception. Indeed, as will be shown in the following discussion, primacy is not ascribed to visual or auditory perception, but to a holistic understanding of sensory perception expressed by the verb *ǁáṁ*. Only elaboration on the transfield extensions of all verbs of perception as well as consideration of the cultural subtext may shed light on the speakers' classification and assessment of knowledge. Thus, this chapter will discuss the cognitive extensions of *mű̀ǜ̀* 'see', *kóḿ* 'hear' and *ǁáṁ* 'perceive food' ('taste', 'smell', 'touch') in order to postulate a conclusive hypothesis on how body action and subsequent perception is cognized and transformed into knowledge.

3.1 *Grammatical Patterns of Transfield Extension to Cognition*

The verbs of perception in Khwe-ǁAni and Ts'ixa require a specific grammatical frame to extend into the cognitive domain without situational or cultural context. In both languages, the verbs of perception can be combined with the verb *ā́* 'know' in a symmetrical SVC to take on a cognitive meaning. In this construction, the perceptive verbs do not function as a closed class, i.e. they cannot be considered evidentiality markers. This specific kind of SVC should be translated as 'recognize/identify by MODE OF PERCEPTION' rather than 'know by MODE OF PERCEPTION', which fits with Aikhenvald's (2007) observation that

> symmetrical SVCs tend to become idiomatic in meaning. Some then become lexicalized to the extent of losing their segmentability [...]. As a result of such extensive lexicalization, the language loses its symmetrical SVCs [...]. (Aikhenvald 2007: 34)

> The meaning of the whole is not equal to the sum of meanings of the components, and none of the components can be substituted with another verb. (Aikhenvald 2007: 11)

While Khwe-ǁAni and Ts'ixa have not lost their symmetrical SVCs, SVCs involving the verbs of perception undergo lexicalization processes. By consequence, they may be translated as single predicates, i.e. 'recognize' (lit. 'see-know') or 'understand' (i.e. 'hear-know'). Though "the meaning of the whole is not equal to the sum of meanings of the components" anymore, an observation made by Bruce (1988) should be taken into account:

> Serialisation of roots in a verb stem is restricted to sequences of events which are commonly associated culturally or for which there is a cultural basis or pragmatic reason for their close association. (Bruce 1988: 30, quoted in Aikhenvald 2007: 11)

This suggests that the present stage was probably preceded by what Evans & Wilkins (2000) term a "bridging context", namely an intermediate stage in which perception features and cognition features are merged. (Evans & Wilkins 2000: 577)

Along these lines, perception and knowledge, are connected in that their interplay is considered a culturally complex event by the speakers, leading to the creation of idiomatic combinations, i.e. SVCs (cf. Aikhenvald 2007: 12). However, while the combination of visual or auditory perception and knowledge merrily leads to recognition, *ǁám̀-a-á̋* 'see-II-know' may actually denote a holistic understanding of the world. While this particular SVC in some cases might be translated as 'recognize by tasting/smelling/touching', the genuine meaning is 'anticipate', or rather 'know what is going to happen'.

The following table provides an overview of the cognitive extensions of the verbs of perception in Khwe in a SVC. The combination with *á̃* to express recognition by perception seems to be the most common. Data from Naro (Visser 2010) suggest that verbs of perception are rather productive in combining with other verbs to form new lexical units. In Khwe, however, we were not able to detect any other idiomatic expressions involving the verbs of perception, save for the ones given in the table under "OTHER EXTENSIONS".

Table 7.6. From perception to cognition

	Sight	Hearing	Perceiving Food		Holistic
			Touch	Smell Taste	
Cognition	mű̋ũ-a-á̋ see-II-know 'recognize' 'identify by seeing'	kóm-a-á̋ hear-II-know 'understand' 'identify by hearing'	xò-ò-kò hold-II-CONV (Khwe-ǁAni only) ǁám̀-a-á̋ perceive-II-know 'identify by touching'	ǁám-a-á̋ perceive-I-know 1. 'identify by tasting/ smelling/ touching' 2. 'anticipate'	

Table 7.6 (*cont.*)

	Sight	Hearing	Perceiving Food			Holistic
			Touch	Smell	Taste	
Other extensions	mű̃ũ-a-khom see-II-cut 'distinguish by shape/size/ colour' (Khwe-ǁAni only)		ǁám̀-ca perceive-VOL 'Let's try!' (food, ride a bicycle, etc.) (Khwe-ǁAni only)			

3.2 *The Semantics of the Verbs of Perception in the Cognitive Domain*

3.2.1 mű̃ǜ -> mű̃ǜ-a-ǎ́

One of the most frequent lexicalized SVCs to be found in Khwe-ǁAni is *mű̃ũ-a-ǎ́* 'recognize', i.e. 'recognize by vision' or 'identify what is seen' (ex. 22.a). The merely perceptive nature of *mű̃ǜ* becomes obvious when contrasted with *mű̃ũ-a-ǎ́*, which denotes an extension to cognition, albeit not knowledge (ex. 22.b).

(22.a) tí mű̃ũ-a ǎ́-à-tè ǂ'íyo à
1sg see-II know-I-PRES snake OBJ
I recognize (identify) that snake

(22.b) tí mű̃ǜ-à-tè támà ti mű̃ũ-a ǎ́-à-tè vé
1sg see-I-PRES but 1sg see-II know-I-PRES NEG
I see, but I do not recognize (I cannot identify)

The same construction type is found in Ts'ixa (ex. 23):

Ts'ixa:
(23) tí kò mű̃ǜ-à ǎǎ́ nòxá-m̀ mé-mà à
1sg IPFV see-II know snake-sg.M DEM-sg.M.ACC FOC.ACC
I recognize (identify) that snake

In Khwe-ǁAni, there is a specific kind of knowledge apparently linked to visual perception in terms of truth value. The lexicalized term *mű̃ũ-ǎ́-khòè* 'see-know-person' as found in ex.24 clearly refers to someone who knows about something because he has seen it with his own eyes. Still, it is quite unlikely that the lexicalized SVC *mű̃ũ-a-ǎ́* can be interpreted along the same lines.

(24) ní tà ǂx'óa mĩ tcá di mű̃ũ-ā́-khòè
what so ask say 2sg.M POSS see-know-person
you as a see-knowledgeable person, say, what can you ask?

What appears to be more common is a direct semantic extension from *mű́ǜ̀* 'see' to 'know', without the verb *ā́* 'know'. This extension, however, is restricted to cultural contexts in which the visual domain can be considered as primary, e.g. the observation of nature (ex. 25.a) or the collection of medical plants (ex. 25.b) in ǁAni.

(25.a) kx'oxú xà-nà aná guní-é-ǁòè támáxà nákò ka
meat DEM-pl.C that hunt-I-HAB then when with
gúní-é-ǁòè lám mű́ũ-a-ǁòè nákà
hunt-I-HAB time see-I-HAB with
they (the ǁAnikhwe) also know (see) when it is time for hunting game

(25.b) á-ta mű́ũ-a ā́ nà ngyávé-cà lám xó-cà
DEM-be_so see-II know and giraffe-du.F two thing-du.F
ǂhé-ǁx'áé nà tcóò tíó á lo̰ã̀ à tcákà-rà-xú
fill-together and treat then that child OBJ good-II-COMP
it is known (seen) that there are two giraffe (-medicines) you have to mix and when you treat the child (with them) it recovers

While visual perception may not necessarily extend to knowledge for ordinary Khwe, different rules apply to traditional healers (*yèú-kx'ao*). In an interview with Matthias Brenzinger (2002), the *yèú-kx'ao* Mahure discussed his ability to see and talk to God. While the verb used in ex. (25) is *ā́* 'know', the intended meaning is quite obviously 'see'. It can therefore be assumed that for a healer like Mahure, perception does not lead to, but actually *is* knowledge. Hence, the verbs *mű́ǜ̀* 'see' and *ā́* 'know' may be used almost interchangeably by him, though only in contexts like the one referred to above.

(26) nlí-l'e tamaxa tı̃̀-ĩ-tà góánáo ā́-á-tè
DEM-day also stay-II-PAST now know-I-PRES
á-m̀ m̀ lxé-hé è
DEM-sg.M POSS body-sg.F OBJ
even today that you are here I see his (God's) body (Brenzinger 2002)

3.2.2 kóḿ ->kóḿ-a-ā́

The extension from 'hear' to 'understand' is stated to be common in many Australian languages (Evans & Wilkins 2000). In Khwe-ǁAni, however, the SVC *kóḿ-a-ā́* 'hear-II-know' does not primarily mean 'understand',

but rather 'recognize by hearing', or 'identifying a sound'. This meaning becomes obvious in ex. (27.a) where *kóḿ-a-ā́* is contrasted with its cognitive counterpart *mū̀ǔ̀-a-ā́* 'recognize by vision'.

(27.a) tí kóḿ-a ā́-à-tè vé tama mū̀ǔ̀-a ā́-à-tè
1sg hear-II know-I-PRES NEG but see-II know-I-PRES
I do not recognize (it) auditorily, but I do recognize (it) visually

(27.b) nlí céré-hè̀ tcá kóḿ-a ā́ re
this rustle-sg.F 2sg.M hear-II know Q
do you recognize this rustling sound?

Again, Ts'ixa has lexicalized exactly the same type of SVC with a core meaning 'recognize by hearing' (ex. 28.a). The notion of 'understand' may be expressed by *kúḿ-à-ā̀ā́*, but is more commonly conferred by combining *kúḿ* with the perfect-marker *tè* (ex. 28.b).

Ts'ixa:
(28.a) tí kò kúḿ-à ā̀ā́
1sg IPFV hear-II know
I recognize by hearing

(28.b) tí tè kúḿ
1sg PRF hear
I understand

In Khwe-ǁAni, *kóḿ-a-ā́* may in some contexts also mean 'understand' in the sense of 'acquiring knowledge through hearing' (ex. 29.c). This secondary extension from 'recognize by hearing' to 'understand' might have been triggered by a semantic extension from *kóḿ* 'hear', which on its own might take on the meaning 'understand' (ex. 29.b), with 'understand language' (ex. 29.a) being the most likely bridging context. The same is found in Ts'ixa (ex. 30).

(29.a) xà-nà-m̀ kx'úí-mà té kóḿ
DEM-pl.C-POSS speak-sg.M 1pl hear
we understand their speaking

(29.b) tákò tcá té à kóḿ-á-hĩ véé
then 2sg.M 1pl OBJ hear-II-PAST NEG
and you don't understand us (Heine 1997: 16)

(29.c) á xò-hè̀ kóm-a ā́-i-kò tíkò tcáká-kà
this thing-sg.F hear-II know-IMPS-CONV and_then be_good-CAUS
understand this issue and make it right

(30) tí kò kúḿ Khwe-dàḿ
1sg IPFV hear Khwe-tongue
I understand the Khwe language

3.2.3 ǁáṁ->ǁáṁ-a-ǻ́

The wide range of meanings covered by *ǁáṁ-a-ǻ́* makes it difficult to determine a primary meaning for this particular cognition SVC. *ǁáṁ-a-ǻ́* may be—depending on the context—translated by 'recognize by tasting/smelling/touching' (ex. 31.a-d).

(31.a) tí ǁáṁ-a ǻ́-á-tè ǀqóṁ a
1sg perceive-II know-I-PRES manketti OBJ
I recognize the taste of manketti nuts

(31.b) tí ǁáṁ-a ǻ́-á-tè ǀqóṁ di ɬhĩ-hɛ̀
1sg perceive-II know-I-PRES manketti POSS taste-sg.F
I recognize the taste of manketti nuts (ǁAni)

(31.c) nlí ǁx'ǻ̃ɔ̀-hɛ̀ tcá ǁáṁ-a ǻ́-á-tè re
this smell-sg.F 2sg.M preceive-II know-I-PRES Q
do you recognize this smell?

(31.d) tí xò-ò-kò ǁáṁ-a ǻ́-á-tè ve
1sg hold-II-CONV perceive-II know-I-PRES NEG
I do not recognize (it) by touching

The most complex meaning of *ǁáṁ-a-ǻ́* is 'anticipate', i.e. 'know what is going to happen'. This latter meaning comprises the correct interpretation of a wide range of sensory stimuli, with evidence that does not derive from any identifiable sensory modality, and including what is sometimes referred to as 'sixth sense'. For that reason, Khwe-ǁAni *ǁáṁ-a-ǻ́* in this usage may best be labeled as holistic perception (ex. 32).

(32) tí ǁáṁ-a ǻ́-á-tè nlíì mbóróngà-hɛ̀ ɛ̀
1sg perceive-II know-I-PRES DEM problem-sg.F OBJ
I anticipated this problem (I knew this problem would come up)

The same meaning is also found in Ts'ixa (ex. 33.a–b).

Ts'ixa:
(33.a) tí kò ǁáṁ-à ɜ̀ǻ́
1sg IPFV perceive-II know
I feel s.th. is coming

(33.b) tí tè ǁáṁ-à ɜ̀ǻ́ hɪ̃̀ĩ́-cí gérè tà
1sg PRF perceive-II know do-REFL FUT COMP
I anticipated this would happen

While comparable semantic strategies are found in other languages, e.g. English 'I feel good' (ex. 34.a–b), the range of Khwe-ǁAni and Ts'ixa *ǁáṁ* extends much further than just referring to the general condition of the experiencer.

(34.a) xà-má kyǎĩ-a ǁáṁ-à-tè
DEM-3sg.M be.nice-II perceive-I-PRES
he feels well

Ts'ixa:

(34.b) é-ṁ kǎĩ-sè kò ǁáṁ-cí
3sg.M be-nice-ADV IPFV perceive-REFL
he feels well

ǁáṁ-a-ǎ́ 'recognize by *ǁáṁ*' involves information acquired with all senses, including visual and auditory perception, but goes far beyond the physical sense modalities. Among the three cognition-SCVs of Khwe-ǁAni and Ts'ixa, it is only *ǁáṁ-a-ǎ́* that can extend from cognition to knowledge in a broad, general sense; thus, true knowledge can only be accessed through a holistic experience of the world. Visual and auditory information, as well as "facts" perceived with other physical sensory modalities are rather doubtful and only fragmentary. Seeing and hearing cannot be trusted and are merely superficial impressions of an uncertain, unpredictable event-based reality. The supernatural power *tcóò* (Ts'ixa: *tsóò*), the ancestors, and God, are the forces that really matter, as they govern the lives of these former hunter-gatherer communities. With that, the most important aspects of life cannot be perceived by the sense modalities considered common or even primary by western standards.

The holistic dimension of *ǁáṁ* becomes especially clear when considering ex.35. Here, *ǁáṁ-a-ǎ́* is used to denote the activity of a diviner, who consults *bò*, an 'axe', which is a common oracle among the Khwe. Not only does he perceive information about the future in ex. (35.a), he also interprets it correctly and with that KNOWS what is going to happen. In ex. (35.b), he perceives information which he does not understand; thus, he does not know what is going to happen.

(35.a) lx'ú khòè-mà ǁáṁ-a ǎ́-à-tè
oracle person-sg.M perceive-II know-I-PRES
the diviner knows the future (after consulting the axe-oracle)

(35.b) lx'ú khòè-mà ǁáṁ-a ǎ́-à-tè. ve
oracle person-sg.M perceive-II know-I-PRES NEG
the diviner doesn't understand the future

In Ts'ixa, this outcome is expressed in the same way (ex. 36).

Ts'ixa:

(36) lxú khóé-m̀ ǂám̀-à ǎǎ́-tǎ̀
oracle person-sg.M perceive-II know-IPFV.NEG
the diviner doesn't understand the future

As shown by the above examples, divination is best understood as an act that requires a holistic perception in order to reach an overall understanding and knowledge about the future.

This kind of anticipation should, however, not be confused with a feeling of premonition, as often experienced by good hunters on hunting trips. Khwe has lexicalized a verb *ǂx'ám* 'anticipate threats or danger'. It is restricted to this specific context and is neither a synonym, nor a hyponym of *ǂám̀-a-ā́* 'anticipate'.[6] Khwe state that *ǂx'ám* 'premonition' is only experienced by ordinary Khwe, i.e. not by *yèú-kx'au*. These sacred healers do not need to 'anticipate' future events, as their special skills actually allow them to know what is going to happen.

(37) lx'ũ ngyéu-ǂoa a ǂx'ám-a-ǂòè kx'éí yaá-xà.
kill young_men[7]-pl.M FOC anticipate_danger-I-HAB first come-GER
good hunters anticipate dangers (lit. killers feel the things that will happen first)

Returning to *ǂám̀* as a verb of perception, its unique expansion across the fields of cognition and finally knowledge implies that not visual or auditory, but holistic perception should be considered its primary meaning. This observation further emphasizes that holistic perception is of overall importance to Khwe-ǂAni and Ts'ixa in perceiving the world.

4 Conclusion

In ascribing primacy to a holistic mode of perception expressed by the verb *ǂám̀*, Khwe-ǂAni, Ts'ixa and other Khoeid languages seem to contradict universalist notions on the hierarchy of the senses, i.e. commonly visual or auditory perception. The data discussed in this paper support Hirosi

[6] Similar concepts seem to have been lexicalized in other Khoeid languages as well, e.g. Ts'ixa *k'uri* 'anticipate danger on hunts'.

[7] *Ngyéu* 'young' in this context implies rather strength than age, i.e. also older hunters are called *lx'ű ngyéu-ǂoa*, if they are successful and strong.

Nakagawa's (forthcoming) ǀGui-ǁGana findings, suggesting that a basic meaning 'perceive food' for *ǁáṁ* may be more widespread within the Khoeid family.

Since the act of food consumption combines the sensory modalities of TASTE, SMELL and TOUCH, *ǁáṁ* may extend to cover all these meanings, with 'taste' being the most central one in the domain of sensory perception. The first expansion of *ǁáṁ* probably went from mere 'oral perception' to also cover 'touch' and 'smell' in non-oral, i.e. body-external contexts.

However, *ǁáṁ* remained rooted in body-internal perception, as can be seen by its coverage of what may be considered the domain of proprioception, i.e. 'body feeling'. This is best exemplified by another transfield-extension of *ǁáṁ*, namely that covering the meaning 'try'. While *ǁáṁ* may be employed in contexts such as 'try food' or 'try to ride a bike', it cannot be used for activities that do not involve bodily perception or movement, e.g. 'try on clothes'.

From this "body perception", *ǁáṁ* went on to cover what might be explained as "perceiving the world", i.e. a holistic mode of perception. In fact, *ǁáṁ-a-ǻ́* is the only way that leads to knowledge rather than just recognition. In this respect, *ǁáṁ* substantially differs from the other verbs of perception, namely *mǻ̋ǻ̀* 'see' and *kóṁ* 'hear', which for Khwe-ǁAni and Ts'ixa do not lead to the immediate acquisition of knowledge. Hence the holistic mode of perception is the only way to arrive at the kind of understanding that is considered deep and meaningful in all respects. This is in accordance with a more general tendency to describe objects and events in relation to the bigger picture rather than by reduced, abstract means. It can thus be argued that the verbs of perception in Khwe-ǁAni and Ts'ixa, along with their extensions in the cognitive domain serve as an example for the linguistic rendering of what Nesbitt et al. (2001) describe as the impact of culture on the interpretation of cognitive processes.

Along these lines, the former hunter-gatherers discussed in this paper consider the holistic perception of the physical and social environment to be more important and reliable than what can be perceived by any other fallible physical sense modality. Thus, only the perception verb *ǁáṁ* denoting holistic perception could eventually extend to knowledge, i.e. a true understanding of the world.

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CHAPTER EIGHT

PERCEPTION VERBS AND THEIR SEMANTICS IN DONGOLAWI (NILE NUBIAN)[1]

Angelika Jakobi and El-Shafie El-Guzuuli

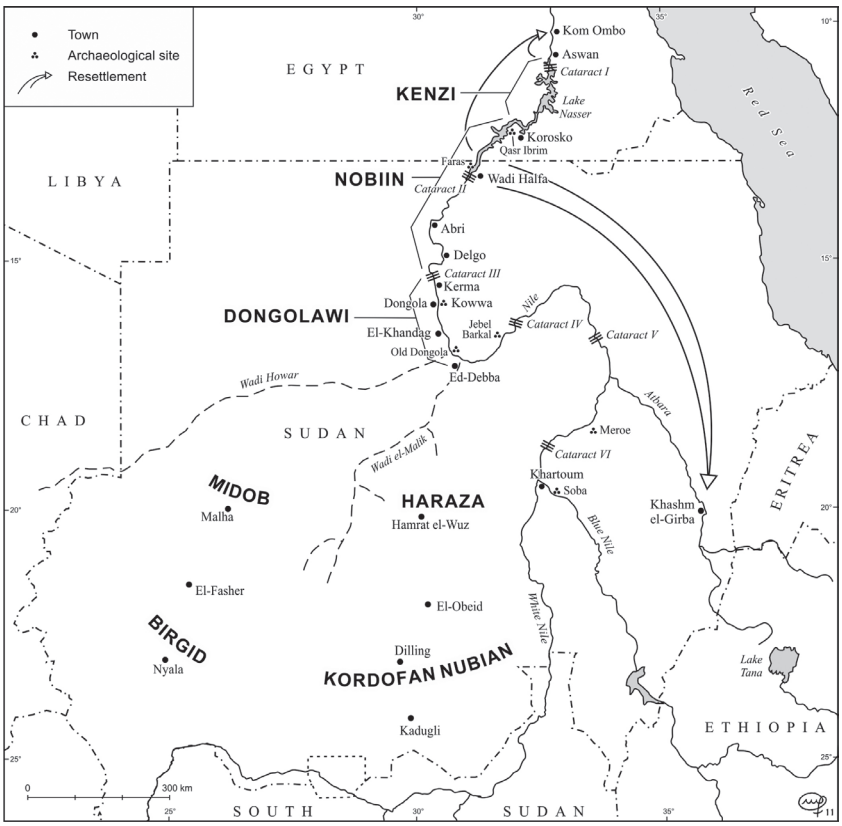
1 Introduction

The Dongolawi language is spoken in the Nile Valley of northern Sudan, roughly between the 3rd cataract south of Kerma town upstream to the big bend of the Nile near ed-Debba (as shown on Map 8.1). 'Dongolawi' is an Arabic term based on the name of the town of Old Dongola on the eastern side of the Nile, which was the centre of Makuria, the famous Christian kingdom that flourished between the 6th and 14th century. Today's Dongola was founded during the 19th century on the western side of the Nile. The Dongolawi speakers call their language Andaandi (*an-daa-n-di*) '[the language] of my/our home'.

Dongolawi speakers are also speakers of Sudanese Colloquial Arabic, the lingua franca of Sudan. Arabic/Dongolawi bilingualism can be characterized as replacive in the sense that Dongolawi is threatened by complete replacement by Arabic (Jakobi 2008). This is reflected by the dwindling number of Dongolawi speakers and the growing impact of Arabic on this language. This paper will show that Arabic loan words are attested even in the semantic field of perception verbs.

Dongolawi is closely related to Kenzi which is spoken in southern Egypt. In linguistic studies, therefore, both languages are often referred to by one term, Kenzi-Dongolawi, even though, *Ethnologue* now treats Kenzi and Dongolawi as two separate languages (i.e. [xnz] and [dgl], respectively). Along with Nobiin and Old Nubian these languages form the Eastern, i.e. Nile Nubian branch of the Nubian language family. Nubian is a member of the Northern sub-group of Eastern Sudanic and ultimately classified as a Nilo-Saharan language.

[1] We gratefully acknowledge Alexandra Aikhenvald and Anne Storch's commentary on the first draft of this paper. We are also very grateful to Gerrit Dimmendaal for reading a more recent draft. His suggestions have deepened our understanding of the topic.



Map 8.1. The location of Dongolawi and other Nubian languages

Kenzi-Dongolawi boasts a long record of linguistic studies including the works of Leo Reinisch (1879, 1911), Richard Lepsius (1880), Herman Almkvist (1911), Gertrud von Massenbach (1933), and Charles H. Armbruster. The latter published an impressively detailed Dongolawi grammar (1960) and lexicon (1965). There are a large number of annotated Kenzi texts published by Heinrich Schäfer (1917 and 1935), by Hermann Junker, and Heinrich Schäfer (1921). Moreover, Gertrud von Massenbach (1962) published a volume of Kenzi and Dongolawi texts along with a glossary. The first modern study of Kenzi is Ahmed Sokarno Abdel-Hafiz' reference grammar of Kunuz (i.e. Kenzi) published in 1988. Recently linguistic research on Dongolawi has been resumed by Marcus Jaeger and Kamal Hissein (2008) as well as by Marcus Jaeger and El-Shafie El-Guzuuli (2012). Moreover, Naasir Satti (2008), a mother tongue speaker of Dongolawi, has

written a PhD thesis focussing on the grammatical analysis of phrases and clauses. While in previous linguistic studies of Dongolawi and Kenzi tonal issues were completely ignored, Satti's thesis provides first preliminary evidence that tone is grammatically and lexically important.

The data in this paper are not tone-marked, however, because it is not based on fieldwork carried out within a Dongolawi language community. Rather, the data is drawn from different sources, comprising Massenbach's Dongolawi texts (examples below are marked by M), Armbruster's Dongolese lexicon (DL), Dongolawi proverbs provided by Marcus Jaeger (MJ), examples from Naasir Satti (NS),[2] and, most importantly, from the co-author, El-Shafie El-Guzuuli (Sh)[3] who is a native speaker of Dongolawi engaged in the maintenance and revitalization of his mother tongue as well as in developing a Dongolawi orthography. In fact, this paper has emerged from the authors' ongoing discussion of linguistic and orthographic issues encountered in Dongolawi.

Dongolawi is characterized by the following typological features. It has basic SV/AOV constituent order, but OAV order is also attested (see example 15 below). Grammatical relations are expressed both by participant markers on the verb and by the clitic case marker *=gi* on the object constituent. The Agent role is encoded as unmarked subject, as illustrated in (1). The same morphosyntactic pattern is found in (2), although the unmarked subject constituent encodes a natural phenomenon (rather than an animate, instigating Agent). Locative, ablative, directional, and temporal noun phrases are marked by the clitics *=r* (or its allomorphs *=ir/do/ro*), *=ged, =gaddi*, and *=gi*, respectively.

In view of the fact that grammatical relations are morphologically marked on the verb and on the object constituent, Dongolawi is considered to be both head-marking and dependent-marking on the clause level.[4]

(1)	Esmaan	elum=gi	bee-ko-n	Sh
	<name>	crocodile=OBJ	kill-PER-3sg	
	Osman has killed a crocodile			

[2] We gratefully acknowledge the Dongolawi data which Marcus Jaeger and Naasir Satti contributed to our paper.

[3] All examples are written according to the Dongolawi orthography rules developed by Marcus Jaeger and El-Shafie El-Guzuuli (2012).

[4] The terms head-marking and dependent-marking are adopted from Nichols (1986).

(2) aru man katre=gi boor-kir-edol-in Sh
rain that wall=OBJ fall-CAUS-PROSP-3sg
rain is about to cause that wall fall down

According to Satti (2008), there are two genitive constructions, i) type 1 with the possessor (marked by the clitic *=n*) preceding the possessed, ii) type 2 with the possessed preceding the possessor (marked by *=n*) plus the property marker (*-di*). The latter construction is illustrated in the language name *an-daa-n-di* above. Adjectives follow their head noun, whereas demonstratives precede it.

The morphological structure is generally agglutinative but inflectional morphemes on the verb are often fused. Verbal morphology is rich in derivational and inflectional morphemes. Verbs are obligatorily inflected for person and number of the subject. Person and number of the subject are often fused, i.e. syncretism occurs in this grammatical domain. Furthermore, the morphological contrasts between the 2nd and 3rd person singular as well as between the 1st and 2nd person plural are neutralized; they are marked by *-n* and *-u*, respectively.

There are several derivational suffixes that either raise or reduce transitivity, including a transitivizer (*-ir*), causative (*-kir, -kiddi*), benefactive (*-tir, -deen*), passive (*-katti*), stative/progressive (*-buu*), and inchoative morpheme (*-an*). Among the morphemes marking tense, aspect, and mood, there are two referring to events in the past. The choice between these suffixes, *-ko* (*-go*) and *-si* (glossed as PER and PST) depends on whether they occur in a main or subordinate clause.

A conspicuous feature of Dongolawi clauses are multiverb constructions composed of individual verbs which may also occur in monoverbal clauses. Compare *nog* in the multiverb constructions (3) and (4) to (12) where *nog* represents the only verb in the subordinate clause. In a multiverb construction, the final verb takes the inflectional morphemes whose values for person, number, tense, mood, negation have scope over the entire clause, as seen in (3) and (4). A series of individual verbs may be non-contiguous allowing other constituents to occur between the verbs, as illustrated by the locative noun phrase in (24) and by the object clause in (30). Furthermore, the individual verbs may have the same or different transitivity values. While in example (3) *nii-ed* 'drink' represents a transitive verb with *ʃay=gi* 'tea' as its syntactic object, the verbs *imbel* and *nog* are intransitive verbs.

Although the individual verbs in a multiverb construction share the inflectional values for person, number, tense, mood, and negation,

they may be marked by different aspect markers, as shown by the suffixes *-os* and *-ed* in example (3). Armbruster (1960: §3790) claims that *-os* and *-ed* do not occur on stative verbs like *buu* 'lie', *aag* 'sit, squat', *daa* 'exist', *e* 'say', which suggests that the occurrence of these morphemes may be motivated by telicity. More research, however, is needed to find out about the distribution and function of these aspect morphemes. Contrary to Armbruster's observation, the verb *aag* very commonly takes the suffix *-ed*, such as in *esmaan ar gonon uguun toortin bokkon aaged nogkon* 'Osman sat with us till midnight and left'. For the time being, in the examples below, the aspect markers *-os* and *-ed* will be glossed as ASP1 and ASP2, respectively.

(3) ʃay=gi nii-ed bedd-os imbel nog-iran M
tea=OBJ drink-ASP2 pray-ASP1 get_up go_along-PRES.3pl
they drink tea, pray, rise and walk away

(4) imbel nog ju kal-we Sh
get_up go_along go eat-IMP.2pl
get up, go and eat!

Examples (3) and (4) also illustrate that in a multiverb construction the order of components is iconic, i.e. the linear order of individual verbs reflects the chronological sequence of events. However, as we will show below, when such constructions involve perception verbs they may acquire a purpose reading.

In sum, the typological characteristics of the multiverb constructions in Dongolawi suggest that we are dealing with serial verb constructions as defined by Aikhenvald (2006) in her cross-linguistic study.

2 Research Questions

This paper is restricted to five sensory modalities: sight, hearing, smell, touch, and taste. It is concerned with the question how they are expressed by the corresponding physical perception verbs. The events associated with these sense-modalities comprise i) controlled/conscious attentive activities, e.g. *look at, listen to, smell/take a sniff at*, ii) uncontrolled spontaneous experiences, e.g. *see, hear, smell*, and iii) source/phenomenon-based states or inchoative processes, e.g. *be visible, sound, emit a smell*. In other words, physical perception may be activity-oriented, experience-oriented, or source-oriented.

In contrast to a prototypically transitive event involving an initiating or instigating Agent and an affected Patient, both an attentive activity-oriented event and an uncontrolled spontaneous experience-oriented event lack prototypical transitivity. Rather, perceptional events are associated with the semantic roles of Experiencer (the perceiving entity) and Source/Phenomenon (the perceived entity). In some languages, the semantic roles of Experiencer and Phenomenon require special grammatical encodings. In English, for example, the Phenomenon is encoded by oblique case marking, as attested by the verbs *look at, listen to, take a sniff at*.

Languages differ according to the lexicalization patterns of perception verbs. In some languages active and spontaneous visual perception, for example, are realized by different verb roots, as illustrated by English *look* and *see*. In other languages, the same root is used as attested by *xuud* in Kambataa, a Cushitic language of Ethiopia (Treis 2010). Moreover, a perception verb root may cover more than one sense-modality. In Swahili, a Bantu language of East Africa, for example, *sikia* expresses both auditory activity 'listen to' as well as olfactory activity 'smell', 'take a sniff at'. In Setswana, a Bantu language of Botswana, there is one verb, *utlwa*, covering four sense-modalities, as it expresses experienced hearing, touching, tasting, and smelling. There are, however, hierarchical restrictions on the possible patterns of polysemy. According to the (simplified) sense-modality hierarchy (Viberg 2001: 1297), sight is at the top of this hierarchy. It is followed by hearing. The lowest ranking sense-modalities are smell, touch, and taste, and, therefore, they are often lexically expressed by the same perception verb. This hierarchy is correlated with markedness. It predicts that semantically unmarked verbs rank high and semantically marked verbs rank low in the hierarchy.

Apart from these cases of 'intrafield' polysemy within the domain of physical perception verbs there are also cases of 'transfield' polysemy. Visual and auditory perception verbs, which rank high in the sense-modality hierarchy, tend to acquire cognitive readings. English *see*, for instance, is semantically extended to 'understand', German *hören* 'hear' is also used to express *verstehen* 'understand'. Such semantic extensions of physical perception into the field of mental/cognitive perception appear to be influenced by cultural factors, as Evans and Wilkins (2000) assume.

This present paper will address the following questions. How are the five sense-modalities lexically expressed in Dongolawi? How are the role of Experiencer and Source/Phenomenon grammatically encoded in

Dongolawi? What are the lexicalization patterns of the perception verbs? Are there semantic extensions into other sense-modalities and into the semantic field of cognition?

3 Physical Perception Verbs

The following table accounts for the sense-modalities sight, hearing, smell, touch, and taste and for the basic verbs expressing activity-oriented, experience-oriented or phenomenon-oriented physical perception.

Table 8.1. Physical perception verbs

Sense-modality	Activity-oriented	Experience-oriented	Phenomenon-oriented
sight	nal	nal	waandi
hearing	gijir	gijir	gijir-katti
smell	sunde	gijir	iris=ki ko, numme
touch	tabbe, jaabe	hissee (< Ar.)	–
taste	tance	tance	–

We will discuss these physical perception verbs in turn starting with visual perception.

3.1 *Sight*

In Dongolawi, there is one basic verb, *nal*, expressing both controlled visual activity and uncontrolled visual experience. In both cases *nal* takes two arguments, i.e. it occurs in a formally transitive clause in which the Experiencer is encoded as unmarked subject and the Source/Phenomenon is marked by the clitic object marker *=gi*.

3.1.1 *Verbs Expressing Visual Activity*

Evidence of *nal* as expressing a controlled visual activity is provided by the fact that it may be used in imperative forms, as seen in (5). The verb *nal* has several shades of readings which range from attentive directed 'looking' and 'watching' to the semantic domains of cognitive perception and social behaviour. Controlled directed looking is attested in the following examples, where *nal* has the readings 'look at' as in (5) and (6), 'look out for' as in (7), 'look for' as in (5), and 'watch' as in (8) and (9).

nal—'look at', 'look for' DL

(5) tek=ki nal
3sg=OBJ see.IMP.2sg
look at/for him/her/it!

nal—'look at' DL

(6) ay bi nal-li
1sg.SU FUT see-PRES.1sg
I'll look at [it]

nal—'look out for' DL

(7) duul weer=ki nal
large IDF=OBJ see.IMP.2sg
look out for a large one!

nal—'see', 'watch' Sh

(8) booliis magas=ki dukkaan=do too-buu-n nal-ko-n
police thief=OBJ shop=LOC enter-PROG-3sg see-PER-3sg
the policeman saw/watched the thief enter the shop

nal—'see', 'watch' DL

(9) er ogij kiis=ir undur-si-n-gi nal-ko-naa
2sg.SU man bag=LOC put_into-PST-3sg-OBJ see-PER-2sg.Q
did you see (i.e. watch) the man put [it] into the bag?

The following examples (10) to (15) illustrate the readings of *nal* as 'greet', 'meet', 'visit', 'look after', 'guard', 'protect', which show that the semantics of *nal* extend into the domain of social interaction.

nal—'greet' NS

(10) ay=gi nal-os
1sg=OBJ see-ASP1
greet me! / say hello to me! / shake hands with me!

nal—'see, meet' Sh

(11) ay Esmaan=gi suug=ir nal-kori
1sg.SU <name>=OBJ market=LOC see-PER1sg
I have seen/met Osmaan in the market

nal—'see, meet' Sh

(12) er=on innowwi=gi shefii=ki nal-ki-n
2sg.SU=EMPH? today=OBJ <name>=OBJ see-COND-2sg
isikki intaad dungula=gaddi nog-buu-n-gi
ask.IMP.2sg when Dongola=towards go_along-PROG-3sg-OBJ
if you see/meet Shafie today ask him when he will go to Dongola

nal—'see', 'meet', 'visit' Sh

(13) in tannan ogij ay ju nal-s-i
this s/he is man 1sg.SU go see-PST-1sg
this is the man that I met/visited (lit. this is the man that I went to and saw)

nal—'look after', 'guard' Sh

(14) ay wide taa-ri bokkon in an
1sg.SU return come-PRES.1sg until this my
bitaan=gi nal
child=OBJ see.IMP.2sg
look after/guard my child until I come back

The following utterance is heard when someone had an accident but was not seriously injured. The basic AOV constituent order is reversed, most probably because of pragmatic reasons.

nal—'protect' NS

(15) ek=ki arti nal-ko-n
2sg=OBJ God protect-PER-3sg
God has protected you

The semantic extension of controlled visual activity into the domain of cognition is attested by the following examples (16) to (18), where *nal* has the readings 'examine', 'ascertain', 'think about'.

nal—'examine' Sh

(16) doktoor koor=ki nal-ko-n
doctor wound=OBJ see-PER-3sg
the doctor examined the wound

nal—'see, ascertain' DL

(17) ten maktab=ki saa minkotteer=ro
3sg.GEN office=OBJ hour how_many=LOC
kus-in=gi nal
open-3sg=OBJ see.IMP.2sg
see (i.e. ascertain) at what time he opens his office

nal—'think about' Sh

(18) ay abaag=ked bi nal-li
1sg.SU end=ABL FUT see-PRES.1sg
I will think about it later

3.1.2 *Serial Verb Constructions With* nal

The verb *nal* often occurs in serial verb constructions, where it always occupies the final position ((V) + V + *nal*). The reversed position (*nal* + V + (V)) is not admitted. The verbs preceding *nal* may belong to the same or to a different semantic field. Thus *nal* is attested in combination with other physical perception verbs, as in (19) and (20), and with verbs of bodily (rather than mental) activity, including motion verbs, as attested in (21) to (25).

Perception verb + nal

(19) guuɲci nal DL, Sh
look_at see.IMP.2sg
1) look at it carefully!/examine well!
2) think about it!

(20) guuɲci nal ter=on juu-bu-ki-n Sh
look see.IMP.2sg s/he=EMPH go-PROG-COND-3sg
check if s/he is coming[5]

Bodily activity verb + nal

(21) shidar=ro darri nal Sh
tree=LOC climb see.IMP.2sg
climb up the tree and look for [it]!

(22) mohatta=r nog ju nal DL
station=LOC go_along go see.IMP.2sg
go along to the station and ascertain!

(23) tood tinn-essi=gi bokki nal-ko-n Sh
boy his-sister=OBJ hide see-PER-3sg
the boy hid and looked at his sister/he looked at his sister secretly

(24) bood ju uru=r tebee nal Sh
run go river=LOC search see.IMP.2sg
go quickly to the river and look for it [e.g. something lost there]!

(25) ur=ki undur nal Sh
head=OBJ put_in see.IMP.2sg
think about it! (lit. put [your] head into it and see)

Table (8.2) provides some examples (in the unmarked 2nd person singular imperative form) of serial verb constructions in which *nal* always appears as the last verb. This list is by no means exhaustive. The first five examples show *nal* being preceded by other verbs expressing active perception. Depending on the context, in these constructions *nal* may adopt a cognitive meaning that may be rendered as 'check' or 'find out' or even 'think about something' when taking English as the metalanguage. The individual verbs preceding *nal* express events that may be considered as prerequisites for checking or finding out something. So these constructions often imply a sense of purpose. (Dongolawi has, however, yet other constructions for expressing purpose.)

[5] In connection with the progressive marker *-bu* the motion verb *ju*(*u*) 'go' adopts the reading 'come'.

Table 8.2. Examples of serial verb constructions with *nal*

guuɲci nal	look at to check/find out, think about it
gijir nal	listen to check/find out
sunde nal	smell to check/find out
tabbe nal	touch to check/find out
tance nal	taste to check/find out
tebee nal	search to check/find out
bokki nal	hide to check/find out
kutte teeb nal	get down, stand up and check/find out
teeg-os nal	sit down and check/find out
tubb-os nal	lie down and check/find out
nog ju nal	go along, go and ascertain

3.1.3 *Other Activity-Oriented Perception Verbs*

Apart from *nal*, there are other perception verbs expressing controlled visual activity. They appear to be semantically more specific than *nal*. They include *guuɲci* 'look at, watch',[6] *jiindi* 'stare at', 'stare at somebody in an intimidating or warning manner' and *naaŋe* 'peep', 'watch secretly', as shown in example (26) to (30). These verbs are attested in serial verb constructions, too, as attested in (27), (29), and (30). Interestingly, the sequence of the visual perception verbs *jiindi* and *guuɲci* in (29) and *naaŋe* and *nal* in (30) may not be reversed. This finding is explainable in terms of the perception verb hierarchy which predicts that semantically less marked verbs rank higher and the more marked verbs rank lower in the hierarchy. The less marked visual perception verbs *guuɲci* in (29) and *nal* in (30) are always found in clause-final position.

guuɲci—'watch' Sh

(26) tood tilifiziyoon=gi guuɲc-ed-aag-in
boy TV=OBJ watch-ASP2-PROG-3sg
the boy is watching TV

guuɲci—'watch' Sh

(27) tokkon katre=n jer=ked bokki teeb
NEG.IMP.2pl wall=GEN back=ABL hide stand
guuɲci-men-we
watch-NEG-IMP.2pl
don't stand hiding behind the wall and watch [him/her/it]

[6] The verb *guuɲci* also has the reading 'await, expect someone'.

jiindi—'stare at' Sh

(28) ay tek=ki jiindi-ri gaal
1sg.SU 3sg=OBJ stare-PRES.1sg when
sandi-go-n
get_afraid-PER-3sg
when I stared at him [intimidatingly] he got afraid

jiindi guuŋci—'stare at' Sh

(29) ay tek=ki jiindi guuŋci-gori
1sg.SU 3sg=OBJ stare_at look-PER.1sg
I looked at him/her staring intimidatingly

naaŋe—'peep', 'watch secretly' Sh

(30) ju man adem kaa=r toor-el=gi
go that person house=LOC enter-PART.PER=OBJ
naaŋe nal
peep see.IMP.2sg
go to the house and watch [secretly] that person who has entered

3.1.4 *Experience-Oriented Visual Perception*

Spontaneous/uncontrolled visual perception is expressed by *nal*, as attested by the following examples (31) and (32). Example (31) illustrates *nal* in a transitive clause, example (32) in an intransitive clause with an unmarked single argument.

(31) er kannee=r-toon taa-n taad Sh
2sg.SU north=LOC-from come-2sg when
jaama wee=gi bi nal-in
mosque IDF=OBJ FUT see-2sg
when you come from the north, you will see a mosque [as a landmark]

(32) adem dungur nal-mun Sh
person blind see-NEG.3sg
a blind person does not see / a blind person can't see

3.1.5 *Source-Based Visual Perception*

The verb *waandi* 'appear, become visible, come in sight' expresses source-based inchoative visual events, cf. (33) and (34), grammatically encoded in intransitive clauses with unmarked single arguments.

waandi—'come in sight' DL

(33) mufettiʃ waand-os-ko-n
inspector become_visible-ASP1-PER-3sg
the inspector has come in sight

waandi—'become visible' MJ

(34) essi shugur-ki-n kulu waandi-n
water recede-COND-3sg stone become_visible-3sg
if the water recedes the stone becomes visible

The moral of this proverb would be: Your weaknesses will soon become visible.

3.2 *Hearing and Smelling*

There is one verb, *gijir* 'perceive with ear' and 'perceive with nose', which semantically covers auditory activity, as in (35) and (36), auditory experience, as in (41), (42), (43), as well as olfactory experience, as in (44) and (45).

3.2.1 *Auditory Activity*

The imperative form in (35) attests that *gijir* is an activity-oriented verb. Similar to *nal, gijir* occurs in transitive clauses where the Experiencer is encoded as unmarked subject and the Phenomenon as marked object.

gijir—'listen to', 'take advice' DL

(35) andi=gi gijir
mine=OBJ hear/smell.IMP.2sg
1) listen to me!, 2) listen to my advice/opinion! / take my advice!

gijir—'listen' Sh

(36) tinn-aaw igid-i=gi iig-ki-n
his-grandmother story-pl=OBJ narrate-COND-3sg
tood gijir-in
boy hear/smell-3sg
when his grandmother narrates the stories, the boy listens

Gijir may also have the reading 'take advice', 'obey', as attested in (35) above and (37) below. That is, it extends into the semantic field of social behaviour.

gijir—'listen', 'obey' Sh

(37) ek=ki wee-ran=gi gijir
2sg=OBJ tell-PRES.3pl=OBJ hear/smell.IMP.2sg
1) listen to what they tell you!, 2) obey to what they tell you!

As for the question whether *gijir* also has the reading 'understand' as in (38) below, we would like to point out that 'understand' here expresses

hearing, i.e. physical auditory perception rather than cognitive perception. Therefore we agree with Armbruster (1965: 79) who explicitly notes that *gijir* does not render 'understand' as a cognitive process, "(giğir does not=understand)". Rather, cognitive understanding in the sense of 'grasp' is lexically expressed by *aar*, which is another polysemous verb with the basic meaning 'seize', as illustrated in (39). Dongolawi *aar* therefore presents another example of the close semantic association between prehension verbs like 'take' and 'grasp' and cognition which exists in many languages, e.g. German *be-greifen* 'be-grasp' (Vanhove 2008).

gijir—'listen', 'hear', 'understand' Sh

(38) ay ek=ki wee-ri=gi er
1sg.SU 2sg=OBJ tell-PRES.1sg=OBJ 2sg.SU
gijir-naa
hear/smell-2sg.Q
1) do you hear what I am telling you?, 2) do you understand what I am telling you?

aar—'seize', 'understand', 'grasp' Sh

(39) ay ek=ki wee-ri=gi er
1sg.SU 2sg=OBJ tell-PRES.1sg=OBJ 2sg.SU
aar-naa
seize-2sg.Q
do you grasp what I am telling you?

There is another semantically more restricted verb expressing auditory activity, *ulukkij* 'eavesdrop'. This verb is morphologically composed of three parts, *uluk-k-ij* The first part is *ulug* 'ear', the second part is difficult to identify. The final *-ij* is a derivational morpheme which marks verbs expressing intensive/repetitive (Armbruster 1960: § 2883) or distributive (Sokarno 1988: 117) events.

ulukkij—'eavesdrop' Sh

(40) ay ulukkij-ed teeb-kori tin baŋŋid=ki
1sg.SU eavesdrop-ASP2 stand-PER.1sg their talk=OBJ
addee-s-an bokkon
finish-PST-3pl till
I stayed eavesdropping till they finished their talk

3.2.2 *Auditory and Olfactory Experience*

When *gijir* expresses uncontrolled auditory and olfactory experience it takes two arguments, the Experiencer and Source/Phenomenon roles

being encoded as grammatical subject and object, respectively, as illustrated in (41) to (45).

gijir—'hear' M/Sh
(41) een his=ki gijir-os=gi war wide
woman noise=OBJ hear/smell-ASP1=OBJ jump turn
guuɲci-go-n
look-PER-3sg
upon hearing the noise the woman jerked round and looked back

gijir—'hear' Sh
(42) tood arabiyye=n harak=ki gijir-ko-n
boy car=GEN sound_of_motion=OBJ hear/smell-PER-3sg
the boy heard the sound of motion of a car

gijir—'hear' DL
(43) wel=n uukkid=ki gijir-kori
dog=GEN barking=OBJ hear/smell-PER.1sg
I heard the barking of the/a dog

gijir—'perceive a smell' Sh
(44) er in siyatti=gi gijir-naa
2sg.SU this bad_smell=OBJ hear/smell-2sg.Q
do you perceive this bad smell?

gijir—'notice a smell' DL
(45) jugiid=n iris=ki gijir-ri
burning=GEN smell=OBJ hear/smell-PRES.1sg
I notice a smell of burning

3.2.3 *Source-Based Auditory Perception*

Phenomenon-based or source-based hearing may be expressed by the passive form derived from the root *gijir*, as in (46.a) where the semantic Patient (*ten his*) is encoded as grammatical subject of an intransitive clause. However, there are other non-perception verbs that may be used to render the perception of a sound or noise coming from a source, as in (46.b) and (46.c).

gijir-katti-—'be heard' Sh
(46.a) Ahmed oddi-n ten his
<name> sick-3sg his voice
gijir-katti-mun
hear/smell-pass-NEG.3sg
Ahmed is sick. His voice cannot be heard.

(46.b) Ahmed oddi-n ten his bel-mun
<name> sick-3sg his voice come_out-NEG.3sg
Ahmed is sick. His voice cannot be heard. (lit. Ahmed is sick. His voice does not come out.)

(46.c) Ahmed oddi-n ten his dii-buu-n
<name> sick-PRES.3sg his voice die-STAT-3sg
Ahmed is sick. His voice cannot be heard. (lit. Ahmed is sick. His voice is dead.)

3.2.4 *Olfactory Activity*

The smelling activity 'smell', 'take a sniff at' is not expressed by *gijir* but by a different verb, *sunde* (variant: *sunne*), as illustrated in (47) and (48). A special lexical root, *sumsum* 'sniff', is used for olfactory activity of animals, as shown in (49) and (50). Except for (49), in all examples the Experiencer is encoded as subject and the Source/Phenomenon as object.

sunde—'smell, take a sniff at' DL
(47) in=gi sunde
this=OBJ smell.IMP.2sg
smell this!

sunde—'smell, take a sniff at' Sh
(48) een iris=ki sunde-nal-ko-n
woman parfume=OBJ smell-see-PER-3sg
the woman smelled the parfume (to find out whether she liked it or not)

sumsum—'sniff (at)' Sh
(49) wel sumsum-in gon daa-n
dog sniff-PRES.3sg while go-PRES.3sg
the dog is going around sniffing here and there (lit. the dog is sniffing while going)

sumsum—'sniff (at)' Sh
(50) wel kiid=ki sumsum-ko-n
dog bone=OBJ sniff-PER-3sg
the dog sniffed at the bone

3.2.5 *Phenomenon-Oriented Olfactory Perception*

Phenomenon-oriented olfactory perception may be rendered either by the periphrastic expression *iris=ki ko*, literally 'have a smell', 'emit a smell', as in (51) and (52), or by the evaluative verb, *numme* 'have a good smell', as in (53) and (54). Apparently, there is no corresponding verb with the reading 'have a bad smell'. Note that *iris* has a general reading 'smell' without specifying whether the smell is good or bad, as attested in (51) but in a more restricted sense *iris* means 'perfume', as in (53). According to Dimmendaal

and Schneider-Blum (this volume) such additional meanings are often expressed in languages in the area by adding ideophones to such verbs.

iris=ki ko—'have a smell' DL
(51) iris=ki koo-n
smell=OBJ have-3sg
he/she smells (lit. he/she has a smell [whether good or bad])

iris=ki ko—'have a smell' DL
(52) in kusu iris weer=ki koo-n
this meat smell IDF=OBJ have-3sg
this meat smells / this meat has a smell

numme—'have a good smell' Sh
(53) in iris=ki sokke misse numme
this perfume=OBJ take spray have_a_good_smell.IMP.2sg
take this perfume, spray it [on your body] to have a good smell!

numme—'have a good smell' Sh
(54) erkanekool=gi numme-gir-we
bridegroom=OBJ have_a_good_smell-CAUS-IMP.2pl
make the bridegroom smell good!

3.3 *Touch*

For controlled tactile activity there are three verbs, *tabbe*,[7] *jaabe*, and *tabtab*. The last one is semantically restricted as it expresses palpating in a medical examination or feeling around for something that one cannot see, as illustrated in (59) and (60).

tabbe—'touch' Sh
(55) een wel=gi tabbe-go-n
woman dog=OBJ touch-PER-3sg
the woman touched the dog

tabbe—'touch' Sh
(56) een kal=gi tabbe nal-ko-n
woman food=OBJ touch see-PER-3sg
the woman touched the food (to find out whether it is hot)

jaabe—'touch' Sh
(57) tokkon in=gi jaabe-men
NEG.IMP this=OBJ touch-NEG.IMP.2sg
don't touch this!

[7] Apart from 'touch', *tabbe* has the meaning 'dip in', 'make wet', 'moisten'.

jaabe—'touch' Sh

(58) er-on eski-gi-n imbel ogoode ju man
2sg.SU-EMPH can-COND-.3sg get_up stand go that
gur=ki jaabe
bull=OBJ touch.IMP.2sg
if you can/dare, get up, go and touch that bull!

tabtab—'feel around for' Sh

(59) ay doolaab=n jer=ked tabtab
1sg.SU cupboard=GEN back=ABL feel_around_for
nal-kori el-ko-mun
see-PER.1sg find-PER-NEG.1sg
I searched for it behind the cupboard, but I did not find it

tabtab—'feel around for' Sh

(60) doktoor bitaan=n ii=gi tabtab nal-os
doctor child=GEN arm=OBJ feel_around_for see-ASP1
asal=gi taa-we e-go-n
tomorrow=OBJ come-IMP.2pl say-PER-3sg
the doctor examined the child's arm and said come again tomorrow

Uncontrolled tactile experience is expressed by *hissee* 'feel', a loan word from Arabic, cf. (61) to (63). Note that *hissee* lexically covers two notions, feeling by direct contact, as in (61), and perceiving without direct contact. The latter is illustrated in (62) where the hen perceives/feels the imminent danger before the falcon has even touched and seized the hen. In (63), too, the heat of the iron is perceived/felt without even touching it.

hissee—'feel (direct contact)' Sh

(61) een kulu kinna-tod weer=ki tenn ossi=n
woman stone small-DIM IDF=OBJ her foot=GEN
togoo=r hissee-go-n
bottom=LOC feel-PER-3sg
the woman felt a small stone under her foot

hissee—'feel (without direct contact)', 'perceive' M/Sh

(62) dummade sirrij=ki hissee-ki-n tirti-nci
hen falcon=OBJ feel-COND-3sg master-pl
gijir-os-gi bood ju sirrij=ki tuur-ran
hear-ASP1-OBJ run go falcon=OBJ chase_away-PRES.3pl
when the hen feels/perceives the falcon and when the owners hear it [the hen] they go quickly to chase the falcon away

hissee = 'feel (without direct contact)', 'perceive' Sh

(63) ay in ʃaarti jugrii e-n-gi hissee-ri
1sg.SU this iron hot be-3sg-OBJ feel-PRES.1sg
I feel/perceive that this iron is hot (even before touching it)

Apparently Dongolawi does not have a specific verb expressing a tactile phenomenon, such as 'the cloth feels smooth', 'the body feels hot' (German *sich anfühlen*).

3.4 *Taste*

The verb *tance* expresses both gustatory activity and experience. As an activity verb, *tance* can be used in the imperative form as attested in (64). Gustatory activity is also illustrated in (65). Moreover, *tance* expressing gustatory experience is attested in (66) and (67). There is no specific verb expressing a phenomenon-based gustatory event, however.

tance—'taste' MJ

(64) in fuul in jen-di-n tance-we
this bean this year-PROPERTY=GEN taste-IMP.pl
these beans are of this year. Taste them. Lit. This bean is…

tance—'taste' Sh

(65) een kusu nib-buu-l=gi tance-nal-ko-n
woman meat roast-STAT-PART.PER=OBJ taste-see-PER-3sg
the woman tasted the roasted meat (e.g. to find out whether it was soft or hard).

tance—'taste' DL

(66) er marak=ki tance-go-naa
2sg.SU broth=OBJ taste-PER-2sg.Q
did you taste the broth?

tance—'taste' MJ

(67) surre-el kus-in juude-el
tie.a.garment-PART.PER open-3sg dissolve-PART.PER
tance-n
taste-3sg
who has tied a garment will open it, who has dissolved [something in a liquid] will taste it

The moral of this proverb would be that you are responsible for your actions.

4 Findings

This paper shows that the physical perception verbs discussed in this paper do not form a special subclass of verbs in the Dongolawi language. Their grammatical behaviour does not differ from agentive verbs. That is,

although activity- and experience-oriented perception verbs are not associated with proto-typical transitivity, the Experiencer role is encoded as unmarked nominative and the Phenomenon/Source role as marked accusative. This suggests that the subject position in Dongolawi may be associated with a variety of semantic roles, and that non-agentive roles are not necessarily expressed in non-subject position, contrary to languages like Beria (Saharan, Nilo-Saharan), were active alignment occurs. As shown by Jakobi (2007, 2010), Beria treats non-agentive subjects of verbs such as 'sleep', 'fall', 'grow' as syntactic objects, whereas agentive subjects of verbs such as, 'marry', 'run', 'climb' are treated as syntactic subjects.

Serial verb constructions are very frequent in Dongolawi. They may be composed of verbs belonging to different semantic fields, including perception verbs and bodily activity verbs. When the visual perception verb *nal* occurs in a serial verb construction it always takes the final position. In this context, the verbs preceding *nal* express events that appear to be necessary conditions for getting new insights. Thus, in this context, *nal* expresses cognitive activities such as checking, finding out, ascertaining, and thinking about. In other words, in Dongolawi gaining insight and knowledge is mainly dependent on sight, rather than on hearing as in the Australian languages studied by Evans and Wilkins (2000).

The 'intrafield' lexicalization patterns of the basic perception verbs are summarized in Table (8.2). There are three verbs, *nal, gijir*, and *tance*, each of which covers both active and experienced perception. Moreover, both experienced hearing and smelling are jointly lexicalized in one verb, *gijir*. According to Viberg (2001), this polysemous lexicalization pattern is also attested in several other languages in the world, like Russian, Persian and Yoruba.

Except for *gijir-katti-* which is the derived passive form of *gijir*, the other phenomenon-based verbs are not etymologically related to the activity- or experience-oriented perception verbs. The gaps in Table (8.3) are presumably due to the fact that there are no distinct verbs lexicalizing phenomenon-based touching and tasting events.

As for 'transfield' lexicalization, only the activity-oriented physical perception verbs *nal* and *gijir*, which rank high in the sense-modality hierarchy, semantically extend into the field of non-physical perception. The visual perception verb *nal* extends into two semantic fields, i) into the field of inquisitive cognition including events such as examining, checking, finding out, thinking about, and ii) into the field of social interaction as realized by greeting, meeting, visiting, guarding, protecting. The auditory

Table 8.3. Intrafield lexicalization patterns of basic perception verbs

Sense-modality	Activity-oriented	Experience-oriented	Phenomenon-oriented
sight	nal	nal	waandi
hearing	gijir	gijir	gijir-katti- (passive)
smell	sunde	gijir	iris=ki ko, numme
touch	tabbe, jaabe	hissee (< Ar.)	–
taste	tance	tance	–

Table 8.4. Verbs expressing cognitive and mental perception (all data from Armbruster)

aaminee (< Ar.)	believe in, trust
aar	understand, comprehend (< seize, grasp, catch)
baal ko (< Ar.)	pay attention, attend, take care, mind, heed, notice
hemmee (< Ar.)	be anxious, worried, concerned, troubled
iiw	forget
jerribee (< Ar.)	try
jille	remember, think, think about
kuur	learn
saddigee (< Ar.)	believe
uŋur	know, know how to, understand, recognize

verb *gijir* extends into the domain of social behaviour, too, as attested by the readings 'accept advice' or 'take advice' and 'obey'.

Neither *nal* nor *gijir* lexicalize cognitive events such as understanding, grasping, comprehending, knowing, remembering, thinking or learning. These events are rather rendered by distinct verbs that are obviously not etymologically related to *nal* and *gijir*, as attested in Table (8.4) (the list is probably not exhaustive). Note that several of these lexical items are borrowed from Arabic, thus showing the deep structural and conceptual influence of the latter on the Dongolawi language.

Finally, we notice that Dongolawi (a Nilo-Saharan language) shares a number of lexicalization patterns with Kambataa, a Cushitic language spoken in Ethiopia. According to Yvonne Treis (2010: 3279), "[t]here is no lexical differentiation of activities and experiences in the domain of vision and hearing [. . .]." If one compares Table (8.5) (which does not account for phenomenon-oriented perception verbs) with Table (8.3) above one realizes that 'see' and 'hear' share the same lexicalization patterns. It remains to be determined to what extent these patterns are more widespread in the area.

Table 8.5. Perception verbs in Kambaata (adapted to layout of Table 8.3)

Sense-modality	Activity	Experience
sight	SEE	SEE
hearing	HEAR	HEAR
smell	SMELL	SMELL
touch	SEE	HEAR-Pass
taste	SEE	HEAR-Pass

The comparison of Dongolawi perception verbs with those of the Ethiopian linguistic area (Treis 2010) reveals further shared lexicalization patterns. Similar to the serial verb constructions in which Dongolawi *nal* is combined with other perception verbs, in Kambaata (Cushitic) and Baskeet (Omotic), 'see' is attested in combination with verbs expressing active touching, tasting, feeling. However, in these languages the verbs preceding 'see' are marked as non-finite converbs and therefore differ from the unmarked serial verbs attested in Dongolawi.

Similar to Dongolawi *nal* which in serial verb constructions expresses cognitive activities such as 'check', 'find out', 'ascertain', Kambaata *xuud* 'see' heading converb constructions semantically extends to 'check', 'examine' and 'consider'. Treis (2010) therefore draws the conclusion that *xuud* "is often used to express that knowledge is acquired actively or that evidence is requested or looked for by a controlling agent". The semantic extension of 'see' to 'check' is also attested in Amharic and Sidama.

Furthermore, comparable to *numme* in Dongolawi, languages of the Ethiopian linguistic area are known to have a distinct evaluative olfactory verb expressing 'have a good smell'. However, the opposite evaluative verb expressing 'have a bad smell' is not attested in these languages (Treis 2010). This is also true for Dongolawi.

Although we do not know how widely these lexicalization patterns are geographically distributed, we would like to point out that they provide additional support for Dimmendaal's hypothesis of a former typological convergence zone stretching from Eritrea in the east to Tchad in the west. According to Dimmendaal (2007), in this zone, Nilo-Saharan languages (including Nubian) were in contact with genetically unrelated Afro-Asiatic languages of Ethiopia. Up to now this hypothesis has mainly been based on morphological and syntactic features. Shared lexicalization patterns may turn out to provide additional evidence for language contact in that area.

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CHAPTER NINE

EXCITE YOUR SENSES: GLANCES INTO THE FIELD OF PERCEPTION AND COGNITION IN TIMA[1]

Gertrud Schneider-Blum and Gerrit J. Dimmendaal

1 Introduction

Tima has approximately 6.000 speakers, most of whom live in the Nuba Mountains in Sudan in an area about 900 km south-west of the capital Khartoum. Further speakers live in a small community in Khartoum, whereas some Tima are scattered throughout the country and abroad.

1.1 *Language Situation*

Tima has been classified as a Kordofanian language by Greenberg (1963:149), and Schadeberg (1981), but recent comparative work has raised suspicion that the small language group consisting of Tima and the closely related languages Katla and Julud constitute "an independent, early offshoot of Niger-Congo, rather than being part of Kordofanian, with remnants of (presumably) archaic Niger-Congo features" (Dimmendaal 2009a:81). Tima is highly endangered, because Arabic, the official language in the country, is spreading rapidly as a lingua franca and as a primary means of communication in the Nuba Mountains, an area of approximately 80.000 km^2 (the size of Scotland) with more than 40 different languages. The vast majority of Tima people are bilingual in Tima and Sudanese Arabic; when they reach school-age, they acquire English as a third language, as this language is a popular means of instruction in the educational system in the area.

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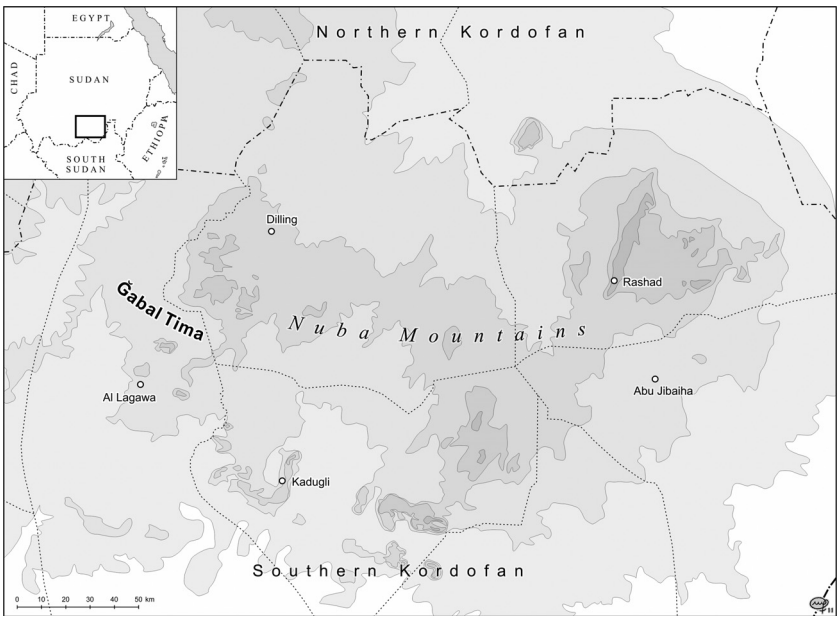

Map 9.1. Kordofan, Sudan

1.2 *Some Background Information on Tima Grammar*[2]

Tima is a tone language with two register tones (which may also be combined to create rising and falling tones) plus downstep and downdrift. There is contrastive lexical tone (e.g. *kódà* 'python', *kòdà* 'shoe' and *kòdá* 'tree sp.') as well as grammatical tone, e.g. with respect to tense-aspect marking in the language.

Tima has 21 consonants (plus the dental fricative /ð/, which is found only with some very old speakers; with younger speakers, the latter has shifted to and merged with the palatal glide /y/). It has 12 vowels which

[2] The Tima documentation project is funded by the Documentation of Endangered Languages (DoBeS) programme of the Volkswagen Foundation. In this programme, the preparation and archiving of documentation material is foregrounded. Our thanks go to all the people who helped us throughout this project, from the time of applying for support until now. Special thanks are due to the technical team of the Max-Planck-Institute for Psycholinguistics in Nijmegen (the Netherlands) for their technical support and advice with respect to the archiving of the data.

are divided into two groups: six [+ ATR][3] and six [-ATR] vowels that can be either short or long.

	+ATR			–ATR		
	front	central	back	front	central	back
high	i	ɨ	u	ɪ	ɘ	ʊ
mid	e		o	ɛ		ɔ
low		ʌ			a	

Tima has a classical vowel harmony system in that the root only contains vowels from one or the other harmony group. Affixes and clitics behave differently in that some harmonize with the root vowels, while others do not.

The noun shows remnants of a noun-class system with agreement on nominal modifiers, and consists of one or more prefixes (indicating location, instrument, or number) and a root, which can host a number of (optional) clitics. The agreement prefix of a nominal modifier reveals the difference between singular and plural (or singulative and collective) as determined by the head noun.

(1.a) kò-bɔ̀ŋ kɘ́-mál
sg-bracelet sg-good
nice bracelet

(1.b) ì-bɔ̀ŋ í-mál
pl-bracelet pl-good
nice bracelets

The most complex constituent in a Tima utterance is the verb. The root may be preceded by a negation marker, and by person and TAM markers, and followed by a number of different derivational markers, pronominal object and subject markers, and again a negation marker (the negation marker in fact being a discontinuous morpheme).[4]

For a better understanding of the examples in this contribution, it is necessary to explain the following morphological phenomena more thoroughly: transitivity, pluractionality, instrumental and antipassive marking. In addition, we will supply some information below on telicity as well as on the tense/aspect system, the constituent order and the lexicon.

[3] Advanced tongue root and retracted tongue root, abbreviated as [+ATR] and [-ATR] respectively, involve contrasting positions of the tongue root during the pronunciation of vowels.

[4] Cf. Alamin (2012, chapter 4.2).

1.2.1 *Transitivity*

Verbs in Tima are inherently transitive or intransitive, a feature following from the construction type in which they occur. In addition, however, a suffix *-i/-ɪ* or *-a* may be added, in order to express high as against low transitivity.[5] Whether a particular verb can be combined with either of these suffixal morphemes, or with neither of the two, is lexically conditioned.[6] Notice that high transitivity marking in Tima makes the formal expression of a direct object obligatory.

(2.a) *dí-ì
tie-HT
tie (it)

(2.b) dí-ì kw-ànáá
tie-HT sg-cow
tie the cow

In ex. (3), the high transitive morpheme assigns a causative meaning to the verb.

(3) dòw-í k-àtáwò ì-yì-ŋɛ́ɛ̀
stand-HT sg-book DIR-LOC2-mouth
put the book upright

However, transitivity is only overtly marked with a high transitivity suffix, if the action referred to is telic and if it includes a single object. If the object cannot be singled out or if the action is carried out regularly (at different occasions), the unmarked verb-form is chosen:

(4.a) cìlɛ́ŋ-ì c-ìn̪tì
rinse-HT sg-cloth
rinse the cloth

(4.b) cílɛ̀ŋ c-ìn̪tì / ìn̪tì
rinse sg-cloth / clothes
rinse the cloth several items / the clothes

For some verbs, the event structure is inherently bound to a repeated action or to more than one patient, and consequently high transitivity marking is prohibited here:[7]

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[5] The high transitivity marker *i/-ɪ* may also be realized as *-ɔ* and *-ɛ* as a result of phonological assimilation or fusion with preceding root-final vowels.

[6] Cf. Alamin (2012, chapter 4.5.1.1) for a discussion of high and low transitivity marking.

[7] The distribution coincides with some of the parameters mentioned by Hopper and Thompson (1980:252f), mainly involving individuation of the object, affectedness of the object and telicity (aspect).

(5) kíhɛ̀ŋ y-ê̂h *kìhéŋ-ì y-ê̂h
sort pl-sorghum sort-HT pl-sorghum
sort the sorghum (from dirt)

(6) árìŋ ìhì *àríŋ-ì ìhì
decant milk decant-HT milk
pour the milk to and fro (so that it cools down)

Verbs like 'drink', *mɔ́ɔ̀k*, never seem to take a high or low transitivity marker, whereas verbs like 'break' can be combined with both suffixes (Dimmendaal 2010: 207).

Determining the transitivity of an expression in Tima is not always straightforward, as we shall see below in the discussion of perception verbs. Nevertheless, we found that Hopper and Thompson's (1980) conceptualization of transitivity—especially their parameters involving aspect (telicity), punctuality, affectedness of the object and individuation of the object—can account well for the Tima situation. However, individuation of the action is the main parameter that governs transitivity marking in Tima.

1.2.2 *Pluractionality*[8]

Pluractionality is sometimes semantically inherent to the verb (as with 'sort' in ex. 5 above). In addition, Tima has several ways of marking pluractionality. Overt marking is achieved by root-internal alternations; depending on the verb, these may affect vowel quality (e.g. ex. 9) and/or vowel length (ex. 10), involve full or partial reduplication of the verbal root (examples 7 and 8, respectively) or suppletion. The pluractional form of the verb is chosen whenever one is dealing with a repeated or unlimited action.

(7.a) tɘ̀n-í c-ɔ̀ràŋ
break-HT sg-stick
break the stick

(7.b) tɤ́ntɘ̀n c-ɔ̀ràŋ
break:REDUP SG-stick
break the stick into pieces

(7.c) tɤ́ntɘ̀n ì-ɔ̀ráŋ
break:REDUP pl-stick
break the sticks (each once or into many pieces)

[8] See also Dimmendaal (2009b: 340) and Alamin (2012, chapter 4.5.1.2).

(8.a) bàrá-y-ì c-ìt̪ì
tear-EE-HT sg-cloth
tear (it once)

(8.b) bàráràˌ-àk
tear:REDUP-AP
tear several things once or one thing several times

(9.a) ròków-ì c-íˈbá-nÁ
pinch-HT sg-child-DEM
pinch the child (once with all fingers)

(9.b) rɔ́kɔ̀w (+ obj.)
pinch:PLURACT
pinch (several times with all fingers, either several people once or the same person several times)

(10.a) t̪ùn-í c-ìbí
plant-HT sg-tree
plant (it)

t̪úùn ìbí
plant:PLURACT trees
plant (several items)[9]

1.2.3 *Instrumental*[10]

Instrumental marking may be expressed by way of a derivational suffix on the verb or periphrastically by way of a clitic preceding the noun (expressing instrument as well as related semantic roles in Tima: the same marker is used for ergativity marking on A-roles, as shown in the section on constituent order.) The choice between the head-marking and the dependent-marking strategies in Tima depends on the pragmatic state of reference in the mind of the speech participants. The marker suffixed to the verb, *-aa*, refers to an action involving some kind of instrument, whereby the cognitive status of the latter is active (i.e., the current focus of consciousness), accessible (textually, situationally or inferentially available), or inactive, but involving the hearer's long-term memory in the terminology of Chafe (1987). Naming the instrument is not obligatory, as can be seen from the following two examples:

[9] Since it does not make sense to plant the same thing several times, this reading is excluded here. In other words, the exact meaning is further conditioned or determined by knowledge of the world.

[10] Cf. Alamin (2012, chapter 4.5.1.5.1).

(11) àn-tɔ́ɔ́-w-áá-ná
REC.PAST-pass-EE-INST-1SG:ERG
I passed by (with something or somebody)

(12) cɛ́n-dɔ́n-dɛ́ɛ́k-íŋ-àà-nà íídì
IMPERV-1SG:FUT-fetch-VENT-INST-1SG:ERG water
I will fetch water (with something)

Instrumental marking on the verb also covers the notion of accompaniment (as further discussed in section 4).

(13) Tùrúdà cèm-pɔ́lá-w-áá k-ɔ́ɔ̀ Àbíír ɔ́l-ɔ́ɔ̀
<name> IMPERV-want-EE-INST SG-walking <name> LOC-family
Trudel wants to go home with Abeer

The use of a prepositional phrase with an instrumental noun (or noun phrase) on the other hand involves a discourse situation whereby the cognitive status of the instrument is not active. The instrumental marker on nouns is a proclitic marker *N-*, i.e. a homorganic nasal:

(14) kì-címbʌ́rí án-tɔ̀n-àà̰táŋ pɛ́ɛ̀lâŋ ŋ̀-k-ʌ́wùh
SG-child REC.PAST-break-INST:COMPL window INST-SG-stone
the child broke the window with a stone

As already shown in some of the examples presented above, several derivational markers may also be combined. Consider the following example in this respect:

(15) dòw-á-y-ìk-íŋ-àá
stand-LOW.TR-EE-CAUS-VENT-INST
let him/her/it come down (towards the speaker by using something, e.g. a rope)

1.2.4 *Antipassive*

The antipassive is, by definition, a verb voice whose use results in deletion or demoting of the object of a primarily transitive verb. Consider the Tima expressions below, one with a transitive verb and one with the same verb marked by the antipassive marker -(*V*)*k* (with *V* being an underspecified vowel):[11]

[11] Cf. Abeer Bashir (2010, chapter 4.1).

(16) ʌ́ˡbú y-ə̂h t̪ìmìt̪ìmìk
plant pl-sorghum densely
plant the sorghum densely

ʌ́bù-y-ùk
plant-EE-AP
plant (sth.)

However, the situation is more complicated in that one may find the antipassive marker in Tima on a verb with an object following the derived verb:

(18) bʌ́rh̀ c-ìt̪ì
wash sg-cloth
wash the cloth

(19) bʌ́rh-ʌ̀k
wash-AP
wash (it)

(20) bʌ́rh-ʌ̀k ì-dʌ̀wún
wash-AP pl-hand
wash your hands (lit. wash the hands for your own benefit)

In (20), the antipassive marker refers to an action executed for one's own benefit, i.e. the marker's range touches the field of middle voice. By contrast, if a person is supposed to wash the hands of somebody else, the antipassive marker would be ungrammatical:

(21) bʌ́rh̀ ì-dʌ̀wún
wash pl-hand
wash (his/her/their) hands

Overt antipassive and high transitivity marking are (usually) mutually exclusive. The only exception we found in the data concerns a transitive action carried out for one's own benefit:

(22) t̪ìh-í-y-àk
pull-HT-EE-AP
take it off (for yourself; here: a piece of cloth)

1.2.5 *Telicity*

Another important topic prerequisite for a proper understanding of the argument structure and semantics of perception verbs in Tima is telicity.

It not only plays a role in connection with high transitivity marking (as mentioned above), we also find a marker in Tima that converts an atelic action into a telic one. This marker is *-aṯaŋ*, a suffix occurring in combination with many perception verbs. Consider first:

(23) mɔ́ɔ̀k 'drink' vs. mɔ́ɔ́k-àṯàŋ 'drink up'

Consider also the following example:

(24.a) wɔ́rˡṯɵ́máádɵ̀h àŋ-kídìk
man PAST-fall
the man fell

vs.

(24.b) wɔ́rˡṯɵ́máádɵ̀h àŋ-kídík-áṯáŋ ì-náhì
man PAST-fall-COMPL PREP-ground
the man fell on the ground

Whereas *wɔ́rˡṯɵ́máádɵ̀h àŋkídìk*[12] implies that the speaker was present, when the man fell, in *wɔ́rˡṯɵ́máádɵ̀h àŋkídíkáṯáŋ ìnáhì* the speaker found the man had fallen when (s)he came across the person in question. In (25) vs. (26), the difference lies in the completion of the action. Both actions were executed in the past, but whereas *pínì cètáɽòwàk* '(s)he was cleaning' implies that there is more cleaning to be done, in *pínì cètàɽòwàkàṯáŋ* '(s)he was cleaning up' it is clear that the cleaning of the field has been completed.[13]

(25) pínì cè-táɽò-w-àk
PRO3SG IMPERV:PAST-clean-EE-AP
(s)he was cleaning a/the field

[12] Note that the verb is not marked for the imperfective (as in ex. 25). If this were the case, the speaker would want to refer to some event that happened during the time the man was falling.

[13] Hopper and Thompson (1980) explain the situation in their paragraph on aspect as follows: "ASPECT: An action viewed from its endpoint, i.e. a telic action, is more effectively transferred to a patient than one not provided with such an endpoint. In the telic sentence *I ate it up*, the activity is viewed as completed, and the transferral is carried out in its entirety; but in the atelic *I am eating it*, the transferral is only partially carried out." (1980: 252)

(26) pɨ́nʌ̀ cɛ̀-táɽò-w-àk-àt̪áŋ
PRO3SG IMPERV.PAST-clean-EE-AP-COMPL
(s)he was cleaning up the field

In Tima (as well as in English) a partially executed action is implied in the use of the imperfective marking (here: past imperfective). The imperfective aspect assigns atelicity to the action. By contrast, the completive marker *-at̪aŋ*, is associated with telicity and shows that the action was going to be completed.

1.2.6 *Tense/Aspect*

In Tima, two perfect paradigms are differentiated morphologically from each other. One denotes a recent perfect (glossed as REC.PAST), the other one a remote perfect (glossed as PAST). Tima also has an imperfective, which may refer to actions in progress or habitual actions, respectively. In addition, two future paradigms (near and distant future)[14] can be differentiated from a potential aspect. All tense/aspect markers precede the verbal root. The simplest form of the verb, the root, is a form without either person or tense/aspect marking. It may, for example, occur whenever a phrase or constituent other than the verb is in focus and when the verb consequently is in post-focal position (see also Dimmendaal 2009b:339).

(27) kɔ́rˡt̪ómáádɘ́h-ɘ́-ˡná[15] ìsháhì-y-è mɔ́ɔ̀k ŋ̀-kù-t̪úk
man-EE-DEM tea-EE-FOC drink INST-sg-porridge
this man is consuming *tea* together with bread

1.2.7 *Constituent Order*

The constituent order of Tima tends to be SV/AVO for clauses uttered in isolation, but because of focus and topic marking the order can be OVA, VAO, or VOA for a transitive clause. As pointed out in the first sketch of Tima (Dimmendaal 2009b), the language shows signs of split ergativity. The object (taking on the role of patient in semantic terms), which is morphologically marked for focus, precedes the verb, whereas the agent follows and is prefixed by *N-* (a homorganic nasal). If the agent is pronominal, it is marked by a special pronominal clitic on the verb (1st, 2nd singular and plural) or an ergative pronoun (3rd singular and plural) consisting

[14] Cf. Suzan Alamin (2012, chapter 4.4.1.1).
[15] *wɔ́rˡt̪ómáadɘ̀h* and *kɔ́rˡt̪ómáádɘ̀h* 'man' are variants from each other.

of the homorganic nasal fused with the independent pronoun. Consider the three sets of pronominals (cf. also Dimmendaal 2009b:338):

Table 9.1. Tima pronominal forms

	Independent Pronoun	Verbal Pronominal Enclitic	Ergative Pron. Enclitic / Ergative Pronoun
1SG	kɨ́ˡdʌ́	-dʌ / -da / -dɔ / -dɔ	-nʌ / -na / -no / -nɔ
2SG	ŋààŋ	-ŋaŋ	-ŋaŋ
3SG	pɨ́nʌ̀	-Ø	mɨ́nʌ̀
1PL:INCL	ìnɛ̀ɛ̀y	-nɛy	-nɛy
1PL:EXCL	ìnììn	-nin	-nin
2PL	ìnààn	-naan	-naan
3PL	ìhìnʌ́	-Ø	ɲìhìnʌ́

(28) y-ábòh-è ŋ̀-kɨ́mʌ́n-nʌ́
pl-meat-FOC PM-be_satisfied-1sg:ERG
I am satisfied *by the meat* / *the meat* satisfied me

(29) ŋààŋ-á húm-áá-yáŋ-nʌ́ c-ídʌ̀
2sg-FOC depend-INST-2SG:LOC-1sg:ERG sg-body
I depend *on you*

Furthermore, the ergative pronominals occur when the verb itself is focused (see also ex. 12) in the section on the instrumental marker; cf. Dimmendaal (2009b: 345):

(30) cèŋ-kúmún-nʌ́ ɲ-ìí lɛ́ɛ́ní
IMPERV-find-1sg:ERG INST-eyes 1sg:POSS
I've *seen* it with my own eyes

(31) kí-hì-y-àà-nʌ̂ŋ
NEG-know-EE-INST-1sg:ERG:NEG
I *don't know*

(32) cé-dàh-íí-ˡdá mɨˡnʌ̀ dʌ̀ŋdèè…
3IMPERV-say-BEN-1sg PRO3sg:ERG like
(s)he *said* to me…

(33) ú-ˡkúmùn ɲìhìnʌ́
3PAST-find PRO3pl:ERG
they *did see* (it)

In sum, ergative marking occurs when the unmarked constituent order (SV/AVO) is altered to focus either on the object or on the verb (plus an object which is understood from the context).

1.2.8 *The Tima Lexicon*

The Tima language has a rich inflectional and derivational morphology which allows one to differentiate several word-classes such as nouns, adjectives, and verbs (with several sub-groups), to name but the most prominent ones. As outlined elsewhere (Schneider-Blum, in press), the Tima lexicon—organized by roots—so far appears to comprise a relatively small number of roots. One of the reasons is that many lexemes are polysemous due to the frequent use of metaphorical extensions; polysemous words can be disambiguated with the help of ideophones,[16] which are mostly lexically bound to a particular word of one of the major word-classes, and therefore not listed as independent roots. Consider e.g. *cìŋí* with the meanings 'fire' and 'gun', respectively. To disambiguate the two meanings of the word, one attaches the ideophonic words *pìr* or *tùm*, hence *cìŋí pìr* for 'fire' and *cìŋí tùm* for 'gun'. Lexically bound ideophones are not confined to nouns, but may specify adjectives and verbs too, e.g. *àttún kùlùmkùlùm* '(beautifully) dark' vs. *àttún hɔ̀rhɔ̀r* 'dark (with the connotation of being dirty)'.

After having presented some background information on the language and grammatical issues prerequisite to a proper understanding of the examples in the discussion on perception and cognition below, we will now focus on the domain of perception.

2 Perception

The term perception is a rather vague and cloudy expression potentially referring to quite diverse concepts. When asking a theologian for a definition, the answer will probably be different from a psychologist's or biologist's conceptualization. For some, the term refers to a complex cognitive process, for others to physical absorption and processing only. While leaving the question 'What is perception?' open, and while abstaining from an absolute and universal definition, we will start with what is generally agreed upon as being part of our perception system: sense perception. In the strict sense we confine perception here to the (volitional or

[16] The Tima bound ideophones discussed in the following are only glossed as IDEO, because it would be wrong to assign an individual meaning to each. The expressions should be treated as constructions or phrasal compounds consisting of a free word with a broad meaning and a bound word that specifies the meaning, but has no semantic value by itself.

Table 9.2. Five senses in Tima

Sense Modality	Basic Lexeme	Verbal Root[17]	English Equivalent
vision	kə̀ŋàhéɛ́l	-ŋah-	seeing, watching, looking
audition	kìmìntéél	-mɨnt-	listening, hearing
olfaction	kìŋʌ́ʌ́l	-ŋʌl-	smelling
	kùdùùhéél	-duh-	smelling at, sniffing at
gustation	kìlɛ̀ɛ̀míl	-lɛm-	tasting
tactition	kə̀dàál	-da-	touching

non-volitional) physical (and hence measurable) excitement of our sense organs by an outer input (i.e., the stimulus originating from outside the body and activating the sensory receptors).[17]

In the Tima lexicon, we can differentiate between verbal concepts that refer to the following sense modalities: vision (seeing with eyes), audition (hearing with ears), olfaction (smelling with the nose), gustation (tasting with the tongue), and tactition (touching with the hands). In Table (9.2), these five senses are listed together with their Tima equivalents: the verbal nouns (as the citation form) in the second column, and the (bound) verb roots in the third column.

Viberg's (1984: 123f) dynamic system—determined by field-independent components—is divided into activities (i.e. consciously controlled unbounded processes), experiences (i.e. uncontrolled states or inchoative achievements, or, using Himmelmann's (2010: 4) terminology, "spontaneous / not consciously directed perceptions") and copulative static expressions. The former two are experiencer-based, whereas the latter is source-based. The following examples (ex. (34)–ex. (45)) show, where available, the corresponding Tima verbs, starting with the controlled (active) experience (ex. (34)–ex. (38)):

Vision:

(34) ká-á-ŋàh-àk àlàkɔ́ɔ́-w-ɔ́ŋ
NEG-2SG-see-AP back-EE-NEG
don't look back!

[17] The simplest form of the verb sometimes is the imperative in the singular, consisting of the root only, i.e. *ŋâh* 'watch'. However, this is not always the case, since often one of the derivational markers needs to be added to yield the imperative, e.g. *mínt-ʌ̀k* (root + antipassive marker) 'listen' or *ŋʌ̀l-í* (root + transitive marker) 'smell'.

Audition:

(35) mɨ́nt-ʌ̀k-ʈɛ̀ɛ́n! or mɨ́nt-ʌ̀k-áá-dà
hear-AP-LOC:1SG hear-AP-INST-1SG
listen to me!

Contrary to the verbs for 'see' and 'hear', verbs expressing the following sensory experiences can in fact take, and in fact frequently do occur in combination with, the high transitivity marker.

Olfaction:

(36) k-úù án-dùh-ì k-ûh
SG-dog REC.PAST-sniff-HT SG-bone
the dog sniffed at the bone

Gustation:

(37) lèm-í ì-ʈúk
taste-HT PL-porridge
taste the porridge (before you serve it)!

Tactition:

(38) cíbà án-dày-ì k-àn hòwàn kò-dòʔál[18]
child REC.PAST-touch-HT SG-thing empty MOD.SG-hot
the child touched the hot iron

The same words are attested in situations illustrating a less controlled (passive) experience:

(39) cùk-wʌ̀ ŋáh-ˈdá wórˈʈɔ́máadɔ̀h
IDEO-FOC see-1SG man
I *only* saw the man from the corner of my eye

(40) ɨ́-mínˈt-ʌ́k-ááˈ-dá lèlmól k-áhŋá
PAST-hear-AP-INST-1SG noise SG-night
I heard some noise last night

(41) á-ŋʌ̀l-ì-ŋàŋ bùŋùl(-nʌ́) ɔ̀-k-áŋál-nă
REC.PAST-smell-HT-2SG stench(-DEM) PREP-SG-sheep-DEM

ɨ́-míŋáwá-áʈáŋ-nà?
PL-bloated-COMPL-DEM
did you smell the stench of the bloated sheep?

---

[18] The noun *kàn* (PL: *yàn*) is a bound noun occurring in compounds such as *kàn hòwàn* 'iron'.—To assign an active, controlled reading of 'touching' to ex. 38) does not, of course, mean that the child knew what he/she was doing. It just means that the child was moving deliberately.

(42) cé-lèm-ì-yàŋ-ɔ́-dà yɛ̀mpɛ̀rɛ́ ì-yìmbìrîŋ
IMPERV-taste-HT-3sg.OBJ-EE-1sg medicine PREP-coffee
I taste spices in the coffee

There is no passive uncontrolled reading for 'touching, feeling'.

We find the same verbs in copulative expressions, which are source-based; the experiencer is either not expressed at all, or occurs in non-subject position. These verbs express a state rather than a process. This is reflected in the Tima sentence structure: The experienced entity is in subject position followed by an adjective marked for stative singular or plural. (The plural morpheme *i-/ɪ-* is not restricted to stative marking, but indicates plurality in different contexts. Only by analogy with the singular form, we can conclude that we are dealing with the stative here.) The predicative adjective is followed by a secondary predication in this construction type.

(43) kì-hí à-mál ŋáh-àk
sg-place STAT-good see-AP
the place looks nice

(44) kòɽònéɛ́l à-mál mínt-ʌ̀k-îŋ
singing STAT-good listen-AP-VENT
the singing sounds good (to the speaker who is at a certain distance from the source)

(45) ì-dɔ̀lɛ́ ì-hhín ŋʌ́ʌ̀l
pl-flower pl-very.sweet smell:PLURACT
the flowers smell extremely nice

There is no corresponding copulative expression with 'tasting' and 'touching, feeling'.

The words for 'seeing' and 'listening' may also cover the notions of 'being visible' and 'being audible', respectively. Here the experience is source-based (as it is the copulative expression), but the verb is marked for potential, whereas the Patient role is expressed as a subject.

(46) yɨ́ɨ̀ɽì cé-ŋàh-àk-î? kɔ́-ŋáh-àk-îŋ
Yɨɨɽi IMPERV-see-AP-VENT.QU POT-see-AP-VENT
is Yɨɨɽi (i.e. a mountain) visible? it is visible (to the speaker(s))

(47) n̪-àmáá ná-mìnt-ʌ̀k-àà? n̪-àmáá kɨ̀-mínt-ʌ̀k-îŋ
sg-talk 2pl-listen-AP-INST sg-talk POT-listen-AP-VENT
do you (pl.) hear the talk? the talk is audible (to the speaker(s))

The lexeme *kɔ̀ŋàhéél* 'seeing' covers also the notion of 'noticing, thinking, conjecture' (in ex. (48), i.e. it is essentially semantically general over several readings:

(48) ɔ́-ŋáh-ɔ́-ná c-ídá k-ɔ̀ɔ́-lí-yɛ̀ ó-tɔ̀ɔ̀
PAST-see-EE-1SG.ERG sg-body sg-family-FOC-REP PAST-pass
I noticed / thought / saw) that someone moved past (not sure)

Again, only by adding an ideophone the meaning becomes more specific, i.e. is confined to a certain reading. Ideophones thus are used to restrict the potential range of meanings. For example, to specifically point out the notion of not having seen something properly, the ideophone *cùk* is attached (see ex. (39)). The co-occurrence of the verb *kɔ̀ŋàhéél* with another ideophone renders the notion of 'watching to and fro, watching around':

(49) kò-dáádí cɛ̀-ŋáh-ák pɔ̀ŋkɔ̀lpɔ̀ŋkɔ̀l
sg-thief IMPERV:PAST-see-AP IDEO
the thief looked around (repeatedly)

Similarly, the lexeme *kɨ̀mɨ̀ntéél* is semantically general over 'hearing, listening, sounding' and 'overhearing' or 'eavesdropping'. To specify the latter meaning, the verb needs to be modified by the ideophone *hòdàhòdàk* (ex. (50) and (51)).

(50) ɨ́-mínˈt-ʌ́k-áa̱ta̱ŋ-ɔ́-dà a̱-àmáá-nă
PAST-listen-AP-INST:COMPL-EE-1SG sg-talk-DEM

á-y-ìhìnʌ́ hòdàhòdàk
SOURCE-EE-PRO3PL IDEO
I overheard this conversation between them (other people)

(51) ŋáh kì-dɛ́k, áyír-ʌ̀k tɪ̀ʔɪ̀ŋ, ìhwáá-nă
see sg-neck speak-AP little people-DEM

à-mínt-ʌ̀k-àá-yɛ̆y y-àmáá hòdàhòdàk
REC.PAST-listen-AP-INST-LOC:1PL.INC pl-talk IDEO
watch out / be careful, speak in a low voice, these people eavesdropped on us before

The data discussed above are summarized in Table (9.3).

Table 9.3. Tima perception verbs and Viberg's (1984) dynamic states

Sense Modality	Tima Verb	English Equivalent	Experiencer Based*		Source Based**	
			Active	Passive	Copulative	Potential (-able)
vision	kə̀ŋàhéél	seeing, watching, looking, noticing	x	x	x	x
audition	kìmìntéél	listening, hearing, sounding, eavesdropping, overhearing	x	x	x	x
olfaction	kìŋʌ̀ʌ́l	smelling				–
	kùdùùhéél	smelling at, sniffing	x	x	x	
gustation	kìlɛ̀ɛ̀míl	tasting, trying (food)	x	x	–	–
tactition	kə̀dàál	touching, (active) feeling	x	–	–	–

* agent / experiencer in subject position; ** source (= stimulus) in subject position

Some additional properties need to be pointed out with regard to the olfactory sense. There are actually two verbs in Tima that can be translated as 'smelling at' vs. 'smelling':

kùdùùhéél 'smelling at sth. in front of you, sniffing at sth.' (ex. (36))
kìŋʌ̀ʌ́l 'smelling the odour / the scent of something in the air' (ex. (52))

(52) k-úù á-ŋʌ̀l-ì k-ûh
sg-dog REC.PAST-smell-HT sg-bone
the dog smelled the bone (hidden somewhere in the grass)

With regard to *kìlɛ̀ɛ̀míl* 'tasting (trying food)', the most crucial issues have already been discussed. The verb may occur in active as well as passive experiencer-based sentences, with the experiencer in agent or subject position, respectively (depending on whether the object is mentioned or not). It may also occur in copulative expressions with the stimulus in subject position.

The verb *kɔ̀dàál* covers the meaning of active touching or feeling only.[19] In order to convey additional notions, alternative lexical strategies are required. The most common one is to use the stative marker in combination with an adjective (which results in a non-verbal predicate):

(53) k-úúr à-ṯ̪ʌ̀ŋɨ̀rṯ̪ʌ̀ŋír
sg-bark STAT-rough
the bark is / feels rough

(54) cídʌ́ ˡléɛ́ní à-ṯ̪ʌ̀ŋɨ̀rṯ̪ʌ̀ŋír
sg-body 1sg:POSS STAT-rough
my skin (lit.: body) is / feels rough

Notice, however, that the above translation with 'feel' may be misleading: the stative marks a fact or state rather than an experience.

If one wants to feel the temperature of an item, one can 'touch' the item and 'find out' its temperature.

(55) ɔ́n-dà-y-í-dà k-wɛ̀ɛ́ŋ úŋ-ˡkúmún-nʌ́
PAST-touch-EE-HT-1sg sg-bowl 1sg:PAST-find-1sg.ERG
ká-à-dɔ̀ʔàl-âŋ
NEG-STAT-hot-NEG
I touched the bowl to find out whether it (here: the soup) is not hot

To express a feeling of hunger, thirst, heat, and so on, the stative marker *a-* again can be used:

(56) kɨˡdʌ́ à-dɔ̀ʔál
PRO1sg STAT-hot
I am / feel hot

[19] Some remarks on the sense modalities mentioned so far seem in order. Restricting the discussion to five senses, as done up to this point, is a somewhat outdated procedure. Contemporary insights into the world of perception (and cognition) suggest that there are more senses than the afore-mentioned: Thus, we have our own sense for preserving the equilibrium, for proprioception (i.e. the feeling for our body), and also we have our own sense for pain (nociception). Nociception (like other sense modalities) may intertwine with other senses. But it should be stressed that pain is not exclusively 'felt' by touching or being touched; rather, feeling pain is a distinct phenomenon with its own receptors. Similarly, temperature is captured by special receptors (cold vs. hot). This sense is called thermoception. The brain itself has special regions for each of these senses. Consequently, from a neuroscientific point of view it makes perfect "sense" if the Tima people do not 'feel' pain by using the word *kɔ̀dàál* 'touching'. The experiencer of pain does not play an active role; instead, he rather finds himself in the role of a victim to whom something is done. We therefore decided to use the term 'tactition' rather than the more common 'haptic perception' (which is associated with processing the input and hence with feeling) so that the confinement of *kɔ̀dàál* to active touching is reflected in its terminology.

(57) à-ṯə̀làwó-dà[20] or kídà à-ṯə̀làwù
STAT-hunger-1SG PRO1SG STAT-hunger
I am / feel hungry

However, if the feeling is more intense, or if it becomes painful, the actual source of the pain also becomes active. It 'catches' you, 'takes' you or 'eats' you:

(58) cíìn ó-kòd-ì-y-àk-àṯàŋ-ɔ́-dà
cold PAST-catch-HT-EE-AP-COMPL-EE-1SG
I feel cold (lit. the cold caught me)

(59) mìlɛ́ɛ́, k-ʌ́wùh ò-kɔ́ṯɛ̀ɛ́n yàdíí
wait:HT SG-stone PAST-took:LOC:1SG LOC2:leg
wait, I have/feel a stone under my foot (lit. wait, a stone took at me at the leg)

(60) ṯə̀-làwò í-↓kʌ́lùk kì-cím↓bʌ́rí
SG-hunger PAST-eat SG-child
the child was very hungry (lit. hunger ate the child)

We find similar constructions in other domains of the language, and in all of them a lack of control or a non-volitional act appears to be the key factor, for example when somebody slipped and said: *kààn ánṯìhíídà*; lit.: 'the stone pulled for me'. After heavy rains, a man drowned in a seasonal stream in the Tima area, which lead somebody to remark: *àŋkótɔ́ɽákáṯáŋ ɲɪ̀ídì*; lit.: 'the water took him along'. The bottom line is that if we do not master a situation any longer, we are no longer agents; the linguistic reflex of this state of affairs grammatically is the expression of the experiencer in non-subject position.

Having discussed the verbs of olfaction, gustation and tactition, we are left with the verbs for vision, *kə̀ŋàhɛ́ɛ́l* 'seeing', and audition, *kìmɪ̀ntɛ́ɛ́l* 'hearing', and consequently we now enter the field of cognition.

3 Perception and Cognition

The meaning of *kə̀ŋàhɛ́ɛ́l* is not restricted to a more punctual active or passive 'seeing'. Instead, the word may also confer the more durative meaning or reading of 'watching' in the sense of 'intensively looking at something, e.g. watching TV, as well as the meaning of 'watching, herding'.

[20] The expression is similar to the (archaic) German 'es hungert mich (*lit.*: it hungers me)'.

(61) áyíˡwééŋ ì-hɔ̀làk-àà-nín l-ántə̱ hùrù,
when pl-stay-INST-1pl.EXC LOC-inside forest

ɔ́-ˡŋáh-ɔ̀-nìn ì-hɔ́ɔ́k
PAST-see-EE-1pl.EXC pl-bird
when we were in the forest, we were watching the birds

(62) kɔ̀-háàl cé-ˡŋáh í-mìì, áɲ-áɲàl, áɲ-áná
sg-herding.boy IMPERV-see pl-goat CONJ.pl-sheep CONJ.pl-cow
a/the herding boy watches (the) goats, (the) sheep and (the) cattle

Consider also:

'watching children'—kɔ̀ŋàhɔ̀l ííbá
'watching the house'—kɔ̀ŋàhɔ́l úkùrtú

The actual meaning of 'seeing' is extended into a more abstract 'tending, caring for something, looking after'. Compare also the following two examples (ex. (63)–ex. (64)) with the translated possible readings and implications:

(63) ŋáh-àk-àtə̱áŋ
see-AP-COMPL
watch out / pay attention / take care

The sentence above was uttered when somebody's child did not pay attention to a coming car. It can be uttered only when the person is actually able to see, contrary to the next example, which may be used even when addressing a blind person (see also ex. 51).

(64) ŋáh kì-dɛ́k
see sg-neck
take care (lit. watch the neck)

Whereas the action in ex. (63) is still bound to perceptual seeing, and hence bridging the gap between perception and cognition, the action in ex. (64) is transferred to a more cognitive level, with the perceptional seeing being neglected.

With the following three examples, we move yet further away from the perceptual 'seeing' to a more cognitive 'assuming / having the impression / considering'.

(65) c-íbóónìn à-lá-y-í ín̪tán ˡk-ábóh
sg-girl REC.PAST-PREPARE.sauce-EE-HT sauce sg-meat

ì-mmál; cɛ́-ŋáh-ɔ́-ná à-kɛ̀lɛ́ŋ-ì-yɛ̀
pl-very.good IMPERV-see-EE-1SG.ERG STAT-skilled-EE-REP
cɛ̀ŋ-kóyɔ̀-ɔ̀k
IMPERV-prepare.food-AP
the girl prepared a very good meat sauce; I have the impression (lit. I see) that she can cook well / I consider her (to be) a good cook

(66) cɛ́-ŋáh-ɔ́-ná ì-dʌ̀wún ì-dí-háwɔ̀k-ì-yɛ̀
IMPERV-see-EE-1SG.ERG pl-hand pl-FUT-plenty-EE-REP

ì-hɔ̀làk-àá
pl-stay-INST
I consider (lit. I see) staying longer (not sure)

(67) c-íbóóˡnín-nʌ̌ cɛ́-ŋâh kì-dék cɛ́-yɛ̀
sg-girl-DEM IMPERV-see sg-neck IMPERV-REP

ŋ́-kɔ́-màl-ŋùŋ
INST-MOD.sg-beautiful-3sg:LOG
this girl considers (lit.: sees) herself to be beautiful (but in fact she is not)

The findings for the domain of vision in Tima so far are as follows: There is a lexeme for 'seeing / looking / watching', *kɔ̀ŋàhɛ́ɛ́l*, which also covers some more abstract notions like 'tending, caring', 'having the impression' and 'considering'. It is also possible to express 'being visible' with this verb.

The word *kɨ̀mɨ̀ntɛ́ɛ́l* covers notions such as 'listening / hearing / sounding', if we use English as the metalanguage; (see ex. (35), (40), and (44)). Its meaning may—not quite unexpectedly—extend beyond pure perception. Consider the following two sentences:

(68) k-úù à-mínt-ʌ̀k-àà̪tán̪ ṯ-àmáá
sg-dog REC.PAST-listen-AP-INST:COMPL sg-talk

á-kɔ̀-háàl
SOURCE- SG-herding.boy
the dog obeyed / followed (lit. heard / listened to) the command of the shepherd

(69) kí-mɨ̀nt-ʌ̀k-áá-dà ṯ-àmáá láán̪í mʌ̀dʌ̀k-ân̪
NEG-listen-AP-INST-1SG sg-talk 2sg:POSS again-NEG
I don't heed your advice (lit.: listen to your talk) any more

Norcliffe (2010) discusses the metonymic constraint concerning 'hearing' in Guambiano. "Perception event descriptions in Guambiano don't readily

accommodate metonymic extension from signals to sources. That is, the entity producing the signal, cannot stand in for the signal itself (which is the true direct object of the perception event)." (Norcliffe 2010: 16) Moreover, in Tima one cannot say 'listen to your father'; instead, one needs to phrase such a command as 'listen to the words of your father', i.e. one needs to mention the object of hearing, like the talk (in ex. (68) and (69)), the noise (in ex. (40)), etc. What is peculiar or remarkable with all sentences involving *kɨmɨntéél* 'hearing' is the use of the antipassive marker (as is also reflected in the verbal noun, which morpho-phonologically also contains the antipassive marker: < *kɨ-mɨnt-ʌ́k-íl*); it seems to be petrified/lexicalised with this verb. Once marked for the antipassive, mentioning of an object is not readily possible; only if the instrumental derivational extension is added to the verb, it allows for the "incorporation" as a core constituent of an otherwise peripheral syntactic argument.

The basic meaning 'listening, hearing' of *kɨmɨntéél* extends to the notions of 'obeying, complying with' or to 'heeding', respectively (and with the latter meaning it may also be used with people who are not able to hear, i.e. with respect to deaf people). The diachronic link (in terms of semantic extensions or networks) here is that the perception results in some responsive action. The question arises, of course, how the notions of 'understanding', 'knowing', 'thinking' and 'remembering' are expressed. First of all, there is the verb of cognition *kɨdɨndɨŋíl* 'thinking'. It is basically intransitive, but by adding the instrumental a peripheral role may be "raised" to object position, i.e. be incorporated into the argument structure of the verb (as pointed out above).

(70) ín-díndíŋ-áá-ˡdá k-ʌ́hù c-íbʌ́-ˡnʌ́
1sg:PAST-think-INST-1sg sg-name sg-child-DEM
I thought about the child's name

Another relevant verb is *kùmùnúúl* 'finding'. Contrary to the verbs 'see' and 'hear', where we have an extension from perception to cognition, 'finding' originates outside this domain, namely in the concrete physical universe, and—from there—it enters the field of cognition. Consider the following sentences:

(71) ɔ́m-pɔ̀l-áá-ˡdá gálɔ̀m; dámàk ùŋ-kúmún-nʌ́
1sg:PAST-want-INST-1sg pen then 1sg:PAST-find-1sg.ERG
á-l-íhí hàŋkɔ̀rɛ́ŋ
SOURCE-LOC-place bed
I was looking for my pen; then I found it under the bed

(72) gálə̀m lɛ́ɛ́ní àŋ-wár-ʌ̀k-à̰ta̰ŋ;
pen 1sg:POSS REC.PAST-lose-AP-COMPL

ṵ̀ŋ-kúmún-ná ŋ̀-k-ʌ́ʌ́dḭ̀h-é-yè
1sg:PAST-find-1SG.ERG ERG-sg-monkey-EE-REP

kótóɽ-ák-á̰ta̰ŋ
take.with-AP-COMPL
my pen was lost; I found out that a monk*ey* had taken it along

Here, the meaning varies between 'finding' and 'finding out, discovering, retrieving' (see also ex. (55)). But there is more to *kùmùnúúl* in terms of its semantic structure. (Ex. (70)) 'I thought about the child's name' was the first statement of an utterance which continued with:

(73) … dámàk ṵ̀ŋ-kúmṵ̀n-ʌ̀k-à̰tà̰ŋ-ná
… then 1sg:PAST-find-AP-COMPL-1SG.ERG
… then I *remembered* (lit.: found)

Another reading of *kùmùnúúl* may be 'meeting' or 'seeing sb.':

(74) nʌ̀-kúmṵ̀n-ʌ̀k-ə̀-nà̰n í-dʌ̀ nà Háámḭ̀t kùlʌ̀?
2pl-find-AP-EE-2pl pl-body with <name> yesterday
did you (sg./pl.) meet with Hamid yesterday?

(75) á-↓kúmún-ŋà̰ŋ Háámḭ̀t kùlʌ̀?
2sg:PAST-find-2sg <name> yesterday
did you see Hamid yesterday?

The (fundamental) difference between ex. ((74)) and ex. ((75)) is that in the former question the inquirer wanted to know whether the addressee actually had contact with Hamid, whereas in the latter situation the inquirer knew that they did not have contact; in other words, (s)he just wanted to know whether the addressee saw Hamid since (s)he (the inquirer) knew that Hamid was there as well, but without having seen him (the addressee).

In certain contexts, *kùmùnúúl* is the equivalent of 'reaching sb. / contacting sb.' in the metalanguage English:

(76) nʌ́-kúmṵ̀n k-ày[21] kɔ̀lɔ́ɔ̀l kùlʌ̀?
2pl-find sg-AGENT driving yesterday
did you (pl) reach the driver yesterday?

[21] Another bound noun is *kày* (pl. *yày*). It is the first element of a nomen agentis.

The context made clear that the addressee could not have met the driver, since the latter was far away (on the road). The inquirer knew that the addressee had tried to use his satellite phone to contact the person in question.

One additional reading of *kùmùnúúl* 'finding' in its cognitive and interpretative reading is 'understanding':

(77) cáá-ˡkúmùn-ʌ̀k-àn̪ʈ́áŋ kíhíyánéél lɛ́ɛ́ní?
2sg:IMPERV:PAST.SURPRISE-find-AP-COMPL asking 1sg:POSS
did you understand my question (lit.: did you find my asking)?

(78) càà-kúmùn-ʌ̀k-àn̪ʈ́áŋ n̪ʈ-ámáá lɛ̀ɛ̀nì?
2sg:IMPERV:PAST-find-AP-COMPL sg-talk 1sg:POSS
do you understand me (lit. did you find my talk)?

Also, *kùmùnúúl* may convey the readings of 'knowing, be acquainted with' and 'learning'.

(79) wɔ́rˡn̪ʈɔ́máádɔ̀h àŋ-kúmùn-ʌ̀k-àn̪ʈ́áŋ kɨ̀-címˡbárí
man REC.PAST-find-AP-COMPL sg-child
the man knows (lit. the man found) the child

(80) úŋ-ˡkúmún-dʌ̀ yʌntúwʌ́ŋ ìhʌ́n̪ʈʌ̀m ǹn̪ʈ́ú-múrìk:…
1sg:PAST-find-1sg things many LOC3-Tima
I learned (lit. I found) many things in the Tima area:… (said while still in the Tima area)

(81) kùhùnʌ̀ŋ, càà-kúmùn-ʌ̀k-àn̪ʈ́áŋ ì-mɛ̀ɛ̀nɛ́
now 2sg:IMPERV:PAST-find-AP-COMPL pl-small.one
y-àmáá índíʔíl:…
pl-talk all
now you know (lit. you found) all letters:… (said to children after they had learned all letters of the alphabet)

There is a special word for 'knowing', though, namely *kìhìyííl*. Consider the next sentence:

(82) pɨ́nʌ̀ cɛ́-hí-y-áá ˡn̪ʈ-ámáá dì-ŋgìlìizí
PRO3sg IMPERV-know-EE-INST sg-talk MOD-English
(s)he knows the English language

The difference between the use of *kùmùnúúl* in ex. (81) and *kìhìyííl* in ex. (82) is that in the former situation emphasis was put on the process of achieving (i.e. of 'finding') the knowledge, whereas in the latter case the process does not play a role, but rather the state of knowing.

The following graph summarizes the verbs discussed above and shows which Tima verbs convey a clear perceptional/concrete meaning, which verbs have a pure cognitive meaning, and which verbs oscillate between the two domains.

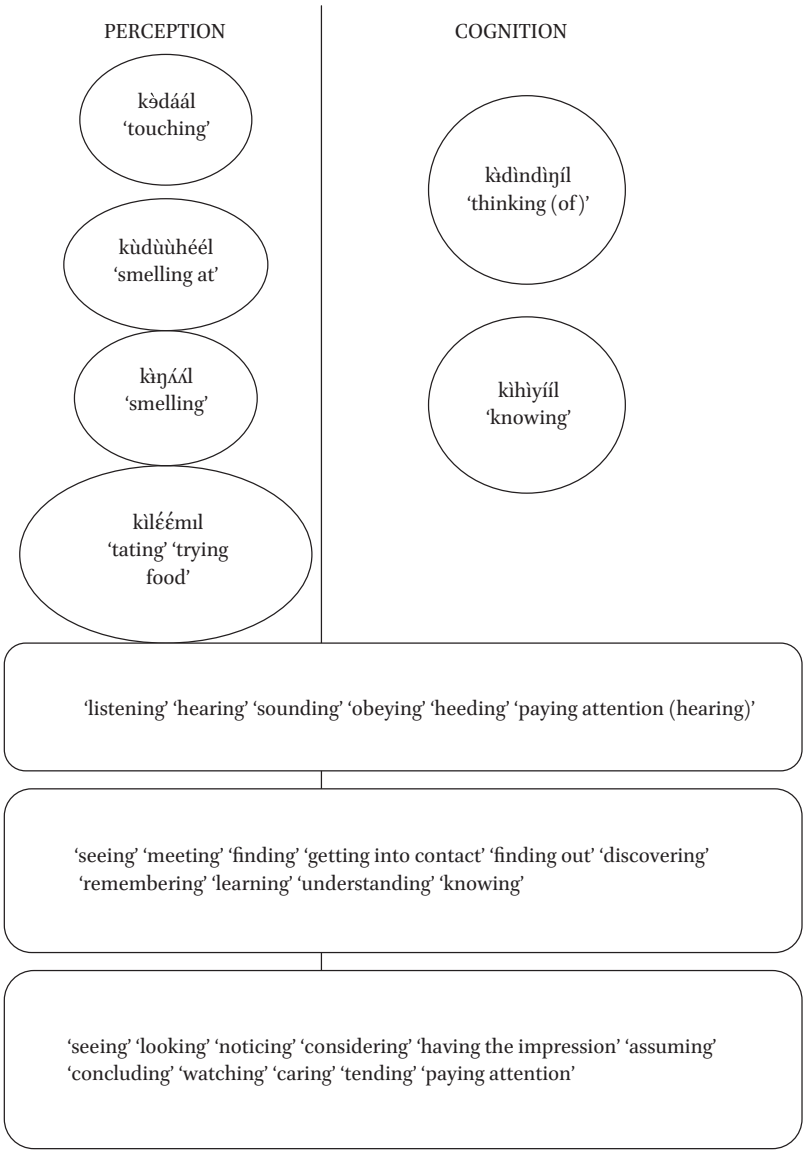

Figure 9.1. Perception and cognition in Tima

4 Verbs of Perception and Grammar

From a grammatical point of view, the verbs of perception and cognition discussed in the previous paragraphs do not form a coherent subgroup. A closer look into their behaviour with regard to derivational properties and valency produces the following results (see also Table 9.4).

The verb *ŋâh* 'watch, see, look' (with the verbal noun *kɔ̀ŋàhéél*) requires a direct (= unmarked) object. The verb must be derived by the antipassive (=> *ŋáh-àk*), if the object is not explicit; this is also reflected in the corresponding verbal noun, *kɔ̀ŋàhéél* from *kɔ̀-ŋàh-àk-íl.* Additional instrumental marking (*-aa*) refers to the presence of an incorporated object, i.e. to the instrument with which something is watched.

The imperative of *kɨ̀mɨ̀ntéél* 'listening, hearing' is *mɨ́ntɨ̀k*. The inflected verb is invariably marked for the antipassive, which seems to be, as mentioned before, a frozen element, since it obligatorily occurs with the inflected verb as well as with the verbal noun *kɨ̀mɨ̀ntéél* (from *kɨ̀mɨ̀nt-àk-íl*). Again, the verb must—in addition—be derived for the instrumental / accompaniment (*-aa*) to allow for a "raised" object (in terms of syntactic functions).

(83) cáá-ˡmɨ́nt-ɨ̀k-àá kì-hìyànà lɛ̀ɛ̀nì?
2sg:IMPERV:PAST-listen-AP-INST sg-question 1sg:POSS
did you hear my question?

(84) mɨ́nt-ɨ̀k-àá wáyɛ̀n ṯ-àmáá / ṯámáá ó^{ˡ}-wáyɛ́n
listen-AP-INST father sg-talk / talk PREP-father
listen to what your father is saying; obey your father

This behaviour is not unique in the language. There are other inflected verbs only occurring in combination with the petrified antipassive marker, e.g. *ɨ́yír-ɨ̀k* 'speak' and *hɔ́l-àk* 'stay, live'. Since they are marked for the antipassive, they do not readily permit a direct object. To allow for such an object, the verbal base *ɨ́yír-ɨ̀k* again needs to be further expanded by instrumental marking (as is the case of *mɨ́nt-ɨ̀k*). Consider:

(85) ìhìnɨ́ ɨ́-kɨ́yír-ák-áá ˡṯámáá
PRO3pl PAST-speak-AP-INST talk
they gave a talk

(86) céŋ-kɨ̀yìr-ɨ̀k-áá-ˡdɨ́ ṯàmáá dù-mùrík
1sg.IMPERV:PRES-speak-AP-INST-1sg talk MOD-Tima
I speak the Tima language

The noun (phrase) following the stative verb *hɘ́l-àk* 'stay' must either be preceded by a prepositional clitic (ex. (87)) or needs to be inflected for the locative by changing the shape of the noun class (ex. (88)).

(87) ì-wíí$^{↓}$k-é hɘ́làk ò-k-wɛ̀ɛ́ŋ
pl-ziziphus-FOC stay PREP-sg-bowl
there are fruits of the Christ's thorn in the bowl

(88) kì-bɛ́n-$^{↓}$lɪ hɘ́làk y-ánn̰ɔ̀ kɔ̀-dɔ̀lɛ́
sg-cucumber.beetle-FOC stay LOC-inside sg-flower
there is a cucumber beetle sitting in the flower

In all cases, the noun (phrase), whether marked for the locative, or taking a prefix to indicate its semantic role as the (locative) goal, or, alternatively, being formally unmarked but with a corresponding instrumental marking on the verb, is demoted. This demotion has semantic consequences, which are illustrated with the verb *kùtùlùnúl* 'visiting' below.

For the unmarked verb, the presence of the object is obligatory. If the object is deleted, the verb must be marked for the antipassive (which excludes the presence of an object). Further derivation of the verb by the instrumental again licenses the presence of a noun phrase.

(89) túlùn ìhwáà
visit people
visit/see your people/family

**túlùn* (no object)

túlún-ʌ̀k
visit-AP
visit

túlùn-ʌ̀k-áá ìhwáà
visit-AP-INST people
meet with your people/family (somewhere)

Syntactically, 'people' is not an object in the final example; instead, the presence of an instrumental marker expresses the incorporation of an otherwise peripheral semantic role like a location reached by certain means or in a specific manner. Semantically, there is also a difference between *túlùn ìhwáà* 'visit your family' and *túlùnʌ̀káá ìhwáà* 'meet with your family'. In the former case, the addressee is supposed to visit his family at their home, in the latter case, all of them are supposed to meet somewhere, which makes it a mutually performed action, hence less directed towards the family (and less transitive).

The verbs *kɨ̀mɨ̀ntéél* as well as *kə̀ŋàhéél* are associated with a certain duration (i.e. a low degree of punctuality). In order to cast only a glance at something, speakers would choose another verb instead, i.e. *kɨ̀mʌ̀ṭ̪éél* 'glancing'. This verb behaves like *míntʌ̀k* 'listen' in that it is always derived for the antipassive. It cannot entail an (unmarked) object unless the verb is marked for the instrumental. The object, however, does not refer to a stimulus, but rather to an instrument or manner.

(90) mʌ́ṭ̪-ʌ̀k-àà kò-kwán
glance-AP-INST sg-entrance
peep/glance through the door

The imperative of *kɨ̀ŋʌ̀ʌ́l* 'smelling' is *ŋʌ̀lí* (containing the high transitivity marker), if one wants to express the punctual meaning of 'pick up a smell', rather than the durative meaning of enjoying the scent for longer; the form *ŋʌ́ʌ̀l* is used, if the action is repeated or if the smelling involves an indeterminate duration. Grammatically, this means that the verb has to be either marked for transitivity (*-i/-ɪ*), or for pluractionality (here by means of vowel length). The verb marked for pluractionality is labile with regard to valency (consider again ex. (45)). Antipassive marking is obligatory in an experiencer-based sentence, if the object is not mentioned in the statement. If the verb is marked for the instrumental, it depends on the position of the object (which semantically expresses an instrumental role) whether it is marked as well. If it precedes the verb, it remains unmarked, if it follows the direct object (patient), it is prefixed by the homorganic nasal proclitic in order to express its peripheral status as an instrument. The verb *kùdùùhéél* 'smelling' behaves in a similar way. We can overtly mark it for high transitivity so that the imperative becomes *dùhí*; the corresponding pluractional form *dúùh* is used only under the circumstances described above for *ŋʌ́ʌ̀l*. The same is true for the lexemes for 'tasting' and 'touching', i.e. *kìlɛ̀ɛ̀míl* and *kə̀dàál* respectively. With the verbs 'smelling', 'smelling at', 'tasting' and 'touching', the antipassive form has to be chosen, if the object is deleted or omitted. The antipassive always attaches to the pluractional form of the verb. If the instrument is incorporated thematically into the argument structure of the verb, the latter must be derived for the instrumental.

(91) lɛ̀m-í ɨ̀ṭ̪úk
taste-HT porridge
taste the porridge

lɛ́ɛ̀m ìn̪úk
taste:PLURACT porridge
taste the porridge repeatedly

lɛ́ɛ́m-àk
taste:PLURACT-AP
taste it

lɛ́ɛ́m-àk-àà kááyìm
taste-AP-INST spoon
taste it with a spoon

The verb *kùmùnúúl* covers a variety of readings such as 'seeing, meeting, finding, reaching, discovering, remembering, learning, understanding and knowing'. If the inflected verb is marked for the antipassive *-Vk* plus the completive marker *-at̪aŋ* and nevertheless followed by an unmarked object, it refers to the more abstract cognitive readings of 'remembering, learning, and knowing' i.e. literally 'finding for oneself' (cf. ex. (73), (77), (78), (79) and (81)).[22] Note that with *kùmùnúúl* in its original meaning of 'finding', the verb is not marked for the antipassive, even if the object is not mentioned.

For the perception and cognition verbs discussed so far, high transitive marking and pluractional marking are coupled: If a verb can be marked for transitivity, it can also (alternatively) be marked for pluractionality (and vice versa). The object following a verb marked for transitivity usually refers to a single individualized item, but it may also refer to a number of things or a collective noun as long as it is one unitary action.

(92) cé-ŋʌ̀l-ì y-ábɔ̀h ǹ-c-ìn̪ì
3sg.IMPERV:PRES-smell-HT pl-meat INST-sg-cloth
s/he smells the meat through the cloth

Pluractionality refers to either a repeated action or an action extended over a long period. Mentioning of the object in both cases is obligatory, unless the verb is marked for the antipassive. If, in addition to the antipassive marking, the verb is marked for the instrumental, the unmarked object refers to the instrument in terms of semantic roles. If the verb is

[22] The one exception (ex. (74)) does not contradict this hypothesis, since it illustrates a set phrase consisting of the derived verb—with the antipassive in its second sense, i.e. doing for one's own benefit—plus *ídʌ̀* 'bodies'.

Table 9.4. Derivation marking on Tima perception and cognition verbs

English (basic meaning)	Tima verbal noun	Tima verbal root	IMP SG	TR *-i/-í*	PLURACT (vowel length)	INST *-aa*	AP *-ak*	AP + INST *-akaa*	unmarked OBJ (default*)	unmarked OBJ (patient (P) and/or instrument (INST)) after INST-marking on the verb	marked OBJ (INST) *N-* (no INST marking on the verb)
watching	kɔ̀ŋàhéɛ́l	-ŋah-	ŋâh	–	–	+	+	+	+	–	+
glancing	kìmʌ̀ṯéél	-mʌṯ-	mʌ́ṯʌ̀k	–	–	–	+	+	–	+ (INST)	–
hearing	kìmìntéél	-mɪnt-	mɪ́ntʌ̀k	–	–	–	+	+	–	+ (P)	+
smelling	kìŋʌ́ʌ́l	-ŋʌl-	ŋʌ̀lí	+	+	+	+	+	+	+ (P/INST**)	+***
smelling at	kùdùùhéél	-duh-	dùhí	+	+	+	+	+	+	+ (P/INST**)	+***
tasting	kìlèèmíl	-lɛm-	lèmí	+	+	+	+	+	+	+ (P/INST**)	+***
touching	kɔ̀dáál	-da-	dàyí	+	+	+	+	+	+	+ (P/INST**)	+***
finding	kìmìnʌ̀néél	(N) -mɪnʌn- (V) -umun-	úmùn	–	–	+	+	+	+	+ (P)	+
thinking	kìdìndíŋíl	-díndìŋ-	díndìŋ	–	–	+	–	–	–	+ (P)	–
knowing	kìhìyííl	-hɪ-	–	–	–	+	–	–	–	+ (P)	–

* after transitive marked verbs, pluractional marked verbs or underived verbs
** if object (instrument) in the position immediately after the verb or preceding the verb ((A)VOBLO/OBLVOA)
*** if object (instrument) is demoted from the verb and follows the direct object (patient)) ((A)VOOBL)

marked for the instrumental but not for the antipassive, the unmarked object refers to the patient.

The two stative verbs *kɨdìndíŋíl* 'thinking' and *kìhìyííl* 'knowing' need to be expanded with the instrumental marker in order to allow for an (unmarked) object (patient).

5 Some Summarizing Thoughts

From a semantic point of view, verbs of perception constitute a semantic subgroup within the class of verbs in Tima. However, with regard to all language-internal formal criteria (such as derivation marking, tense/aspect and constituent ordering), they show the same behavioural features as other verbs. They may, according to the context, be derived by transitive markers, by instrumental and antipassive markers, and they may be derived for pluractionality. With regard to tense and aspect, verbs of perception may combine with the imperfective as well as with the perfective, depending on the situation type. The imperfective is chosen when the action is non-punctual or repeated, i.e. with atelic actions; these action(s) may take place at the time of speaking or in the past. The perfective is chosen when an action is completed. The marker *-a̰ta̰ŋ* primarily shows whether an action is telic irrespective of the chosen tense/aspect. Constituent order is flexible in the environment of such verbs (as it is with other verbs), so that the basic constituent order AVO/SV may be inverted. If the stimulus of a perception verb becomes the subject of a sentence, a verb shifts from an experiencer-based reading to a source-based reading.

Table 9.5. Occurrence of verbs of perception and cognition in this contribution

verb	English equivalent	example
kɔ̀dáál	'touching'	(38), (55)
kùdùùhéél	'smelling at'	(36)
kìŋʌ́ʌ́l	'smelling'	(41), (45), (52)
kìlɛ̀ɛ̀míl	'tasting, trying food'	(37), (42), (91)
kìdìndìŋíl	'thinking (of)'	(70)
kìhìyííl	'knowing'	(31), (82)
kìmʌ̀t̰ɛ́ɛ́l	'glancing'	(90)
kùmùnúúl	'seeing'	(30), (33), (75)

Table 9.5 (*cont.*)

verb	English equivalent	example
	'meeting'	(74)
	'finding'	(71)
	'getting into contact, reach'	(76)
	'finding out', 'discovering'	(55), (72)
	'remembering'	(73)
	'learning'	(80)
	'understanding'	(77), (78)
	'knowing'	(79), (81)
kɨ̀mɨ̀ntéél	'listening, paying attention (hearing)'	(35), (84)
	'sounding'	(44)
	'hearing'	(47), (83)
	'obeying, following' 'heeding'	(68), (84), (69)
	'overhearing/eavesdropping'	(50), (51)
kɔ̀ŋàhéél	'seeing, looking'	(34), (39), (43), (49)
	'noticing, thinking'	(48)
	'considering'	(66), (67)
	'having the impression, 'assuming, concluding'	(65)
	'watching'	(61), (62)
	'taking care'	(51), (64)
	'paying attention, watching out, be careful'	(63)

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CHAPTER TEN

PERCEPTION IN LUSSESE (BANTU, J 10)

Marilena Thanassoula

1 Introduction

The aim of this chapter is to examine the meaning and the use of the words expressing sensory experience with special reference to some verbs of perception in Lussese. Since the following empirical data are based on my PhD thesis, I will discuss here the first findings of a work in progress and make some preliminary notes about possible theoretical approaches regarding the linguistic expression of perception in this language. First I will give some introductory information about the grammar of Lussese. After an overview of the domain of perception exemplified by the verbs of perception we will focus on the domains of audition and vision. I will argue that both the grammar and the meanings of the Lussese counterparts for 'hear' and 'see' reflect primary cultural categories. We will see that the verb *-húlirà* 'hear' covers much more semantic domains than the verbs expressing vision. Still the frequency and rich polysemy of the verb *-húlirà* do not support the claim that the visual domain lacks symbolic values or, in other words, that the visual domain might be less important in comparison to the auditory: Demonstrating the metaphoric power and the cultural significance of the visual domain color terms will serve representing qualities primarily associated with vision.[1] Some examples of the use of color terms will show that the interpretation of colors again depends on cultural concepts.

At the end I will discuss the empirical data with respect to theoretical issues concerning the language of perception: I will argue that the choice to categorize meanings of the sensory verbs as being more "basic" compared to others, hence peripheral, meanings seems to be for Lussese, as well as the two major neighboring languages, Luganda and Lusoga, an inappropriate approach, since some of the "peripheral meanings" cannot be expressed by other verbs in these languages. Further I will argue that a

[1] On colors and synaesthesia see Majid et al. 2009.

modal hierarchy of the various domains of sensory experience must take into account cultural concepts; again the choice which domain of perception should be considered as the most "prominent" one is rather a matter of innate cultural interpretation regarding the human body and the environment than a matter of the human body and the environment as given by biological and/or physical conditions.

1.1 *Language and Speakers*

Lussese is an East African Bantu language. This linguistic variety is spoken in Uganda, on the Ssese Islands, located at the coast of the capital city, Kampala. The Ssese archipelago in the northwest of Lake Victoria consists of 84 Islands, 37 of which are inhabited. Although the total population amounts to some 35.000 people (last census 2002) the indigenous language of the islands is almost extinct. These days the few remaining Lussese speakers are over 80 years old, further they do not have regular contacts with each other. The local Lingua Franca is Luganda, the status of Lussese is basically seen as one of four dialects[2] of the former.

Benue Congo
Bantoid
Southern
Narrow Bantu
Central: Group J
Group J10: Hema, Hima, Ganda, Soga, Gwere. Dialects of Luganda: Ludiopa, Lukooki, Lussese, Luvuma

Figure 10.1. Linguistic affiliation of Lussese

[2] Criteria to distinguish between language and dialect include political, social and economic aspects, thus they will be not considered here; Luganda, Lussese and Lusoga will all be referred to as separate languages.

Map 10.1. Uganda and location of Lussese

1.2 *Notes on the Grammar*

Lussese is a "typical" Bantu language with agglutinating morphology and a strong inflecting tendency. The pragmatically unmarked and most frequently used word order is VO.

(1) Constituent order: (x) (S) VO (x)
(2) Phrase: HEAD—DEPENDENT

Nominal gender consists of 15 prefixed noun classes, which exhibit class markers (marked in bold) and augments:

(3)	o-**mu**-sáighia	a-**ba**-sáighia	o-**mú**-ti	e-**mí**-ti
	AUG-**CL1**-man	AUG-**CL2**-man	AUG-**CL3**-tree	AUG-**CL4**-tree
	'man'	'men'	'tree'	'trees'

The subject is either pronominalized through concord prefixes of the verb, as observed in all verbs in (4), or it occurs in initial position, as in (4.a). Adverbs and other adjuncts may appear before or after the verbal phrase (4.c–d). The sentence (4.d) is marked for emphasis: Note that the move of the adverbial phrase to the initial position is followed by a suffixation obligatory in these cases with a locative suffix on the verb:

(4.a)	a-ba-gúngu	ba-síbuki-irè	Bwerenga	lw-a	Kirulu
	AUG-CL2-chief	2pl-origin-PER	LOC	CL7-ASS	LOC

(4.b)	bwe	ba-búi-re
	CONJ	2pl-grow_up

	ba-lénga	ne	ba-géndh-irè
	2pl-go	CONJ	2pl-go-PER

(4.c)	ba-séng-ire	e	Kiténde	mu	Bushiro
	2pl-settle-PER	PREP	LOC	PREP	LOC

(4.d)	a-h-ò	e	Kitende
	AUG-LOC-REL	PREP	LOC

	ba-lúire-ho	í-i-nyo
	2pl-stay:PER-LOC	AUG-CL9-much

'Our clan leaders originated from Bwerenga of Kirulu. When they grew old they left and went to settle in this Kiténde (which is) in Bushíro. There, in Kiténde, they stayed long.'

Like many other Bantu languages, the word classes often can only be defined through the morphology. The possibilities of expressing properties will be briefly demonstrated by the next examples since properties are perceived and evaluated by the senses. First, Lussese has very few adjectival roots. The next example demonstrates three possibilities for the expression of one property: In (5.a) an ideophone employs verbal morphology, in (5.b) an ideophone employs nominal morphology, in (5.c) the same meaning is expressed through a prepositional phrase:

(5.a)	ya-gwa-gwá-irè
	3sg:PER-IDEO-REDUP-PER
	lit. (s)he became *gwágwa*

(5.b)	mu-héme-héme
	CL1-IDEO-REDUP
	lit. (s)he is *hémehéme*

(5.c) a-tá-li mu ma-gédhi.
3sg:PRES-NEG-be PREP CL6-wisdom
lit. (s)he is not in wisdom

(5.a–c) (s)he is stupid

Lussese employs various strategies to express properties. Verbs as well as nouns, adjectives and ideophones combined with the rich Bantu morphology offer an amazing variety of means.

2 Perception in Lussese

The following schematic overview of the verbs of perception and their meanings shall serve as an introduction to the domain of perception in Lussese. Figure (1) shows the basic verbs of perception and the domains each of them covers without the implication of any kind of hierarchy, neither concerning the domains nor the lexical items. Still the prominence of *-húlira* 'feel/hear' is apparent.

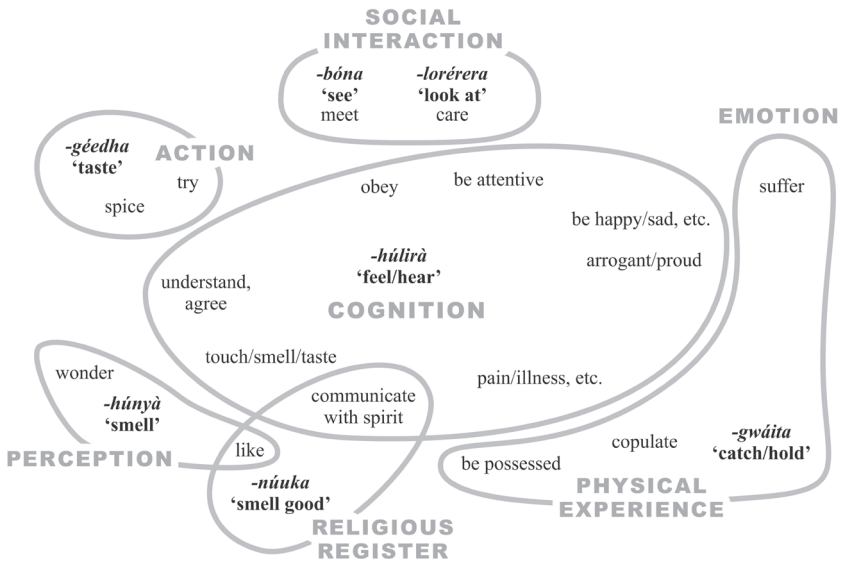

Figure 10.2. Semantic map of the verbs of perception in Lussese according to their use

Note that Lussese has two registers:[3] an everyday language and the language used for the communication with spirits, termed here as the secret register. The meanings of the verbs of perception change in this secret register,[4] but this use will be not treated in the present paper.[5]

Some remarks on the argument structure[6] of the verbs *-húlira* 'feel/hear', *-bó(i)na* 'see' and *-loreréra* 'look at' shall serve for a better understanding of the examples. Lussese makes no morphological difference between the transitive (A) and the intransitive (S) subject. Regarding the verbs of perception A/S realize the thematic role of the experiencer, and (O) realizes the thematic role of theme or location.

Further the opposition between perception as an experience and perception as an action[7] holds for the visual domain: the verb *-bó(i)na* can be used in transitive and intransitive sentences, thus the most appropriate English translation is 'see'. The verb *-loreréra* is used only in transitive sentences and the control and volition of the subject is inherently implied, hence translated in English as 'look at'.

Only the verb *-húlira* can express both the meanings 'hear' and 'listen to'—i.e. perception as experience and as action without any difference in the morphological marking or in the constituent order. The same verb expresses 'feel' and/or 'perceive'. Further this verb can be used with the reflexive prefix, which appears in the slot of the subject (ex.7). The characteristic Bantu strategy of valency change through suffixes is not employed in combination with this verb, but *-húlira* is the only verb of perception that allows passive (ex.14). Regarding the reflexive and the passive sentences of *-húlira* note that the selection of a human entity as subject is obligatory. Further the selection of an object denoting source of olfaction is obligatory for the reading of *-húlira* as 'smell' (ex.13).

The behavior of both Lussese's verbs denoting vision is less intriguing. Like verbs of other *genus verbi* they allow suffixation for valency purposes.

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[3] Lusoga has as well a second register for the spirits, called Luswezi. Luganda has a second register employed not to communicate with spirits but in association with the King (more about the royal tradition of the Baganda in Ray 1990, for secret languages in Africa see Storch 2010).

[4] With "secret" is meant here the observation that not all but only the healers among the Bassese speakers have mentioned and occasionally used this register.

[5] Further an extensive discussion of the olfactory, tactile and gustatory verbs is not possible here: Examples with the verbs *-húnya* 'smell', *-núuka* 'smell' and *-geedha* 'taste/try' will be employed only to highlight the use of *-húlira* 'feel/hear'.

[6] For an overview of the theoretical points considering the relation between syntactic status and thematic relations see Lüpke (2005: 23–57).

[7] Further about this distinction in Viberg 2008.

For their use in the domain of social interaction *-bó(i)na* 'see' employs the reciprocal suffix (ex.15.b) and generates the meaning 'to meet', *-lorérera* on the other hand obligatory selects a human/child[8] as direct object for the meaning 'to take care of' (ex.16.b).

2.1 *The Holistic and Auditory Domain*

The verb which has the richest polysemy in Lussese, is *-húlirà.* This verb has both the meaning 'to hear and 'to feel/perceive' (6.a/b). Only in context it is possible to choose which translation sounds more appropriate. This verb is, compared to the other verbs of perception, the one most frequent in use. It can be employed to express all kinds of sensual and physical experience (6.c), emotion (6.d) and cognition (6.e). The verb *-húlirà* 'feel/hear', is further employed as a discourse marker; in a dialogue it implies either the request of the speaker for attention (6.f) or the reassurance of the hearer that he is following what the speaker says. The verb can be also used in the meaning of 'obey' (6.g).

(6.a) m-púlira bu-gè[9]
1sgPRES-feel/hear CL14-good
I feel good

(6.b) o-húlira e-ki-nyóni?
2sgPRES-feel/hear AUG-CL7-bird
do you hear the bird?

(6.c) m-púlira e-m-bého
1sgPRES -feel/hear AUG-CL9-wind
I feel cold

(6.d) m-púlira e-i-sányu.
1sgPRES-feel/hear AUG-CL9-happiness
I am happy

(6.e) ndi-húlir-e e-bi-gámbo by-aifè
1sgPER-feel/hear-SUBJ AUG-CL8-words CL8-1plPOSS
nayè sí-kula ku-hikiridhà.
CONJ 1sgNEG:PRES-can CL15-agree
I understood what you said, but I can't agree

[8] It is still an open question if this use of the verb presupposes human entities or if it is also used to express caring relations between other animates.

[9] Amiableness is expressed through phrases including the heart, like 'to be/have a good/pure heart'.

(6.f) o-(ki)-hulir-é-ho?[10]
2sgPRES-(CL7)-hear-LOC
are you following me (my word)?

(6.g) o-bu-hería bu-húlirà a-ba-kairè.
AUG-CL14-child CL14-feel/hear AUG-CL2-old
young children should listen to/obey the olders/parents

With the reflexive prefix the verb expresses the meaning 'to be arrogant/proud': the preferred interpretation depends on the context. In the first person singular the speaker refers to his own feeling of being proud (7.a), but speaking about others with the reflexive form expresses a critical comment about their arrogance (7.b).

(7.a) n-ee-húlira
1sgPRES-REFL-feel/hear
I am proud

(7.b) y-ee-húlira
3sgPRES-REFL-feel/hear
he is arrogant

Two adjectives can be derived from the nominal prefixes of the human class. For the meaning 'proud person' the verbal root needs a verbal derivational affix, probably the causative (8.a), whereas the reflexive prefix with the nominal derivational suffix is only employed for the meaning 'to be arrogant' (8.b). Please note that the use of the reflexive form of the verb to express arrogance is far more frequent than the use for the reference of to the speaker's own feeling of pride. (8.c) is the typical comment about Europeans:

(8.a) mw-ee-húli-dh-í
CL1-REFL-feel/hear-VD-ND[11]
arrogant (person)

(8.b) mw-ee-húlir-e
CL1-REFL-feel/hear-ND
proud (person)

(8.c) a-ba-dhúng-u b-ee-húlira
AUG-CL2-turn_around-ND CL2-REFL-feel/hear
Europeans are arrogant

[10] Being able to hear the other person is expressed through the noun 'voice'.
[11] *-i* is the derivational suffix used to create *nomina agentis* out of verbal roots.

Further the verb *-húlirà* 'feel/hear' can be used to express olfactory and gustatory experience.

2.2 *The Olfactory and Gustatory Domain*

Lussese has two verbs for 'smell': *-núuka* and *-húnya*, exemplified in (9). If something smells good, then the verb *-núuka* will be employed. If something smells bad, the verb *-húnya* will be used. The verb *-húnya* is further employed to express general matters of odors. The verb *-núuka* is not so frequently used in the everyday register, but in the religious register, or secret language, it is the only verb used for 'smell'. If you negate *-núuka* (9.d) than you get the same meaning as in (9.b):

(9.a) e-ki-múli ta-ki-húnya
AUG-CL7-flower NEG-CL7-smell_bad
the flower does not smell

(9.b) e-ki-múli ki-húnya
AUG-CL7-flower CL7-smell_bad
the flower stinks

(9.c) e-ki-múli ki-núuka
AUG-CL7-flower CL7-smell_good
the flower smells good

(9.d) e-ki-múli ta-ki-núuka
AUG-CL7-flower NEG-CL7-smell_good
the flower stinks

Example (10) demonstrates further meanings of these verbs: in (10.a) the verb *-núuka* (with an applicative extension due to the pronominalized direct object) expresses personal taste, in (10.b) *-húnyà* is used to express the speaker's uncertainty about something in the future:

(10.a) ta-na-núuk-ira bú-ge
3sgNEG:PRES-1sg-smell-APPLIC CL14-good
I have difficulties with him/her, lit. he doesn't smell good to me

(10.b) si-húny-e obà á-ighia kw-íghia
1sgNEG:PRES-smell-SUBJ CONJ 3sgPRES-come CL15-come
I wonder if he will come, lit. I can't smell, if he will come

Examples (11) shows the use of both *-húlirà* and *-húnyà* to refer to taste. The sentence formed with the verb *-géedha*, which means primarily 'taste/try' expresses a totally different meaning (12):

(11.a) o-húlira e-i-múnyu mu bu-lío
2sgPRES-smell AUG-CL9-salt LOC CL14-food
do you taste the salt in the food?

(11.b) o-húnya e-i-múnyu mu bu-lío
2sgPRES-feel/hear AUG-CL9-salt LOC CL14-food
do you taste the salt in the food?

(12) o-geedhá-ko e-i-múnyu mu bu-lío
2sgPRES-taste-LOC AUG-CL9-salt LOC CL14-food
are you going to spice the food with salt? lit. do you taste/try salt in the food?

This needs an explanation: the verb *-géedha* marked with the locative suffix requires a second, locative object and in this construction it means 'to spice'. I consider this as an example of how needs for meaning can be satisfied by creatively employing grammatical strategies, which open the way of innovative extension from one domain to others.

Although the verbs presented in (9) to (12) are the most frequent in the olfaction and gustatory domains, *-húlira* 'to feel/hear' can also be employed to express tastes and odors, but then an obligatory direct object modifies the sense:

(13) o-húulira a-ka-hóoho ky' e-ki-múli?
2sgPRES-feel/hear AUG-CL12-odor CL13:ASSOC AUG-CL7-flower
do you smell the aroma of the flowers?

-húlira is the only verb of perception that can be put into passive in a sentence with a human entity as subject, hence in the thematic role theme: in this construction it means 'to stink:[12]

(14) o-lu-mbì o-lw-ò-ku-mála o-ku-kóla
AUG-CL11-after AUG-CL11-REL-CL15-be_enough AUG-CL15-work
mu ki-sáahe, tu-hulír-w-a bu-bì.
LOC 7-field 1pl-feel/hear-PASS-IND 14-bad
after working on the field, we smell badly

2.3 *The Verbs of Visual Perception*

The two basic verbs for visual perception cover only one additional domain: they can only be used in the domain of social interaction: *-bó*(*i*)*na*,

[12] For non-human animates the verb *-húnya* (a.o. constructions) is used.

the more frequent of the two and ditransitive, can be used further with a reciprocal suffix with the meaning 'meet' (15.b), and *-loreréra*, the transitive verb which expresses directed and controlled vision, without extra grammatical marking, but with an animate if not precisely human object it can express the meaning 'care for somebody' (16.b):

(15.a) sí-kula ku-bó(i)na ky-oinà, mu-lwair-è
1sgNEG:PRES-be_able CL15-see CL7-all CL1-sick-ND
I can't see anything, (I am) sick

(15.b) tu-ghià-bona-ganà
1pl-FUT-see-RECIP
we'll meet each other again!

(16.a) n-doleréra é-nya-ndha.[13]
1sgPRES-look_at AUG-CL9-lake
I am looking at the lake

(16.b) ha-loreréri-irè a-ka-hería
3sgPER-look_at-PER AUG-CL12-child
s/he took care of the children

There is a noun derived from the verbal root *-bó*(*i*)*na* that means 'sign' in the singular and 'symptom' in the plural. Despite of the fact that these nouns are derived from the perception verb for vision, both nouns express all kinds of signs or symptoms and can be used in combination with all other perception verbs: Especially regarding the interpretation of symptoms the two traditional Bassese healers among the speakers explain that symptoms are not visible most of the time, but one has to "feel/hear" them.[14]

2.3.1 *The Visual Domain: Cultural Evaluation*

Before focusing on the colors, it is worth mentioning that the Bassese organize and evaluate the visual domain in a different way from people in Europe or their neighbors, the Baganda and the Basoga.

The metaphoric use of colors and the choice of color terms in Luganda show a shift from the traditional Luganda terminology and the inherent

[13] This word corresponds to the common Bantu root for 'lake', meaning 'big water'; the name of Lake Victoria in the local languages is *Nalubáale*, 'the mother of the spirits', lit: 'female spirit'.

[14] For the use of the Luganda counterparts in discourse compare Orlove & Kabugo 2005.

cultural association to loanwords, or other linguistic expressions that reflect rather the English terminology and association. I assume that this phenomenon might be explained as a result of globalization and of the discourse of modernity versus tradition that is very vivid in urban areas and among the young and higher educated people in the capital city and the surrounding areas.

In the case of the Basoga, this shift is also observable, but still there are differences due to sociopolitical reasons, but also due to history: Lusoga was longer in contact with Swahili, which earlier adopted Arabic and European concepts. Apart from diachronic contacts let us consider the synchronic situation:

Today Lusoga has the status of Luganda only on the paper, *de facto* it is a major regional language that is threatened by both English and Luganda and it is rapidly losing ground. To give an example, Lusoga is not the language of instruction in the first four grades in primary school, as it should according to the reform of 2005, due to the paucity of teachers and school-materials for this language. This situation has led a group of Basoga scholars to take care of planning their language, and with this scope they initiated the Cultural Centre for Basoga Studies and edited dictionaries, children´s stories and some thin but quite impressive books about mythology, dance and music. The work of this centre inspired some young teachers to use the Lusoga vocabulary as much as possible. In general there is an interest in the re-invention of Lusoga by the speaker community and this revitalization process seems to have more impact on the language than globalization or the official Luganda-centered policy.

The Bassese speakers on the other hand, being very few and old, can differenciate very clearly between the concepts and the linguistic expression of their parents, who have spoken Lussese, compared with those of their grandchildren, who speak Luganda. As an endangered language, Lussese is conservative, not metaphorically speaking: The language conserves older concepts that for different reasons shift in the near regional languages. Although the people forgot a lot, since they do not use Lussese, all of them remember the colors and enjoy speaking about them. In this context color terminology is for the Bassese one of the parameters for identity.

With this background let us now deal with the color terms; we will see that the metaphorical meanings reflect cultural categories as well as the interpretation of environmental conditions beginning with their source.

2.3.2 *The Color Terminology in Lussese*

Color terms in Lussese originate from various associations as well as loanwords.

Table 10.1. Color terms in Lussese and their origin

Color term	English gloss	Source	English Gloss
-hémbu	?'yellow'	mu-hémbe	'mango-fruit'
-irugábu	'black'	i-irugabu	'darkness'
-ishámbu	'green'	i-ishámbu	'very fresh leaf'
kikúshi	'grey'	m(w)óshi	'smoke'
kitakà	'brown'	i- itáka	'earth'
-myúpu	'red'	-myúka (v. intr.)	'to be/get_red'
kakobè	'purple'	i-ikobè	'yam'/'royal clan'
-igúbugúbu	?'orange'	?e-i-kúbu	? 'pineapple'
-héra	'white'	Common Bantu Root v. intr: *-yed- v.intr:*-wel-	'become_white' 'be covered with white sand'
kachúngwa	'light green'	loanword	(Chinese or Indian source)

Some of the colors have various counterparts that express different shades of the same color. In the following table I listed words I could find expressing the colors 'brown', 'red' and 'purple':

Table 10.2. Synonyms for 'brown, red, purple'

Color term	English Gloss	Source	English Gloss
kabugò	'dark brown'	i-i-bugò	'bark_cloth'
kasáahi	'dark red'	mu-sáhi	'blood'
mámbia	'purple sky'	?	–
bunì	'brownish'	?Arabic	–

The term *mámbia* only refers to the color of the sky during dusk, thus it can be used as a temporal adverb, although Lussese has a noun for dusk, *omuhérima*, both unknown to Baganda and Basoga speakers. In (17), the nouns and the temporal expressions for this day-time in Luganda and Lusoga are illustrated:

(17.a) LUSSESE
o-mu-hérima mámbia
AUG-CL3-dusk ?CL6:purple_sky
evening at dusk-time

(17.b) LUGANDA
ka-wungée-zi nga bu-wungéera
CL14-become_evening-ND CONJ CL15-become_evening
evening at dusk-time

(17.c) LUSOGA
n-kúngù nkyò
CL9-evening ADV
evening at dusk-time

In terms of syntax the colors behave like other dependents: they follow the head-noun, and as far as they allow concordance, they employ the same nominal morphology that marks the head-noun (18.a). In (18.b) you see the frozen behavior of 'brown':

(18.a) e-n-dhyánga e-i-rugábu
AUG-CL9-bag AUG-CL9-black
black bag

(18.b) e-n-dhyánga kitakà
AUG-CL9-bag Øbrown
brown bag

Example (19) shows the use of adjectives combined with colors to modify an animate noun. The word-order of the dependents is the pragmatically unmarked and most frequent one. The part marked in bold shows the emphasized modifier, which in Lussese is the most remotely placed towards the head noun. In this position color terms frequently occur, if combined with other nominal dependents:

(19) e-n-kóidhi i-i-núme i-i-néne **i-i-rugábu**
AUG-CL9-dog AUG-CL9-male AUG-CL9-big **AUG-CL9-black**
ya-fu-íre
3SGPER-die-PER
the big black male dog died

Reduplication constitutes a further strategy to modify color terms. Reduplication is a common strategy of emphasis in the language and of emotive speech. Duplicating adjectival roots intensifies the meaning, as illustrated in (20.a). But duplicating a color term relativizes the meaning (20.b). The

reduplicated forms of color terms correspond to the English difference between blue versus bluish, or the German: *rot* versus *rötlich*: for color-terms the reduplication means 'not really the color':[15]

(20.a) mu-tyámpai-tyámpay
CL1-small-REDUP
very small (person)

(20.b) kitakà-takà
brown-REDUP
not really brown

This example demonstrates that reduplication is a sophisticated strategy; it is not just emphasizing something without respect to a specific reason. The meaning of the words plays a crucial role for the interpretation of a reduplicated form: in terms of colors, in Lussese you can't intensify color: You can describe shades through other modifiers, as we saw above, further you can express that the color is somehow taken out of its accepted spectrum by reduplication.

It is not only the grammar but the semantics that render colors interesting, so let us see the cultural associations for at least two colors, 'red' and 'brown' and discuss the absence of 'blue'.

2.3.3 *Symbolic Interpretation of 'brown' and 'red'*

Brown is the most important color, the color of the earth and woods: It is associated with power, thus it is the color of kings and priests. It can be interpreted positively as the source of life. At the same time it is the color of death, due to the extended use of bark cloth in burial-rituals.

In former times the bark-cloth was used in several rituals, but in the 20th century there is a shift in ritual practices: Especially those rituals celebrating life like baptism and marriage follow the Christian or Muslim canons and today the bark-cloth is used only in burials. However in Lussese the term *kitakà* 'earth-brown' is conceptualized positively whereas the term *kabugò* 'bark-brown' has a negative connotation. The expression "brown in the belly" is a synonym for brotherhood: Formerly during a ritual, warriors got coffee-tattoos in the belly, which led to scarves. In this way two men with the same tattoo became brothers. An equal expression also exists in Luganda although the people I asked didn't know the origin.

[15] This is a wide spread pattern in African languages, especially in Benue-Congo and its contact languages.

If the copula or the possessive verbs are used with this expression, then the subject occurs always in plural:

(21) (tu-lí-(na)) kitakà mu lu-bénge
(1pl:PRES-be/(have)) brown LOC CL11-belly
we are brothers, lit. we are/have brown in the belly

Red is symbolically associated with beauty. The ideal red is the red of the earth, a kind of terracotta in my eyes. The verb *ku-myuka* 'to be/get_red', used for humans, means that someone is beautiful:

(22) o-mu-hála (h)a-myuk-iré-nyo
AUG-CL1-girl 3sgPER-be(come)_red-PER-ADV_very
the girl is very beautiful

On the other hand bloody-red is dangerous and not regarded as a nice color. "If you see your own blood, you have a problem", is the explanation of the most speakers. The two healers among them mention the rituals of sacrifice, where the *kitakà*-brown, positively laden bark-cloth gets *kasáahi*-bloody-red, thus negatively laden. The whole act of sacrifice is symbolized by the color-change of the ritual cloth. Other kinds of red are more or less dangerous, according to the entity or practice that the color is associated with.

Last but not least the missing color—blue! In Luganda and Lusoga blue is a loanword, *bbulù* or *ibùru* respectively, from English. In Lussese, however, blue is considered not to be a color at all, because of the sky and the lake: What blue means in the European languages is a weather condition or a specific time-slice for the Bassese, even a product of our standing point, a locative accident, nothing that really has to do with properties considered as being characteristic for the sky and the lake. Blue flowers, birds and butterflies used to be described through *kakobè* 'purple'. It is believed that the sacred nature of purple mirrors the fact that natural purple may only be seen on animates, so symbolically the color reflects animacy, life. Of course purple is also a color of the Catholic Church, so the traditional association to life accidentally met the imported Christian association and purple shifted in the notion of power. Blue is irrelevant for the Bassese, it is seen as a labile attitude of weather and time, a caprice, blue is not a proper property.

To sum up, color has its own status among other properties, although the color terms do not constitute a word class of its own. The terminology

of colors derives from other word-classes as well as other properties; some colors can be regarded as adjectival roots, others do not behave like adjectives. Among them there are many morphologically frozen forms, further the reduplication strategy shows a different evaluation of the color-semantics compared with the semantics of other properties.

Finally the metaphorical use or the extended meanings of color are rooted in cultural associations and practices. It is not the scientific color-spectrum or the environment itself, as a given and objective reality that matters, as we could see especially by the absence of blue: it is the inherent cultural interpretation of the environment that governs the color semantics.

3 Conclusion: Lussese and Some Methodical and Theoretical Issues

It is always too early to speak about "conclusions" when the empirical work and language documentation still go on, but some theoretical and methodological issues must briefly be mentioned:

The various examples of the verb *-húlira* 'feel/hear' in use show that the meaning of this verb depends on the context of the sentence: It arises out of the combination of the verb with its arguments. The same pertains to the other verbs of perception. Therefore it makes more sense first to analyze the event and argument structure of these verbs and only then, if the data allow it, to differentiate between basic semantics in opposition to peripheral meanings.

Secondly the overview of the semantic domains covered by verbs of perception in Lussese shows that the verb *-húlira* 'feel/hear' can be employed to more contexts than the others, hence it generates more meanings. Regarding the frequency of use and its rich polysemy, this verb is the most prominent one among the verbs of perception in Lussese.

The cognate verbs in Luganda and Lusoga are primarily seen as auditory verbs and usually translated as 'to hear', although this evaluation is based on a translation choice that is not supported by the data in both neighboring languages either. How confusing the choice of translation can be, is easily exemplified considering for the moment that the basic meaning of *-húlira* is 'hear' and further continue the theoretical analysis: Aspiring a modal hierarchy regarding the senses one could claim then that with respect to the examples of *-húlira* the auditory domain is the most prominent, followed by the olfactory domain, followed by the visual

domain and as the last of the given hierarchy one should then consider the domains of taste and touch.

This analysis ignores that the verb *-húlira* may be translated using the English terms 'feel/perceive' as already shown. If this translation is regarded as the most appropriate one, the given hierarchy of the senses cannot be maintained: Unfortunately 'feel' and/or 'perceive' in English are general terms that mean some kind of sensory experience which is not associated with one particular sense. This means that towards a modal hierarchy of the senses we could hardly take into consideration the verb *-húlira* translated as 'feel/perceive', since it would neither correlate with one particular organ nor it could be located in one domain of the sensory apparatus. The safe solution is to regard this "out-of-space" translation as a secondary or peripheral, not basic one. However, this would mean to ignore the frequency and rich polysemy of this verb in Lussese, further to brush off the importance of the holistic sensual experience expressed in Lussese, in Luganda and Lusoga, as well as other languages mentioned in this volume. We are all confined our own respective linguistic identities and as scientists further corrupted by the extended use of English in scientific discourse. Our challenge is to analyze the meaning in the language we try to describe and not the translated sentence. The same applies to theoretical issues. To hierarchically organize the "senses" in general and the verbs of perception in particular is itself a Eurocentric idea.

Every sensory domain is associated to specific cultural interpretation as well as practices. In this sense all domains of perception have their own, unique semantics and thus importance. According to which criteria one can claim that the association of perception and cognition shall be regarded as more important or basic than the association of perception and emotion or perception and social interaction? It was aimed to answer this question by a comparison within one sensual domain. Albeit the restricted uses of the visual verbs, the visual domain shows by the metaphors and associations of the color terms the unique value of visible categories. Why should these meanings be considered as irrelevant, if we strive after a modal hierarchy of the senses? The specific interpretation and evaluation of properties should be more integrated in the analysis of sensual modalities and their linguistic expression, since to recognize properties as such is a matter of cultural experience, further to evaluate them and to express them in language are matters of socialization.

Regarding the analysis of the color terminology there is a significant parallel with the debate about the verbs of perception: the question which

colors should be considered as the basic ones. Although the meaning of 'basic' is different with respect to theories about the verbs of perception and those regarding colors and despite the fact that the question of basic colors is surely interesting from a cross-linguistic point of view, the theoretical frame developed by Berlin & Kay (1969)[16] seems not to be fruitful in the case of Lussese: Neither the opposition of basic versus non-basic colors, nor the supposed diachronic development and surely not a method based on the Munsell system, questionnaires, color-samples and standard notification can lead to answers about the use and the meaning of colors, basically because the Bassese are old people with tired eyes and no experience of laboratory apparatus. Exploring perception and language exposes our methodological dilemma.

Evans and Wilkins were among the first who explored the relation between body-conceptions, cultural practices and linguistic expressions, and demonstrated that "*the same domain can have its 'universal' and 'relativistic' sides; a foot in nature and a foot in culture*" (Evans&Wilkins 1998: 54). Endangered languages conserve worlds of sense that change rapidly because of various reasons in larger and/or dominant languages: Perception can be regarded as a field where language reflects this rapid shift of concepts. Our analysis and understanding of languages and the grammar of the senses fail, if we treat cultural, social and historical parameters as subordinate matters or even not at all.

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[16] Summary and historical background of the theory see Hardin, Maffi and Kay (1997), for a critical overview based on anthropological concepts see Saunders 2000.

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