

Meaning and translation in linguistic fieldwork*

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This paper is set within the context of semantic typology, focusing on the collection of semantic data during fieldwork on under-described languages. The study explores central issues of meaning and translation through the example of the investigation of the lexical meaning and part of speech of property-denoting expressions in West Chadic languages, which demonstrated that these expressions are inchoative verbs. It focuses on identifying the various points where the meaning of translation equivalents intruded into the semantic analysis, thus obscuring the meaning of the expressions under investigation. The paper addresses the ambivalent nature of translations, the role of contextual information, and the (dis)advantages of different methods. It shows how the interaction of various sources of information enables us to move beyond translation equivalents towards a semantic analysis, and eventually to semantic comparisons.

“[T]he chief failing of a field dictionary is that it indicates not so much the meanings of words but the fact that they exist.” (Samarin 1967:208)

**nung* (Angas-Goemai group)¹

... adjective. soft, intelligent.

... verb (stative). be ready, be cooked, be done.

... verb (inchoative). ripen.

1. Background

Whenever we research under-described languages in the field, we engage with semantics. Even when a semantic analysis is not the explicit goal of our research, we still need to establish basic semantic facts: we have to find appropriate glosses for both lexical and grammatical expressions, to group them into larger classes, and to compare these classes in terms of their meanings and functions. But many linguists would go further and are explicitly interested in pursuing questions of semantic

universality and diversity. In recent years, a number of overview articles appeared that testify to such an interest (Bach and Chao 2009; Evans 2010; Koptjevskaja-Tamm et al. 2007; see also Evans and Levinson 2009:435–436). These articles are written from different theoretical perspectives and have different emphases, but they are all concerned with the possibilities of comparing lexical semantic structures across languages; they summarize and discuss the implications of existing semantic typologies and sketch some of the major challenges in this field, one of which is a methodological challenge. This article pursues this methodological challenge as it arises in the investigation of lexical semantics under fieldwork conditions. Its focus is on identifying parts of speech, more specifically, on identifying the part of speech that is normally labeled ‘adjective’.

The methodological challenge here arises because it is intrinsically difficult to understand and describe the meaning of an expression. As Koptjevskaja-Tamm et al. (2007: 176) put it, “[this] enterprise is far from obvious even for the researcher’s native tongue; for other languages it easily gets insurmountable.” Given that these difficulties even exist for native-speaker linguists (who need to find ways of tapping into their own intuitions as well as into their fellow speakers’ intuitions), it is even less clear how they can be addressed by the many field linguists who are not native speakers of the languages they study. In fact, semantics textbooks (see especially Lyons 1977; Cruse 1986; 2000)² show considerable skepticism about the possibilities of semantic analyses under such conditions, arguing that we cannot fully rely on our established fieldwork methods (i.e. elicitation and observation). Summarizing their arguments in a simplified way, they say that elicitation cannot work because semantic facts are too subtle and context-dependent. As such, they are not easily accessible to direct native-speaker intuitions or thus to elicitation. Conversely, observation (subsuming both participant observation and observations from natural text corpora) cannot work because it does not contain crucial negative evidence, provides too few examples of a given expression, and often lacks adequate contextual information. To avoid any misunderstanding at this point, we are not arguing that these methods are irrelevant to a semantic analysis. The argument is instead that they do not — and cannot — provide all the data and information necessary for conducting such an analysis.

Given these limitations, semantic research “is therefore in need of constantly inventing, testing, and elaborating its methods of data collection” (Koptjevskaja-Tamm et al. 2007: 175). The initiative here comes from cross-linguistic investigations of specific semantic domains, since such studies necessarily have to address the methodological challenges for the given domain — with important studies on lexical semantics in areas such as space and motion events (e.g. Ameka and Levinson 2007; Bohnemeyer et al. 2007; Levinson and Meira 2003; Pederson et al. 1999; Talmy 1985), color (beginning with Brown and Lenneberg 1954; and Berlin and

Kay 1969), kinship (Lounsbury 1969), taxonomies of plants and animals (Berlin et al. 1974; Berlin 1992), body parts (Anderson 1978; Brown 1976; Majid et al. 2006), and lexical aspect (beginning with Vendler 1967). These comparative studies have subsequently been applied to individual fieldwork situations, with field linguists using or adapting the proposed methods in their investigations of the corresponding semantic domains of their field languages.

However, there are very few methodological discussions on semantic fieldwork in general, with only a few articles dedicated to specific issues (Dimmendaal 1995; Evans and Sasse 2007; Haviland 2006; Hellwig 2006; Matthewson 2004), and an edited volume that focuses on semantics within the context of language documentation (Austin 2007). It is especially striking that the many textbooks on linguistic fieldwork devote but little attention to questions of semantic fieldwork (e.g. Bouquiaux and Thomas 1987; Bownern 2008; Crowley 2007; Everett and Sakel, to appear; Gippert et al. 2006; Kibrik 1977; Newman and Ratliff 2001; Payne 1997; Samarin 1967; Vaux and Cooper 1999). These books largely confine their semantic discussions to semantic domains within the lexicon, but exclude methodological discussions on issues such as identifying ambiguity as opposed to vagueness, establishing sense relations, and distinguishing between semantic entailments and pragmatic implicatures. This is in stark contrast to their very detailed suggestions for collecting and interpreting phonetic, phonological, morphological, and syntactic data. A similar situation holds for volumes that summarize our knowledge of specific areas and language families. For example, the most recent textbooks on African linguistics (Heine and Nurse 2000; 2008) include very useful chapters on phonology, morphology, and syntax, but none on semantics.

Even more revealing is a specific case where the fieldwork literature explicitly mentions semantic fieldwork. In an edited volume dedicated to fieldwork within African linguistics, Klein-Arendt (2002) discusses methodological issues that arise when conducting comparative research on lexical semantics among related languages, and proposes a time limit of two hours in which to, ideally, collect several hundred lexical items. This discussion points to a considerable difference in different scholars' understanding of what is meant by semantics; under ideal circumstances, such an approach may offer just about enough time to collect translation equivalents, but certainly not enough to collect data that lends itself to a semantic analysis. It is true that other textbooks on fieldwork methodology do not equate translation equivalents with semantics, and some even comment explicitly on the absence of semantic analyses. For example, Samarin (1967:208) points out that "the chief failing of a field dictionary is that it indicates not so much the meanings of words but the fact that they exist." But it is also true that the methodological challenges of semantic fieldwork are not, or not adequately, addressed in the relevant literature. In actual fieldwork practice, we tend to rely unduly on

translations (from a metalanguage into the language under investigation and vice versa),³ and we then use the resulting translation equivalents as the basis for our semantic analyses. In this context, we often forget that they only provide an indication to the meaning of an expression, but that they do not constitute its meaning.

This paper pursues issues of meaning and translation, using the example of the investigation of property-denoting (or “adjectival”) expressions in some West Chadic languages. This example was chosen because it constitutes a typical example of fieldwork-based research: it covers a central part of the grammar (in that every field linguist needs to understand how the language codes such concepts), there is a considerable body of typological literature available (e.g. Dixon 1982; Dixon and Aikhenvald 2004; Stassen 1997), and yet there are only a few methodological guidelines on investigating this domain under fieldwork conditions. Shifting the perspective slightly, we can say that this paper is concerned with methodological issues that arise when identifying word classes.

The paper is structured as follows: Section 2 describes the author’s chronological discovery process for Goemai; Section 3 abstracts away from this concrete example to explore its more general lessons for semantic fieldwork; and Section 4 provides a summary.

2. Property-denoting expressions in Goemai

Goemai is a West Chadic language of the Angas-Goemai group. It is spoken by approximately 200,000 speakers in Central Nigeria at the southern fringes of the Jos Plateau *sprachbund*, an old contact area between speakers of non-related Chadic and Benue-Congo languages. Over the past decades, the pattern of language contact has changed, and the Chadic language Hausa has emerged as the dominant lingua franca. All Goemai are now bilingual in Hausa, which is increasingly used as the main — and often only — language among younger generations.

The language has about 50 expressions that denote property concepts, covering Dixon’s (1982) semantic types of dimension (e.g. *suòe*⁴ ‘long’), physical property (e.g. *zòòm* ‘cold’), color (e.g. *b’áng* ‘red’), age (e.g. *gyà* ‘old’), and human propensity (e.g. *zòk* ‘generous’). Other types such as value (e.g. *d’óng* ‘good’) or speed (e.g. *d’at* ‘fast’) were excluded from the present discussion because of their different morphosyntactic behavior. This section explores the discovery of their meaning and word class membership over the course of seven years of fieldwork. Section 2.1 sets the scene with a review of the available literature, highlighting the important role of translation equivalents. The remaining Sections 2.2 to 2.4 discuss my fieldwork experience in more detail, focusing on my methodological and analytical mistakes, and on my gradually emerging understanding.

2.1 Translation equivalents and their analyses: A review of the literature

The Angas-Goemai group numbers 12 distinct languages. Several of them have received linguistic attention over the past 100 years, and we now have access to many good wordlists, dictionaries, grammatical sketches, and full grammars. The available material shows that these languages are closely related, sharing many forms and, presumably, meanings (Jungraithmayr and Ibriszimow 1994; Newman 1977; Takács 2004). This also includes the domain of property expressions, and three selected cognates from this domain are illustrated in table (1). Notice that while the different sources agree on their lexical content, they disagree considerably about their word class.⁵ All major word classes (with the exception of adverbs) are proposed: adjectives, nouns, and verbs. And within verbs, the suggestions include intransitive stative ('be') and inchoative ('become') verbs, as well as transitive causative ('make') verbs.

Given the otherwise close similarity of these languages, it is striking that the different sources advance such different analyses. A likely explanation is that the

Table 1. Translation of cognate property expressions in Angas-Goemai

Goemai:			
Sirlinger (1937: 33, 251, 282; 1946: 36, 59)	<i>dêt</i> , n. bitterness	<i>toep</i> , n. blackness – v. make black – adj. black	<i>zââm</i> , n. cold – v. make cold – adj. cool
Hoffmann (1975: 19, 21)	<i>dêet</i> , v. be bitter	<i>tep</i> , v. be black	<i>zoom</i> , v. become cold
Kraft (1981: 4, 54)	<i>dêt</i> , n. bitterness	<i>têp</i> , adj. black	<i>zôm</i> , n. coldness
Angas:			
Foulkes (1915: 198, 293, 310, 313)	<i>gyit</i> , <i>yit</i> , adj. bitter	<i>tîp</i> , adj. black	<i>zûm</i> , adj. cold
Burquest (1971: 23, 41; 1973)	<i>yityit</i> , adj. bitter	<i>t^hîp</i> , adj. black	–
Gochal (1994: 61, 124, 128)	<i>ghyit</i> , adj. bitter	<i>tip-tip</i> , adj. black	<i>zum</i> , adj. safe
Mwaghavul and Mupun:			
Jungraithmayr (1963: 63, 86, 89)	<i>dêet</i> , adj. bitter	<i>tûp</i> , adj. black	<i>zûgûm</i> , adj. cold
Frajzyngier (1991: 15, 63, 70; 1993)	<i>dêet</i> , v. be bitter	<i>tâp</i> , v. be black	<i>zûm</i> , <i>zûum</i> , v. be cold
Mushere:			
Jungraithmayr & Diyakal (2008: 252, 284)	<i>dôot</i> , n. bitterness	<i>tip</i> , n. blackness	–

adj. = adjective; n. = noun; v. = verb

English or German (as several of the authors are German) category of adjective does not exist in the Angas-Goemai group in the same way. This section explores how the different authors have dealt with this situation.

A number of authors analyze and translate property-denoting expressions as adjectives. In all cases, the focus is exclusively on their attributive function: the authors present a structure that consists of a noun followed by a property expression, which then receives an adjectival translation. For example, Foulkes (1915: 26) gives the Angas example of “*lũ wǎrn* = a big, large, spacious room”, and concludes that adjectives are abundant in Angas.

The authors, however, all hedge on the matter. Foulkes (1915) suggests that the relevant construction may be ambiguous between attributive (‘a big room’) and predicative (‘the room is big’) uses. Burquest (1973) also comments on this predicative nature, and gives evidence that the attributive forms may have derived from embedded sentences. And Gochal (1994) mentions that attributive expressions usually occur reduplicated (i.e. formally marked). Interestingly, non-reduplicated attributive forms occur almost exclusively in the section of Foulkes that explicitly discusses adjectives (1915:26). In most other instances, by contrast, attributive uses exhibit reduplicated forms, and only predicative uses exhibit non-reduplicated forms. In the latter case, this includes examples such as (1) where the relevant expression is marked for aspect.

- (1) *Tār pǒ wǎrn pǒ wǎrn.* (Angas)
 moon CONTINUOUS big CONTINUOUS big
 ‘The moon is waxing.’ (Foulkes 1915:301)

In a similar way, Gochal unambiguously analyzes and translates property expressions as adjectives in his section titled “the adjective” (1994: 104–106), e.g. *bak* ‘adj., small’. But in the remainder of his grammar, these expressions receive a verbal gloss (e.g., *bak* ‘to be(come) small’ on page 74), or they occur in predicative function with tense or aspect marking (e.g., *khi bak* ‘FUTURE small’ on page 129). In some cases, Gochal attempts to reconcile these differences by positing “homographs”, e.g. he argues that a word such as *dit* is “homographic” (or maybe better heterosemous) between “(i) small” and “(ii) to be short” (1994:62). A comparable ambivalence is attested in Mwaghavul where Jungraithmayr (1963) posits a word class of adjectives, but then suggests that many adjectives are also nouns. Presumably, he assumes some form of heterosemy when he characterizes words such as *rét* as “‘das Gute, der Segen’, aber auch ‘gut, segensreich’” (= “‘the good, the blessing’, but also ‘good, benedictory’”) (1963: 25).

In the light of these hedges, one cannot help wondering whether the proposed adjectival analysis was influenced by the word class of the Germanic translation equivalents — the categories of the authors’ native languages (in the case of

Foulkes, Jungrathmayr and Burquest) and the categories acquired through formal linguistic training (in the case of Gochal). Gochal is a native speaker of Angas (see Ameka 2006 for a discussion of challenges faced by many native-speaker linguists), yet he explicitly evokes an English model: he (1994: 104) defines an adjective semantically as “a word that names a quality or a characteristic”, equates Angas property expressions with English attributive adjectives, and concludes that the two languages differ only in the relative order of noun and adjective. That is, there is a clear tendency to equate lexical content and combinatorial possibilities. The authors agree more or less on the lexical content (as denoting properties). But this observation is not followed by an analysis of the combinatorial possibilities in these languages, i.e. of the grammatically-relevant meaning components. While the lexical content may indeed be similar to that of Germanic property-denoting expressions, their combinatorics may well be different from the word class of Germanic adjectives. Despite some unease with the adjectival analysis, the authors do not explicitly take this latter possibility into account. Implicitly, however, all authors suggest alternative nominal or verbal analyses.

A nominal analysis is also found in the early descriptions of Goemai by Father Eugene Sirlinger. He goes as far as to say that “[g]enerally speaking there are no real adjectives in Goemai” (1942:37), and he argues that nouns can be used as adjectives. It is not clear how he arrived at this nominal analysis given that the vast majority of his examples feature slots whose grammatical functions are not obvious (as in 2a) — they could be slots for nouns, verbs, or adjectives. Only a handful of examples, scattered throughout his dictionaries, clearly feature property concepts as abstract nouns (that occur, e.g. in subject function, as in 2b). In addition, there are numerous examples of property expressions occurring as transitive verbs (as in 2c).

- (2) a. *Goeshing noeha toep.* (Goemai)
 horse this ??blackness
 ‘This horse is black.’ (Sirlinger 1942:37)
- b. *Bal thap n’gong noe.* (Goemai)
 hardness break in.nose my
 ‘The hardness is broken in my nose (= my nose is bleeding).’ (Sirlinger 1937:10)
- c. *Bimoe toep sa goe toe?* (Goemai)
 what make.black hand your emphasis
 ‘What is it that blackened your hands?’ (Sirlinger 1937:251)

Given the sketchy language-internal evidence, it seems more likely that Sirlinger’s nominal analysis was influenced by the categories of yet another language of translation: the related Chadic language Hausa. This language lexicalizes

comparable concepts as nouns or nominal adjectives (i.e., adjectives with nominal properties).

The Hausa influence is even more obvious in Kraft (1981). He collected vocabularies with the help of a standard wordlist, which was administered in Hausa and given an additional English translation. Depending on the category of the Hausa translation equivalent, property concepts are found under either nominal or adjectival translations. For example, *tep* receives the adjectival translation 'black' (corresponding to the Hausa nominal adjective *baakii*), but *zòm* the nominal translation 'coldness' (corresponding to the Hausa noun *sanyii*). This even includes the different treatment of closely related concepts, e.g. *niyàl* 'thin' (see the corresponding Hausa nominal adjective *siriiri*) and *dowàl* 'fatness' (see the corresponding Hausa noun *kibàà*). To be fair, Kraft was interested in collecting a vocabulary that lends itself to a phonological analysis, not to a semantic analysis. But his procedure highlights a major issue in field linguistics: For many languages, comparative wordlists provide the only available data, and it is fairly easy to uncritically assume that translation equivalents represent language-internal meanings.

In contrast to Sirlinger and Kraft, other authors pursue a verbal analysis. This includes Hoffmann (1975) who, like Kraft, collected words for the purpose of a phonological comparison. He consulted all earlier sources, and supplemented them with his own material. Interestingly, despite his extensive use of these earlier sources, he chose not to follow their analyses. Instead, he consistently translated such expressions as intransitive stative verbs (e.g. *tep* 'to be black') and, in two instances, as intransitive inchoative verbs (e.g. *zoom* 'to become cold'). Unfortunately, the motivation for this decision remains unclear.

In two other cases, the motivations for a verbal analysis are clearer. Frajzyngier (1991; 1993:66–73) and Jungraithmayr and Diyakal (2008:29) show for Mupun and Mushere respectively that these expressions distribute in a similar manner to verbs and should therefore be analyzed as a subclass of verbs. Jungraithmayr and Diyakal add that some such expressions are only attested with nominal bases (e.g. the forms listed in Table 1). While the verbal analysis is thus motivated by means of a distributional analysis, the predominant choice of stative glosses is not. Frajzyngier does not discuss lexical aspect at all; Jungraithmayr and Diyakal do not explicitly discuss it either, but some comments indicate that they consider these verbs to be inchoative. Interestingly, these comments are not reflected in the accompanying wordlist, where we find varying translations: compare *shikír* 'to become old' (2008:280), *tékén* 'to be heavy' (2008:283), and *pyáa* 'to be(come) white' (2008:277). And they are not reflected in the text corpus either, where an expression is sometimes glossed as stative and sometimes as inchoative. Compare the glossing of *tékén* 'heavy' in (3a) and (3b).

- (3) a. *Yíl tékén máà*
 ground be.heavy:PERFECT/AORIST surpass:PERFECT/AORIST
màng. (Mushere)
 lift:VERBAL.NOUN
 ‘The ground is too heavy to be lifted (= referring to a problem which is too difficult to be solved).’ (Jungraithmayr and Diyakal 2008: 100)
- b. *Yítká tékén.* (Mushere)
 eyes.2SGM.POSS become.heavy:PERFECT/AORIST
 ‘Your eyes are heavy (= you are feeling sleepy).’ (Jungraithmayr and Diyakal 2008: 166)

It is very likely that the different glosses in (3a) and (3b) (and by extension the different translations in the wordlist) reflect aspects of our world knowledge that originates in our linguistic backgrounds. Things tend to **be** heavy, but Germanic languages allow us to construe the situation in (3b) differently: eyes tend to **become** heavy, as one **becomes** sleepy. This is not to argue that it is impossible for a language to lexicalize both stative and inchoative concepts within one verbal root, but there are no indications that the translations above are based on such a semantic analysis.

Instead, there are indications that world knowledge accounts for many other translations as well. For example, Frajzyngier translates *dyèn* as stative ‘be small’ (1991: 17) and *nán* as inchoative ‘grow big’ (1991: 41). The cognate Goemai forms, *d’yén* and *nán*, refer to both size (small, big) and age (young, old), and constitute antonyms in this language — and while it is common knowledge that animates grow older, it would require very special circumstances indeed for someone to grow younger. This world knowledge very likely accounts for the stative and inchoative translation respectively.

Even more revealing are lexical items that receive multiple translations in different word classes, which reflect our conceptualization of the different translation equivalents. An excellent example for this is the word *nùng* ‘ready, including ripe (of crops), cooked (of food), experienced (of people), healed (of wounds).’ Jungraithmayr (1963: 77) translates the cognate Mwaghavul form as the adjective ‘soft’. Jungraithmayr and Diyakal (2008: 274) translate the corresponding Mushere form as the inchoative verb ‘ripen’ and the stative verb ‘be ready.’ Gochal (1994: 132) translates the Angas form as inchoative ‘become ripe’ and stative ‘be ready for consumption.’ And Foulkes (1915: 256) suggests his usual adjectival translation (‘intelligent’), but also volunteers a rare verbal translation (both inchoative ‘become ripe’ and stative ‘be ripe’). Presumably, these differences in translation do not reflect a semantic analysis. Instead, the Germanic translations seem to predispose us to think of ‘ripe’ as a state change (something ripens, i.e. it **becomes** ripe), of ‘ready’ as a state (something is ready), and of ‘soft’ and ‘intelligent’ as attributive adjectives.

The purpose of this survey was not to criticize the various sources. On the contrary, I consider them to be excellent: They provide information that allows us to understand the motivations behind their translations, and to trace those counter-examples that explain why the authors often introduced qualifications. Many of the authors have a very good knowledge of the languages, and the purpose of this exercise was to show that — despite this knowledge — it is very easy to fall into the trap of first translating lexical items into a metropolitan metalanguage and then uncritically using the resulting translation equivalents as the basis for language-internal analysis. This unconscious procedure is visible in all the available sources to different degrees. The older sources base their analyses fairly obviously on the word class of the translation equivalents (i.e., English adjectives and Hausa nouns). The later sources are more sophisticated as our typological and methodological knowledge has advanced, and we know about the need to resort to language-internal distributional criteria. Consequently, these later sources offer a verbal analysis. However, the reliance on translation equivalents still shows in their choice of lexical aspect: the majority of expressions are translated as stative verbs — and authors only depart from this analysis when translation equivalents and / or world knowledge suggest otherwise.

2.2 Eliciting translations

Most of the literature summarized in Section 2.1 was available to me before my first fieldwork in 1999, alerting me to the fact that the word class membership of property-denoting expressions is problematic. Towards the beginning of fieldwork, I relied heavily on translations of Hausa (and sometimes English) isolated words and sentences. This initial corpus also contained a number of property-denoting expressions, which almost always occurred in nominal contexts, e.g. together with nominal modifiers such as possessors and definite articles (in 4a), or in subject function (in 4b).

- (4) a. [ròk múk=hók]_{NP} [p'ùùr]_{ADV}
 sweetness 3SG.POSS=DEF very
 ‘its sweetness (is) a lot’ — Translation of the Hausa sentence: ‘zaakinsà yaa yi yawàà (lit. its sweetness is/does much)’ (j-14/01/99)
- b. [f'yér]_{NP} [wúl]_V
 oldness arrive
 ‘old age has arrived’ — Translation of the English sentence: ‘he is old’ (a-19/09/00)

The above distribution suggested that the relevant expressions are nouns. And this distribution happened to tie in with my own expectations: Based on

my knowledge of Hausa, I expected a nominal coding in Goemai as well. Consequently, I had no misgivings about assigning these expressions to the word class of nouns in the dictionary of the Goemai language I was working on.

This analysis was only challenged when I started working with natural texts. Surprisingly, they did not contain a single example of a property-denoting expression in a clear nominal context. Instead, they occurred in environments whose grammatical function was not obvious (as in 5a) as a nominal or adjectival complement of a non-verbal clause, or as a verb. And, even more surprisingly, a few examples were marked for tense, aspect, or modality (as in 5b). Speakers always translated such examples into English with stative expressions.

- (5) a. *puòe muép [tép]_{N~ADJ~V}*
 mouth 3PL.POSS blackness ~ black ~ be.black
 Translation offered by speaker: 'their mouths are black.' (d00Janimal10)
- b. *t'óng gòe [tép]_{N~ADJ~V} yì*
 IRR FUT.DEF blackness ~ black ~ be.black CONS
 Translation offered by speaker: 'so it will definitely be black.'
 (c01ANhand)

Examples such as (5a) and (5b) motivated me to conduct further elicitations with an aim to understanding their syntactic structures. This kind of elicitation relied on the substitution of forms within a given morphosyntactic context.

First, these elicitations established that nouns (i.e. words that are attested with nominal modifiers such as the definite article, or that are attested in argument function) cannot occur in contexts such as (5a) and (5b). For example, (6a) is ungrammatical. Words that denote activities (and thus are presumably verbs), by contrast, easily occur in such contexts (as in 6b). This finding suggested that *tép* in (5a) and (5b) does not function as a noun, but as either a verb or an adjective. I decided to follow Frajzyngier's (1991) analysis for Mupun, and labeled these expressions "adjectival verbs".

- (6) a. **t'óng gòe [lóng]_N yì*
 IRR FUT.DEF chief CONS
 'so he will definitely be a chief' (a-18/06/01)
- b. *t'óng gòe [shín]_V yì*
 IRR FUT.DEF do CONS
 'so he will definitely do it' (a-18/06/01)

Secondly, systematic elicitation showed that a limited number of lexical fields allow their members to occur as both verbs and nouns. This mainly includes fields such as 'putting and taking', i.e. fields that, from a typological perspective, constitute prime candidates for a basic verbal meaning (see 1a in Table 2). Most other

Table 2. Derivational possibilities

	Verb		Noun	
(1a)	<i>màng</i>	lift	<i>màng</i>	lifting
(1b)	<i>d'ík</i>	build; marry	<i>d'ík</i>	marrying, marriage
(2a)	<i>d'án</i>	cook	<i>bì d'án</i>	cooking
(2b)	<i>d'èk</i>	move up and down (e.g., winnow grain, nod head, wink eye, move hand)	<i>bì d'èk</i>	winnowing
(3a)	<i>t'ém</i>	tell	<i>nyèt'ém</i>	telling, report
(3b)	<i>d'úk</i>	move in quick succession (e.g., stammer, beating of heart, blinking of eye)	<i>nyèt'úk</i>	stammering, stammer

lexical fields overtly derive nouns from verbs (see 2a and 3a in Table 2). By contrast, there is not a single mechanism available that derives verbs from nouns (or any other word class). In terms of their grammar, the verbal form always exhibits the full morphosyntactic possibilities of verbs, but the nominal form only occurs in restricted nominal contexts. And in terms of their semantics, the nominal form often denotes a subset of the meaning range of the verbal form (see the (b) examples in Table 2).

The elicited data thus suggests that the property expressions are basically verbs, from which nouns can be derived through zero derivation or conversion. I therefore changed the word class in my Goemai dictionary from 'noun' to 'stative verb'. Their analysis as 'verbs' was based on their morphosyntactic distribution; but their analysis as 'stative' was based on the spontaneous stative translation of examples such as (5a) and (5b).

This revised analysis, of course, leads to the question as to why speakers consistently volunteered the nominal form in translated utterances (as in 4a and 4b). It should be noted that these translations are not wrong as the Goemai language allows property expressions to occur as nouns. However, the translations are misleading in that these expressions basically function as verbs. In the case of translations from Hausa, it is likely that the nominal Hausa expression biased the speakers towards a nominal Goemai translation. For example, sentence (4a) is an almost literal translation of the Hausa original. In the case of translations from English, however, it is not immediately obvious why speakers volunteered a nominal translation. Anticipating the discussion in the following sections, I suggest that this has to do with the lexical aspect of the original sentence: I asked for stative translations, and this cannot be done by means of the verb.

A comparable situation arose with respect to causative contexts: I asked speakers to translate causative sentences, and I consistently received analytic causatives consisting of a main verb *shín* 'do' plus an intransitive property-denoting verb (as

in 7a). The natural texts, by contrast, do not contain such structures. Instead, they contain direct transitive uses of the lexical items in question (as in 7b). Again, it is very likely that the analytic English original biased speakers towards using the corresponding analytic Goemai translation.

- (7) a. *Ná gòe-ná lóngvilip díp rínòe shín ní=núng.*
 see NMLZ-see paper all LOC.ANAPH do 3SG.SBJ=ready(SG)
 Translation of the English sentence: ‘reading this entire book made him wise’ (lit. seeing this entire book made (it so that) he was ready (= wise, if predicated of people)) (d-05/01/00)
- b. *Muèp núng ji.*
 3PL.SBJ ready(SG) SGM.LOG.SP.OBJ
 ‘(He₁ said) they made him₁ wise (lit. they readied him):’ (D04NSem5)

Based on examples such as (7b), I added a transitive gloss to the relevant entries in the dictionary, thus suggesting that they are heterosemous between intransitive and transitive uses. For the purposes of this paper, I will focus on the intransitive use only.⁶

2.3 Translations pointing to meanings

Section 2.2 gives reasons for analyzing property-denoting expressions as intransitive stative verbs. A comparable analysis is pursued by Hoffmann (1975), Frajzngier (1993), and Jungraithmayr and Diyakal (2008) for different Angas-Goemai group languages. For Goemai, I persisted with this analysis for several years, until — very slowly — two factors emerged that suggested otherwise. First, my increasing familiarity with the typological literature made me feel uneasy with this analysis: Talmy (1985), e.g. argues that languages may allow for the conflation of stative and inchoative within a single verb, or of inchoative and causative, but not of stative and causative only. And second, my increasing proficiency in the Goemai language allowed me to work more intensely with natural texts. The texts and their translations into English provided me with a number of examples that cast doubts on my analysis — the examples were too many to ignore or to attribute to errors of speech or transcription.

These suspicious examples include the regular occurrence of property-denoting expressions in the following three contexts: as intransitive verbs in the progressive construction (as in 8a), as intransitive verbs in the resultative construction (as in 8b), and as derived expressions in seemingly stative contexts (as in 8c).

- (8) a. *Muèp d’è t’óng rás yi.*
 3PL.SBJ exist(PROG) PROG ??be.lean/thin(PL) PROG
 ‘They are getting thin.’ (f99Anti)

- b. *Là yóe f'yér kàm b'è!*
 child(SG) 2SGF.POSS ??be.big(SG) RESULT EMPH
 'Your child is really growing!' (overheard utterance, a-11/02/00)⁷
- c. *Nzùùm, muép à mòe-tép.*
 ant.type 3PL.I FOC NMLZ(PL)-??be.black
 'The *nzuum* ants, they are black ones.' (d00Janimal10)

The above distribution — together with the translations provided by the speakers — suggests that these verbs may not be stative. On the one hand, stative verbs are unexpected in progressive- and resultative-type constructions (see the discussion in Section 2.4). And on the other hand, it is not obvious why a stative verb should occur derived in a stative context. While these examples thus strongly suggest exploring alternative analyses, they cannot prove that these alternative analyses are valid. To prove this, we would need to have access to the real world scenarios that they describe. For the moment, we do not know whether, e.g. sentence (8a) describes a state change in progress ('they are becoming thin'), a continuing state ('they are being thin'), a habitual state ('they are commonly thin') or something else. The proposed translation is suggestive of the first alternative. And there are, indeed, interesting approaches that explore the use of professionally translated corpora for semantic analyses (Noël 2003). However, the reader should bear in mind how such translations often arise in the fieldwork context. In this case, they are negotiated between me and the speakers: English is not our native language, and we speak different varieties of English (academic English vs. Nigerian English). For the purposes of this paper, I have taken care to select examples that were translated by proficient speakers of English. But the corpus contains many translations into English that were made by semi-speakers of English as well as translations into Hausa (that were then interpreted by me as a semi-speaker of the Kano variety of Hausa, which is again different from Plateau Hausa as spoken by the Goemai). In addition, Dimmendaal (1995: 19) very nicely captures an important interpersonal aspect of this translation process when he says that "[g]losses often reflect an informant's satisfaction that the investigator has learned an approximate meaning, but this may still be different from a correct definition of what a particular term actually refers to in the language under investigation." This discussion should not undermine the possibility that translation mistakes may contain clues to language-internal meanings. For example, Schneider-Blum (p.c.) reports that speakers of the Cushitic language Alaaba frequently asked her in English "have you tired?", thus reflecting the fact that the corresponding Alaaba word *hoogú* is not stative 'be tired' but inchoative 'become tired'. Instead, the discussion should serve to highlight the fact that we need to treat translations with circumspection.

Finally, to discover the meaning of the property-denoting expressions, we also need to discover the meaning of the constructions they occur in. For example, it is not obvious how the meaning of the verb and the meaning of the progressive construction interact to give the translation in (8a). In the text corpus, we find numerous translations that provide clues to the meaning range of the progressive construction — progressive translations (9a), habitual translations (9b), and iterative translations (9c).

- (9) a. *Gòe-pèp lú múk t'òng t'óng b'úén*
 NMLZ(SG)-master settlement 3SG.POSS sit(PROG) PROG watch
nì yi.
 3SG.OBJ PROG
 'His master sat watching him.' (f00Caas)
- b. *tún sóe gòe-sék, fuán d'è t'óng t'óng yi*
 since time NMLZ(SG)-body rabbit exist(PROG) PROG sit(SG) PROG
n-gòedè yím.
 LOC-bottom:GEN leaf
 'from that time on, the rabbit was (always) sitting under the leaves.'
 (f00Cfuan)
- c. *p'yáram ués, k'áu k'áu k'áu. Gòpé ní k'óeléng*
 break(PL) bone <QUOTE> THAT/WHEN 3SG.SBJ hear/smell
d'uòe ués gòe-d'è t'óng p'yáram yi (...).
 voice:GEN bone NMLZ-exist(PROG) PROG break(PL) PROG
 '(he₁) broke the bone, k'au k'au k'au. When he₂ heard the sound of the
 bone that was breaking (repeatedly) (...).' (f00Caas)

Again, these translations point to possible meanings, but they do not prove them. First, we do not know the real-world scenarios they describe. The translations merely suggest that (9a) describes an on-going activity, (9b) a habitual state and (9c) an iterative event. Second, we do not know the causes for the different translations. They could arise from the verb meaning, e.g. from their lexical aspect; an activity verb could cause a progressive translation (in 9a), a stative verb could cause a habitual translation (in 9b), and a punctual verb could cause an iterative translation (in 9c). Alternatively, the progressive construction could be polysemous, allowing for two or more different senses, and each verb is compatible with each of these senses. Or something else in the utterance could trigger the different translations: e.g. it is conceivable that the habitual translation of (9b) is coerced by the adverbial phrase 'from that time on'. Third, the text corpus contains too few examples; although the progressive occurs often (in 1,192 of roughly 28,000 utterances in the corpus), it only occurs with a fraction of the known verbs (with 108 of 772 verbs). Most of the 108 occurring verbs are attested with one example

each, while only a handful of verbs are responsible for the bulk of examples. And fourth, related to the previous observation, there is a lack of negative evidence: We cannot know why the remaining 664 verbs do not occur in the progressive; nor can we know why certain verbs are attested with a progressive, habitual, or iterative translation only. The non-occurring verbs and translations could result from accidental gaps in the database — but they could also result from incompatibilities between the verb meaning and the construction meaning, which prohibit certain verbs from occurring in the progressive construction or from receiving a specific translation.

Both our typological knowledge and the natural texts thus point to problems with the stative analysis of Section 2.2. But while they highlight possible problems and suggest alternative analyses, they do not constitute proofs for these alternative analyses. The problems outlined above show that a text corpus and its translations alone are not enough to determine the verb meaning or the construction meaning: they constitute a valuable resource in that they raise intriguing questions, but they do not always answer these questions.

2.4 Moving away from translations to meanings

Section 2.3 illustrates how text corpora and their translations have intrinsic weaknesses when it comes to semantic analyses: It is often not possible to reconstruct the reference context, there are too few expressions, and there is no negative evidence. To counteract these weaknesses, I resorted to visual stimuli. These stimuli were developed between field trips, and were designed to test the hypothesis emerging from the text corpus that many of the verbs that I had glossed as stative may not in fact be stative. Given this research question, I focused on visualizing situations that I assumed to be lexicalized in stative and/or inchoative verbs. For property-denoting expressions, this included verbs from the fields of color (*b'áng* 'red'), dimension (*súòe* 'long'), age (*f'yér* 'big, old'), and value (*d'óng* 'good, beautiful'). Wherever possible, culturally specific knowledge was included in the visualizations (see below for an illustration). Altogether, the behavior of 30 different verbs was tested. Initially, I had intended to cover more lexical fields, but the process of stimuli development proved more time-consuming than expected. I therefore decided to augment the stimuli with elicitation, and this section describes both stimuli and subsequent elicitation.

The central importance of the stimuli was that they set up a reference context, allowing me to monitor the context and to manipulate the relevant parameters. Each time, I asked speakers to describe the witnessed scenario. The request was worded in such a way that the speakers had to adopt a specific perspective (so as to put some constraint on the potentially open-ended descriptive possibilities).



Figure 1. Video stimulus for *b'áng* 'red'

Within this framework, speakers could talk freely, and the procedure was open enough to generate the most natural way of describing the event from a specific perspective.

In one set of stimuli, speakers were shown contrastive video clips in a random order. One such contrastive set revolved around red water versus water turning red through the addition of red sorrel (which creates a popular hibiscus-based drink) (see Figure 1). In addition, each video showed a woman passing through the picture, and speakers were asked the question: *gòpé màt ñmòhóe d'è t'óng d'áláng yì, gònà á ñmòè?* ('as the woman is passing, what do you see?').

This video stimulus was run with several speakers who consistently gave the same answers. In the first scenario, they witnessed the woman passing while water was slowly turning red. That is, they witnessed a state change in progress, and responded with the verb marked for progressive aspect (as in 10a). In the second scenario, the woman passes only after the water had turned red (and no further state change occurs). That is, the speakers witnessed a completed state change, and responded with the verb unmarked for tense, aspect, or modality (as in 10b). And in the final video, the woman passes a glass of water, which does not change its color. That is, the speakers saw a stative context, and responded with the derived (nominalized) verb (as in 10c).

- (10) a. *Hàngòed'è=hók d'è t'óng b'áng yì.*
 water=DEF exist(PROG) PROG become.red PROG
 'The water is turning red.' (b01Ndpprog-083)
- b. *Hàngòed'è=hòk b'áng.*
 water=DEF become.red
 'The water has turned red.' (b01Adpprog-040)
- c. *Hàngòed'è=hòk à gòe-b'áng.*
 water=DEF FOC NMLZ(SG)-become.red
 'The water is red (lit. a red one).' (b01Ndpprog-067)

In another set of stimuli, speakers were presented with two pictures, the second of which depicted a change in property, e.g. in color. Speakers were then asked to construct a story that explained the change from the first picture to the second,

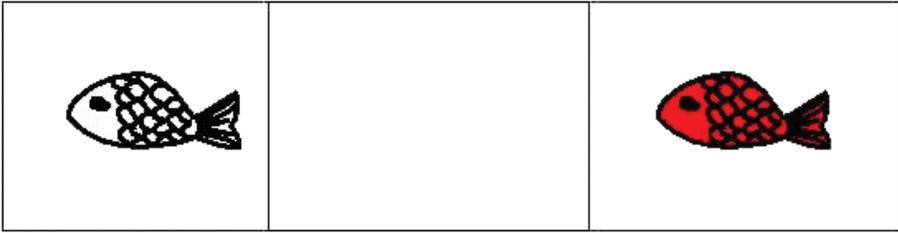


Figure 2. Picture stimulus for *b'áng* 'red'

e.g. the change in color that occurs when a *p'áán* fish reaches maturity (from white to red) (see Figure 2).

In such cases, speakers invariably focused on the completed state change and produced the verb unmarked for tense, aspect, or modality (as in 11).

- (11) *À bì gòe-sá tóe ní bá yi b'áng*
 FOC thing NMLZ-make EMPH 3SG.SBJ again(SG) CONS become.red
m-b'áng.⁸
 ADVZ-become.red
 'This is the reason why it has turned red again.' (b01Ninc-023)

I also followed up each time with a round of elicitation, in which I suggested alternative descriptions, and asked the speakers whether or not they were appropriate with reference to the witnessed scenario. The procedure serves to elicit judgments and negative evidence. For the property-denoting expressions, it showed that progressive-marked verbs were only acceptable in contexts such as (10a), unmarked verbs only in (10b), and nominalized verbs only in (10c).

Furthermore, the responses to the stimuli advanced my knowledge about the coding of lexical and grammatical aspect in Goemai, and thus allowed me to devise verbal test frames to systematically test a larger number of verbs. For example, consultants were presented verbally with two simultaneous events and were asked to describe them. Depending on their answers, I prompted them for alternative descriptions. If a sentence like (12) was, for instance, not possible, then the verb in question had to be stative.

- (12) *hèn=nà lá d'è t'óng VERB yi*
 1SG.SBJ=see child(SG) exist(PROG) PROG <VERB> PROG
 'I saw the boy (and he) was VERBing' (qXXXprog2)

It is possible to think of such test frames as an adaptation of lexical aspect tests (of the kind proposed by Vendler 1967, and developed further by Dowty 1979 and Van Valin and LaPolla 1997) to the study of Goemai. These tests were designed to capture the lexical aspect of expressions by means of their occurrence and their entailments in diagnostic contexts. For example, we know that stative

verbs are incompatible with a progressive interpretation. In a language such as English, stative verbs therefore cannot occur in the progressive construction (e.g. **he is knowing it* is ungrammatical for this reason). For other verbs, progressive marking is possible but triggers different entailments. An atelic expression (i.e. an expression that does not culminate in an endpoint) such as *he was running in the park* entails *he ran in the park*, but a telic expression such as *he was running to the park* does not entail **he ran to the park*.

Matthewson (2004) gives an impressive account on the implementation of such kinds of tests under fieldwork conditions. She argues for verbally setting up contexts, then providing speakers with expressions and asking them to judge these expressions against the provided contexts (see also Bickel 1997; 2000 who sets up similar contexts to test for the entailments of imperfective-type constructions in Belhare). This procedure is necessary because speakers always judge expressions against a context. If such a context is not provided, they have to create it themselves — which then happens outside the control of the researcher, and can easily lead to misunderstandings. Setting up such contexts thus directly addresses Lyons' (1977: 420) concern that “[w]hen our informants tell us that a particular utterance is deviant, anomalous, bizarre, etc., they may simply mean that they cannot immediately imagine the circumstances under which they would produce it.”

The main difficulty with verbally setting up contexts is that this approach still allows considerable room for misunderstandings and for accidentally priming the speakers — especially in situations where researchers and speakers do not share a language to the same high level of proficiency. It also presupposes a considerable knowledge of the language under investigation: The expressions need to be carefully constructed, and the researchers need to know which questions to ask in order to obtain meaningful judgments that shed light on the research question. In fieldwork situations, this state of knowledge only arises after considerable time and effort. The Goemai progressive construction can, again, be taken as an example. As shown in the discussion of (9a) to (9c), this construction can receive different (progressive, habitual, or iterative) interpretations, but the reasons for these differences are not obvious. That is, at the outset of the study, the progressive construction was unavailable as a reliable diagnostic context because its meaning range was unknown. After taking stimuli data into account, however, it became possible to link the different interpretation to different lexical aspects (in that only non-stative non-punctual verbs receive a progressive interpretation in this construction). This knowledge then allowed me to develop a test frame such as (12), which excludes a habitual interpretation. That is, fieldworkers have to adapt the lexical aspect tests to ensure that they really capture the distinctions that they should capture. In the case of Goemai, the stimuli results were instrumental in this process as they were available at early stages of the research (i.e. before I had a clearer understanding of

the language) and they helped me gain the kind of advanced knowledge necessary for the type of elicitation proposed by Matthewson (2004).

On the basis of the stimuli (as in 10a to 10c and 11) and the follow-up elicitation (as in 12), it was possible to prove that the vast majority of property-denoting verbs in Goemai are not stative but inchoative. These verbs can be used in reference to a completed state change (as in 10b and 11). But they need to be overtly derived by means of the nominalizing prefix in order to be used in a stative context (as in 10c).

The remaining puzzle concerns the observation that speakers overwhelmingly translate inchoative Goemai verbs in natural texts into stative English expressions. Clues to solving this puzzle came from discussions with the speakers, who invariably commented that such events took place in the past (as in 5a above) or that they were over at the time of reference (as in 5b). These comments mirror discussions within African linguistics (especially with reference to the Niger-Congo language family) about the meaning of verb forms unmarked for tense or aspect: They seem to be sensitive to the lexical aspect of the verbs, with non-stative verbs receiving a default perfective aspect or past tense interpretation (see especially Welmers 1973:346–347 on the so-called factative). And they tie in with discussions in the typological literature on aspect (Bybee 1994; Comrie 1976:82–84), with the stative translation of inchoative verbs in this unmarked context following from a pragmatic implicature — the assumption that the state-change has been completed, and that the resulting state now obtains (e.g. if something **has become** black, then it is now black).

To summarize the preceding discussion, I would propose, based on my current analysis, that the lexical entry for a Goemai property-denoting expression should appear as follows: ‘*tép* verb (intransitive). become black; — verb (transitive). make black; — nominalization. blackness.’ To translate these expressions as adjectives (‘black’) or stative verbs (‘be black’) is wrong; and to translate them solely as nouns (‘blackness’) is misleading. Note also that the adopted analysis raises further questions relevant to the grammar-lexicon trade-off (see Enfield 2006). The observed regularities permit us to treat the above heterosemy as part of the grammar (in that zero derivation or conversion accounts for the occurrence of the same lexical item in several word classes). At the same time, a number of semantic irregularities (see the discussion of Table 2) make it necessary to list the available possibilities and meanings for each lexical entry.

In this article, I have only discussed the predicative use of property-denoting expressions, since this is their primary use and underived Goemai forms cannot be used attributively. Instead, Goemai has a modifying construction (overtly marked by the prefixes *gòe-* (SG) and *mòe-* (PL)) that derives all attributive modifiers and that admits expressions from different word classes. This includes property-denoting expressions (mostly inchoative verbs, plus a few property-denoting

for the published descriptions of Angas-Goemai group languages. However, the literature survey in Section 2.1 suggests that other researchers also fell into the same trap, i.e. we relied unduly on the meaning of translation equivalents to capture the meaning of the expressions under investigation.

More generally speaking, the methodological discussion of Section 2 ties in with discussions on word classes. The example focuses on lexical items whose English translation equivalents are adjectives expressing properties such as dimension, physical property, or color. Many authors, including myself, have made the mistake of equating the Goemai words with their Germanic translation equivalents, and concluding that they belong to the same word class as their Germanic counterparts (i.e. that they form either a class of adjectives or a subclass of adjectival verbs) — even though their distribution is indistinguishable from that of verbs in that they behave identically in predicating function, and both can be derived as attributive modifiers.⁹ That is, it would be difficult to argue that Goemai has a lexical class of adjectives (as distinct from verbs).

Another central issue is the role of contextual information. In order to understand the meaning of an expression, we need information about its referential range or its extensions, i.e. the kinds of real-world scenarios it can describe. This phenomenon is well known and discussed in connection with elicitation methods: Speakers implicitly construct contexts against which they produce and judge expressions, and misunderstandings arise when speakers and researchers have different contexts in mind. But it is much less acknowledged with regard to natural data: In this case, the surrounding discourse context as well as access to part of the extralinguistic context helps us to situate an expression and to form hypotheses about the real-world scenarios it describes. However, even here, there are many situations in which the relevant information is either absent or only partially available (as demonstrated by examples 8 and 9). It should also be kept in mind that corpora resulting from fieldwork are small; while we may have relevant contextual information for a subset of the data, we never have enough examples to cover the entire referential range of an expression. Finally, it is not only necessary to know when an expression can be used, but also when it cannot be used. We require information about the equivalence and non-equivalence of expressions in reference to different real-world scenarios, i.e. we need negative evidence. This kind of information is very difficult to elicit (due to its potential for misunderstanding) and impossible to derive from natural texts (which, by nature of their genre, do not contain negative evidence).

Semanticists are aware of both above issues: the role of translation, and the role of reference. With regard to translations, they point to the fact that languages carve up the world in different ways, thus making it difficult to use translations when trying to understand meanings (see e.g. Jakobson 1971:260–267; Lyons

1968:470–481). And with regard to reference, every semantic textbook discusses differences and relationships between reference and meaning. For fieldwork purposes, this discussion finds its intuitively understandable application in Quine's (1960) *gavagai* problem: If a speaker points to a rabbit running by and says *gavagai*, how can we know whether it means 'rabbit', 'lo, a rabbit!', 'rabbit essence', 'a rabbit runs' or something else? That is, meaning is indeterminate, and cannot be captured solely by reference to the real world. In particular, it is not possible to use a single instance of *gavagai* to determine its meaning. Knowing the broader referential range would certainly help us to narrow down its meaning, but this knowledge would still need to be supplemented with negative evidence. This awareness among semanticists has not yet translated into actual fieldwork practice and methodology: translations form an important part of our fieldwork experience, and meaning is often established on the basis of a single referential use of an expression. Textbooks on field methodology keep suspiciously quiet on these issues.

The example of Section 2 has addressed these methodological issues by combining different methods, thus capitalizing on each method's advantages and guarding against its disadvantages. Observational data and natural texts presented crucial information about the naturalness and frequency of the elicited data (e.g., as discussed in Section 2.2, they showed that the nominal use of property expressions is very rare). And they provided suspicious examples and their translations, thus helping to discover new phenomena (e.g., as shown in Section 2.3, they cast suspicion on the stative analysis of property-denoting expressions, and they provided clues to the meaning range of the progressive construction). That is, this type of data served to check the naturalness of the elicited data, and to unearth new avenues of research. However, it was impossible to use this data to verify a specific semantic analysis due to the lack of negative evidence, the availability of too few examples of a given expression, and restricted contextual information. Elicitation was able to address some of these issues. It provided important negative evidence (e.g., as illustrated in 6a and 6b, it proved that Goemai nouns and verbs have different distributional possibilities; and as discussed in Section 2.4, it showed that property-denoting verbs cannot occur in stative contexts). And it made it possible to systematically test known phenomena with a large number of expressions, thus filling gaps and expanding the database (e.g. to test large numbers of verbs for their derivational possibilities (as shown in Table 2), or for the possibility of them occurring in the progressive construction with a progressive interpretation (as shown in example 12)). Elicitation also allowed me to explicitly discuss metalinguistic knowledge with speakers (e.g. their stative translation of inchoative verbs, as illustrated in Section 2.4). At the same time, the disadvantages of elicitation are well known: the unnatural format of elicitation sessions (triggering artificial and unnatural data), and the danger of misunderstandings and errors.

The first issue (the unnaturalness of the data) can be addressed by comparing elicited with natural data (as in the case of the nominal use of property expressions, as discussed in Section 2.2). But the second issue (the risk of misunderstandings) can only be addressed by refining the type of elicitation used. In the Goemai example above, visual stimuli (as exemplified in Section 2.4) significantly reduced this risk by providing both the linguist and the speaker with reference contexts. The contexts were clearly defined, and individual parameters were monitored and manipulated. This enabled me to discover the semantics of the property-denoting expressions, and to distinguish their lexical semantics from the constructional semantics (e.g. of the progressive construction) and from pragmatic implicatures (that, for example, trigger stative translations of inchoative verbs). Stimuli were developed for a number of scenarios (thus generating a large number of relevant structures), and they were run with several speakers (thus providing some measure of reliability).

Notice that it would also be possible to run the same stimuli with speakers of related Angas-Goemai group languages (and of non-related neighboring Benue-Congo languages such as Jukun or Tarok), i.e. to engage in a cross-linguistic semantic comparison. For these languages, our current knowledge of property semantics corresponds to the stage outlined in Section 2.3 (see also the summary in Section 2.1): The available corpora suggest that the analyses of property-denoting expressions may not be entirely correct, and that these expressions code (additionally or exclusively) an inchoative state change. Interestingly, it seems that this kind of semantics is not common within the Chadic language family, but very common among Benue-Congo languages, i.e. it may result from language contact. Unfortunately, this has to remain speculative: The available examples only cast doubt on the analyses and do not constitute evidence for the alternative analysis. To gain such proof, we would need comparative data collected with the same stimuli. But yet again, despite all their advantages, stimuli cannot be used to the exclusion of the other methods either: we know of the dangers of stimuli effects, i.e. stimuli can force a standard that does not capture the language-internal realities and hence generate structures that are highly marked (e.g. Dimmendaal 1995; Du Bois 1980; Foley 2003); responses to stimuli constitute an unnatural genre; and they cannot provide negative evidence by themselves.

The obvious solution to these methodological issues is to combine the different methods — to be aware of their advantages and disadvantages, and to compare and evaluate the data collected with each method. This is not an easy solution: The example of Section 2 has also demonstrated the never-ending nature of semantic analysis. It is a constant process of developing hypotheses, testing and revising them. And, as Evans and Sasse (2007) show very nicely, any current interpretation draws on our accumulated knowledge of the language (gained through previous

rounds of working with elicitations, natural texts and stimuli) and of linguistic theory. As such, it took me a very long time to realize that the property-denoting verbs in Goemai are exclusively state-change verbs.

4. Summary

This paper has explored central issues of meaning and translation in linguistic field research on under-described languages across the world. Section 1 situated this topic within the linguistic literature. And Section 2 pursued the topic by means of a case study: the investigation of property-denoting expressions in Goemai, a West Chadic language of Nigeria. It was concerned with identifying their part of speech, coming to the unexpected conclusion that this language lexicalizes property concepts as inchoative verbs. The focus of the paper remained throughout on the methodological steps that have led to this conclusion. In particular, the paper focused on those points in which the meaning of translation equivalents has inconspicuously intruded into my semantic analysis, thus obscuring the meaning of the expressions under investigation. Section 3 then abstracted away from the case study, and summarized its main lessons for semantic fieldwork. It highlighted the ambivalent nature of translations, suggesting that they provide important clues to the meaning of an expression — but that they do not constitute this meaning — while also stressing the importance of being able to relate an expression to the context in which it occurs. And it concluded that only a combination of different methods allows us to go beyond translation equivalents and to home in on the meaning of expressions.

Notes

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1. The word classes and translations were collated from the following sources: Burquest (1971:31), Foulkes (1915:256), Frajzyngier (1991:45), Gochal (1994:132), Jungrauthmayr (1963:77), Jungrauthmayr and Diyakal (2008:316), Sirlinger (1937:167).
2. Lyons and Cruse explicitly address methodological issues of semantic analyses conducted by linguists who are not native speakers. In general, however, semantics textbooks avoid this issue. This includes books that take care to integrate data on a wide variety of languages (e.g., Frawley 1992).
3. I assume that fieldwork always involves some form of translation, and I assume that this also holds true for monolingual fieldwork (as forcefully advocated by, e.g., Everett 2001): even when linguists conduct their fieldwork in the language under investigation, they still engage in some form of translation, translating the expressions and categories found into those of another language — for themselves in their notebooks, and for an academic audience in their linguistic descriptions.
4. I use an adapted version of the practical orthography developed by Sirlinger (1937). The following symbols may not be self-explanatory: *p'*, *t'*, *k'*, *f'*, *s'*, *sh'* = non-aspirated obstruents; *b'*, *d'* = implosives; *oe* = /ə/; *u* = /u/, *o* = /ɔ/. When quoting data from other authors, I use their orthographic conventions and add plain English glosses. Otherwise, the glossing follows the Leipzig Glossing Rules, and makes use of the following additional abbreviations: ADVZ = adverbializer, CONS = consequence clause, EMPH = emphasis, I = independent pronoun, LOC.ANAPH = locative anaphor, LOG.SP = speaker logophoric, N = noun, NP = noun phrase, V = verb. The free translation is followed by a bracket containing an identifier that links the example to the Goemai corpus archived with the Max Planck Institute for Psycholinguistics and the Endangered Languages Archive.
5. Not all sources mention the word class explicitly. In such cases, I consulted accompanying grammatical descriptions for the authors' analyses. In the cases of Hoffmann (1975) and Kraft (1981), no such descriptions exist, and I used their translations as a guide to their intentions. Notice also that I changed Frajzyngier's (1991) word class "adj." into "v." because his glossary (1991:xvi) and his subsequent grammar (1993:66–73) make clear that he analyzes these expressions as a subclass of stative verbs.
6. A large number of Goemai verbs can occur in different argument structure constructions (one intransitive, three transitive and one ditransitive). For different lexical fields, one of these constructions is arguably more basic than the others (in terms of frequency, or in terms of it expressing a wider and more unpredictable range of meanings). For example, property expressions are considerably more frequent in the intransitive construction. However, unless there is clear evidence to the contrary, I prefer to follow authors such as Haspelmath (1993) who treat this type of alternation as non-directed.
7. The interpretation of *kàm* is sensitive to the presence of boundaries. It will be shown in this paper that verbs such as *f'yér* are inchoative verbs (translating as, e.g., 'become big'). For such verbs, *kàm* highlights the initial boundary of entering a state, and thus expresses a continuation of this state (with translations such as 'he is really growing') (see Hellwig, to appear: 355–357 for details).
8. Goemai employs the structure of verb (plus direct object, if any) plus adverbialized verb in order to emphasize the verb's lexical meaning. This structure can be used with any verb,

independent of its lexical aspect. In this example, it highlights the fact that the fish has turned an exceptionally red color.

9. They behave alike in other contexts as well, e.g. in comparative and superlative contexts. Note that the group of inchoative property-denoting expressions excludes the semantic types of value and speed. However, these lexical items are not adjectives either: expressions for values pattern like stative verbs, and expressions for speed pattern like adverbs (see Hellwig, under review, for details).

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