3.1 General information about the subproject A05

3.1.1 Title: Focus realisation, focus interpretation, and focus use from a cross-linguistic perspective

3.1.2 Subject area:

General linguistics, Semantics, Pragmatics

3.1.3 Principal investigator

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3.2 Summary

The project continues its cross-linguistic investigations of focus-semantic phenomena, with particular attention to the relation between the grammatical realisation of focus, on the one hand, and its semantic interpretation and/or pragmatic function, on the other. The project contributes to a growing trend in modern semantics to investigate semantic phenomena in non-European languages from a formal semantic perspective. As in the current funding period, the project's empirical focus lies mostly on languages from West Africa and (South) East Asia. The project concentrates on in-depth studies of two (groups of) languages in the next funding period: (i.) the Yobe-state languages Ngamo, Ngizim, and Bole (West Chadic, Afro-Asiatic) (PhD researcher: Mira Grubic); (ii.) Burmese and Chin (Tibeto-Burman, Sino-Tibetan). In addition, the PI continues his ongoing research on the exhaustiveness of Hungarian focus; on focus-sensitive expressions in Salish and other languages; and on the exhaustiveness of *wh*-questions.

The three focus-semantic phenomena P1 to P3 to be investigated in the next funding period are the same as in the current period. However, building on the project's accumulated knowledge of focus-semantic phenomena in non-European languages, it is now possible to ask specific questions for individual languages with a bearing on analytical issues, and to elicit the relevant data required for answering them:

P1. Focus realisation and focus interpretation/ focus use:
- Is there cross-linguistic evidence for a unified notion of focus in the form of unified formal coding?
- Is there cross-linguistic evidence for different semantic focus types in the form of systematic correlations between different formal realisations of focus and different interpretive effects?
- What are the triggers for/ interpretive effects of grammatically optional focus marking?
- How do exhaustiveness effects arise with non-canonical focus constructions, such as e.g. clefts?

P2. Association with focus:
- Are there cross-linguistic differences in the association behaviour of exclusive particles (*only*), additive/scalar particles (*also/even*), and adverbial quantifiers (*always*) with focus?
- What is the range of possible meanings of focus-sensitive particles in the languages of the world?

P3. Realisation and interpretation of predicate-centred focus:
- What kinds of predicate-centred foci (on verb, aspect, tense, truth value) can be expressed by verb-centred focus markers?
- Why is predicate-centred focus not explicitly marked in many languages?

Since project **B7** (Güldemann) concentrates on predicate-centred foci in African languages, including Hausa (Chadic), P3 will be investigated largely for Tibeto-Burman languages in the next funding period. Two concrete objectives of project A5 are the detailed description and theoretical analysis of the relation between focus realisation and focus interpretation in West Chadic (Grubic) and Burmese, in the form of PhD theses. More generally, the project investigates the theoretical implications of the empirical findings on focus marking, focus interpretation and association with focus in non-European languages for the theory of focus and association with focus in natural language at large.

Apart from these empirical and theoretical objectives, the project aims at developing reliable methods for cross-linguistic (focus-) semantic fieldwork. Next to the use of direct elicitations of translations and judgments

on the well-formedness, truth, and felicity of utterances in context (Matthewson 2004), which are employed for answering detailed analytical questions, the project will also make use of the query methods of the questionnaire for focus-semantic data (*QUISsem*) from project **D2** (Renans et al. 2010). Moreover, as some of the focus-semantic questions have proven to be difficult to answer on the basis of isolated utterances, the project will also employ corpus-based methods for discourse-semantic analysis in Hausa and Burmese and web-based experiments for Hausa, maybe for the first time in a major West African language.

3.3   Previous work

3.3.1   Report

General objectives: The central aims of project A5 are to increase our knowledge of focus-semantic phenomena from a cross-linguistic perspective, and to evaluate the cross-linguistic applicability of formal analyses that are for the most part based on data from European languages. These aims are achieved by looking at non-European languages that have not been, or only little, studied from a formal focus-semantic perspective. The three central questions of project A5 at the beginning of the current funding period were:

Q1: Is there a unified IS-category of focus with a basic focus-semantic interpretation in terms of alternatives (Rooth 1992), or are there different kinds of focus that are grammatically realised in different ways?

The project is aimed at evaluating claims to the effect that there is a categorical 1-to-1 relation between different semantic types of focus and different grammatical realisations (Rizzi 1997, Vallduví and Vilkuna 1998, É. Kiss 1998, Aboh 2004) by investigating the realisation and interpretation of focused constituents in different contexts in a range of non-European languages. Special attention is paid to the (non-) exhaustive interpretation of cleft sentences from a cross-linguistic perspective.

Q2: Do different kinds of focus-sensitive expressions (focus particles, adverbial quantifiers) associate with focus in different ways?

The project is aimed at evaluating claims to this effect for Germanic languages (Beaver and Clark 2008) by looking at focus-sensitive expressions in a variety of non-European languages. Special attention is paid to potential differences between exclusive and additive particles that are commonly treated as belonging to the same group of focus particles (König 1991, Rooth 1996), but which show important differences even in German and English (Krifka 1999).

Q3: What is the formal realisation of predicate-centred focus and the interpretation of verb-based markers from a cross-linguistic perspective?

The project aims at a more systematic investigation of predicate-centred focus, a subtype of focus known from the Africanist literature (Hyman and Watters 1984, Güldemann 1996), which is not often discussed in the formal semantic literature of focus (Höhle 1992). Special attention is paid to the formal realisation of predicate-centred focus across languages, the absence of such formal marking in many languages, and to the range of meanings that verb-based markers of information-structure can express.

The empirical focus of project A5 is on tone languages from West Africa (Chadic) and (South) East Asia (Mandarin Chinese, Tibeto-Burman) that do not employ pitch accents in the formal marking of information-structure. At the same time, the languages of both groups differ in important respects (number of tonal registers, grammatical vs lexical vs IS-function of intonation, particle use, agreement phenomena), so that a systematic comparison of similarities and differences between the two languages groups, on the one hand, and between these language groups and European intonation languages, on the other, should pave the way towards the identification of robust cross-linguistic patterns in the coding of focus-semantic phenomena.

The large majority of these languages are understudied from a formal semantic perspective, making the systematic focus-semantic investigation of them largely pioneering work. Notable exceptions are Hausa (Chadic) and Mandarin Chinese (Sino-Tibetan), for which one finds some discussion of focus-semantic phenomena in the literature. Green and Jaggar (2003) inconclusively discuss the semantic interpretation of focused *ex situ*-foci in Hausa as (non-) exhaustive. As for Chinese, there is extensive discussion of the structural representation and interpretation of *shi…de*-clefts (Cheng 2008, Paul and Whitman 2008) and focus particles (Hole 2004). In addition, the project builds on the results of project **B2**, and on discussions of focus in West Chadic (Schuh 1971, 1982, Kenstowicz 1985, Tuller 1992) and some Tibeto-Burman languages (Simpson and Watkins 2005, Bickel 1999) in the literature. The investigations on West Chadic are facilitated by the availability of a corpus of folktales and texts and dictionaries compiled by the *Yobe Languages Research Project* (PI: Russell Schuh).

***Research activities and results*:** The current funding period has seen empirical research and publication activities on a range of languages, including Ngamo, Ngizim, Bole, Tangale, Gùrùntùm, Bura, Hausa (all Chadic), Vietnamese, Burmese, Nɬe?kepmxcin (Thompson River Salish), Kola Saami, Hungarian, Mandarin Chinese, Japanese, and German. Concerning the questions Q1 to Q3, the following results were achieved:

Q1: Focus realisation and focus interpretation

i. *The formal realisation of focused constituents, their interpretation and use* have been investigated for a number of West African and (South) East Asian languages, in partial cooperation with projects **B1** and **B2**; see Fiedler et al. (2010) on Gur, Kwa and Chadic; Hartmann & Zimmermann (2009, submitted) on the Chadic languages Gùrùntùm and Bura, respectively; Grubic and Zimmermann (t.a.) on Ngamo (West Chadic), Zimmermann (re-submitted) on West Chadic; Hole (submitted) and von Prince (submitted) on Chinese, Hole and Zimmermann (t.a.) on Chinese, Japanese and Burmese. The major findings were:

- All the languages investigated have explicit formal means of marking focus, but they make different use of these means. Gùrùntùm resembles intonation languages in that focus is marked in a uniform way across grammatical functions, contexts and focus types. The other Chadic languages consistently neutralise the formal distinction between information and contrastive focus on subjects, and allow for different formal realisations of either focus type with non-subjects. Taken together, these findings argue for a unified conception of focus as presupposing the contextual presence of a salient set of alternatives that can be exploited to different pragmatic ends (→**H1**).

- The overwhelming majority of West African languages exhibits a subject/ non-subject asymmetry when it comes to explicit focus marking: focused subjects must be marked by morpho-syntactic means (irrespective of the focus type), presumably owing to the default interpretation of referential subjects as topics (→**H2**), whereas focused non-subjects are only optionally marked.

  The cross-linguistically special behaviour of focused subjects confirms the results of typological and psycho-linguistic work on the subject-topic affinity (Chafe 1976, Frazier 1999), and it also converges with results of projects **C3** (Müller 2010) and **D2** (Skopeteas and Fanselow 2010c), which found comparable subject/non-subject asymmetries in language acquisition and in a cross-linguistic production experiment. Project **A6** reports a similar asymmetry when it comes to the triggering of multiple filling of the vorfeld-position in German, which frequently occurs when the subject is focused (**A6:** Bildhauer & Cook 2010).

- With focused non-subjects, there is no categorical correlation between the explicit marking of a constituent as focused and a particular focus type (information focus, contrastive focus). There seems to be a general tendency to use the non-canonical (i.e.) marked structure in potentially controversial discourse situations in which the speaker has reason to believe that the hearer will have difficulty in accepting the content of the focused constituent (e.g. corrections) (→**H3**).

  These findings are in conflict with cartographic approaches to the interface of syntax and information structure (Rizzi 1997), but they converge with the results of projects **A1** and **D2** concerning the complex interaction between information structure, marked syntactic realisation, and pragmatic effects (**A1**: Fanselow 2008, Fanselow and Lenertova 2010; **D2:** Skopeteas and Fanselow 2010c, submitted).

ii. *The interpretive properties of focus clefts*: The semantic properties of focus clefts and their non-clefted focus counterparts were the subject of a comparative study on Chinese, Japanese, and Burmese (Hole and Zimmermann, t.a.), which showed that focus clefting triggers exhaustiveness effects in these languages, as witnessed by the incompatibility of clefted foci with additive focus particles (*also*). In Nɬe?kepmxcin (Salish), by contrast, clefting does not induce mandatory exhaustiveness effects (Koch and Zimmermann 2010). Based on these findings, we conclude that exhaustiveness is not a semantic property of clefted *ex situ* foci as such, but arises from independent morpho-syntactic properties of clefts in individual languages (→**H4**), such as, e.g., (covert) definite markers in (pseudo)clefts, the combination of nominalisers plus topic marker in Japanese clefts (Hole and Zimmermann, t.a.), and the definite (backgrounding) event determiners *de* in Chinese *shi..de*-clefts (Hole, submitted, Hole and Zimmermann, t.a.) and *–(y)i* in Ngamo focus constructions (Grubic and Zimmermann, t.a.).

  A cooperation with project **C6** (**C6:** Drenhaus et al., in press) yielded experimental evidence from an ERP-study showing that exhaustiveness in German clefts is not truth-conditional.

  This finding converges with corpus-based findings of project **D4** on the co-occurrence of clefted focused constituents with additive particles (**D4:** Bouma et al. 2010) and with recent experimental findings in Onéa and Beaver (2009) on the exhaustive interpretation of syntactically marked focus in Hungarian. In the next phase, project **C6** will further explore the interpretive properties of cleft sentences in German, English and Hindi with psycho-linguistic methods.

Q2: The ***association behaviour of different kinds of focus-sensitive expressions*** has been studied from a cross-linguistic perspective for Bura (Hartmann & Zimmermann 2008), Vietnamese (Hole 2008), Nłe?kepmxcin (Koch & Zimmermann 2010), and the West Chadic languages Ngamo (Grubic and Zimmermann, t.a.), Bole, and Ngizim. A BSc-thesis supervised within project A5 (Karvovskaya 2010) discusses the structural and semantic properties of exclusive particles in Kola Saami, and the methodological problems of eliciting such particles in a highly endangered language.

A major result is that exclusive particles differ in many languages from (scalar-) additive particles in terms of distribution and association behaviour with focus (→**H5**): Exclusive focus particles require the focus associate to be grammatically focus-marked, supporting claims in Beaver and Clark (2008) that exclusive particles conventionally associate with focus. The associate of (scalar-) additive particles, by contrast, need not, or cannot, be focus-marked in Bura, Nłe?kepmxcin, Ngamo, Ngizim and Bole, and the additive particle has the same distribution as the adverbial quantifier (*always*) in Nłe?kepmxcin. This suggests that additive particles show free (pragmatic) association with focus in many languages.

The strong context-dependency of additive particles may also be responsible for the problems encountered by children in the interpretation of additive particles without an contextually given question under discussion reported in **C3** (**C3:** Berger and Höhle, submitted). Our findings for exclusive particles as conventionally associating with focus are replicated by Orenstein and Greenberg (2010) for exclusives in Hebrew. A co-operation with Greenberg's group in the next phase will show whether additives differ from exclusives in Hebrew as well.

Q3: ***The formal realisation of predicate focus and the interpretation of verb-based IS-markers*** was the subject of an international workshop on predicate-centred focus in 2008 (http://www.sfb632.uni-potsdam.de/~predicatefocus/). Chadic languages do not show much evidence for a regular coding of predicate-centred focus on verb, VP, aspect or truth value, respectively, pace Schuh (2005), possible exceptions being verbal fronting in Hausa (Newman 2000, see also project B7) and the perfective focus marker *ku* in Bura (Hartmann, Jacob and Zimmermann 2008). By contrast, the West Chadic languages Ngamo, Ngizim and Bole, as well as Chinese, frequently employ special predicate-centred markers on verb or VP in order to indicate that the content of the verb (phrase) is backgrounded (→**H6**). Such V(P)-background markers in Chinese and West Chadic are analysed as definite determiners or topic markers over the domain of events in Hole (submitted) and Grubic and Zimmermann (t.a.).

Such backgrounding V(P)-markers appear to have the same function as VP-deaccenting in intonation languages (Féry and Ishihara 2010) and the choice of the relative TAM-marker with *ex situ* foci in Hausa discussed in project **B2** (Hartmann and Zimmermann 2007a). West Chadic languages are non-marking languages in the typological overview of predicate-centred focus in African languages developed in project **B7**. Relevant data from West Chadic are fed into **B7**'s database.

The empirical results of the current funding period confirm hypotheses H1 to H5 from the previous proposal concerning the relation of focus realisation and focus interpretation. The new hypothesis in H6 was motivated by the empirical findings on the background marking of V(P). Together, H1 to H6 continue to serve as the relevant reference frame for the empirical investigations of the next funding period.

H1: There is a basic unified IS-category of focus with the central semantic function of indicating the existence of alternatives in the context of utterance (Roberts 2004) The reference to alternatives facilitates the information update by restricting the space of alternative possibilities in evaluating the contribution of an utterance for inclusion in the common ground (Zimmermann and Onéa, accepted).

H2: The cross-linguistic tendency for focused subjects to be explicitly marked (at least in subject-initial languages) is due to a default interpretation of (referential) subject expressions as topic, at least in subject-prominent languages (Li & Thompson 1976). The fact that focused non-subjects are not in need of a non-canonical formal marking in many languages owes to the fact that non-subjects typically form part of the (focus-containing) comment, providing new information on an established topic, and thus form part of the focus domain by default. An open question is whether similar a subject/non-subject asymmetry obtains for topic-prominent languages (Japanese, Tagalog, Malagasy)

H3: There is a cross-linguistic preference for unexpected discourse situations, such as the indication of a contrast between the discourse models of speaker and hearer, to be realised by means of (marked) non-canonical grammatical configurations, which seems to follow from a pragmatic principle of pairing marked form with marked meaning (Blutner 2000). The large majority of languages have such marked focus constructions at their disposal, at the very least identity statements in the form of pseudoclefts.

H4: Any additional semantic effects that arise with particular focus configurations (e.g. existence presuppositions and exhaustiveness effects with clefts) are not due to focus per se, but derive independently from the morpho-syntactic structure of particular focus realisations (e.g. morphological markers of definiteness, topic markers).

H5: Focus-sensitive expressions fall into different classes (Beaver & Clark 2008): In particular, exclusive particles (*only*) and additive particles (*also*) show a different association behaviour (conventionalised vs free association) in many languages, the latter frequently patterning with quantificational adverbs.

H6: Explicit structural markings of predicate-centred focus (on verbs) are cross-linguistically uncommon because the events denoted by the meaning of verbs prototypically constitute the new part of the (focus-containing) comment of the clause, and form part of the focus domain by default. By the same reasoning, backgrounded or topical events are the exception in discourse, and hence in need of formal marking on the verb or VP. In non-intonation languages, the role of de-accentuation is frequently taken over by morphological background markers.

Practical difficulties and methodological problems: A first problem concerns the difficult access to speakers of West Chadic languages, including Hausa, of which very few speakers reside in Germany. This necessitates field trips to Northern Nigeria in the current and the coming funding period, and makes it difficult to come to quantifiable and statistically relevant results. In order to get a better, and more continuous, access to larger numbers of informants, part of the project work in the next phase will involve the design and running of web-based experiments on focus-semantic phenomena, given the general availability of the internet in Northern Nigeria.

The project also encountered some methodological problems: the identification of the possible pragmatic (e.g. context, speaker-intentions etc.) or semantic triggers (e.g. exhaustiveness) for optional focus marking in Hausa turned out to be difficult to elicit by means of felicity judgments on isolated utterances, even when these were presented in context. In response to this problem, we plan a more systematic investigation of such phenomena that makes use of the newly developed *QUISsem*-questionaire and (web-based) controlled production experiments in cooperation with project **A1** (Skopeteas and Fanselow 2010b). Similarly, it is well-known that native speaker intuitions are not a reliable source in identifying the precise nature of the exhaustiveness effect in clefts. In response to this problem, projects A5 and **C6** (Vasishth) joined forces to investigate exhaustiveness effects in clefts with psycholinguistic methods (Drenhaus et al., in press).

Research on cross-linguistic semantics: Project A5 plays an important role in a recent enterprise of formal semanticists to extend our knowledge by studying semantic phenomena cross-linguistically. The project has contacts with projects investigating the semantics of indigenous languages of Canada and the US (Salish Group, Matthewson/UBC), the semantics of Amazonian languages (Ana Muller, Sao Paulo), and the nature of projective meanings from a cross-linguistic perspective (**Roberts**/ Beaver/ Simons/Tonhauser (OSU Columbus, UT Austin)). Intensive co-operations are planned with Yael Greenberg's (Bar Ilan University/ Ramat Gan) ISF-funded project *Focus Sensitive Expressions in Modern Hebrew: Semantics, Pragmatics and Focus Sensitivity* (grant # number 490/09, funded until 2012) concerning the empirical scope of project A5, and with project C1 of SFB 833 *Parametric variation in the interpretive component* (PI: **Beck**, Universität Tübingen) on the development of reliable methods for semantic fieldwork.

3.3.2 Publications

a) Reviewed articles:
i. Journal papers
1. Drenhaus, H., Zimmermann, M. & Vasishth, S. (in press). Exhaustiveness effects in clefts are not truth-functional. *Journal of Neurolinguistics* (2010). doi:10.1016/j.jneuroling.2010.10.004**.**
2. Hartmann, K. & Zimmermann, M. (2009). Morphological Focus Marking in Gùrùntùm (West Chadic). *Lingua* 119: 1340-1365.
3. Hole, D. (2008). Focus on identity - The dark side of zìjǐ. *The Linguistic Review* 25: 267-295.
4. Zimmermann, M. (2008). Contrastive Focus and Emphasis. *Acta Linguistica Hungarica* 55: 347-360.
5. Zimmermann, M. & E. Onéa. (accepted). Focus Marking and Focus Interpretation – An Introduction. To appear in M. Zimmermann & E. Onea (eds.), Lingua –special issue on *Focus marking and focus interpretation*.

ii. Articles in peer-reviewed edited volumes
6. Fiedler, I., K. Hartmann, B. Reineke, A. Schwarz, and M. Zimmermann. (2010). Subject Focus in West African Languages. In M. Zimmermann & Féry, C. (eds), *Information Structure. Theoretical, Typological, and Experimental Perspectives*. Oxford: OUP. 234-257.

b) Other publications: Proceedings
7. Hartmann, K. & Zimmermann, M. (2008). Not only ‚only', but ‚too', too. Alternative-sensitive particles in Bura. In Grønn, A. (ed.), *Proceedings of Sinn und Bedeutung* 12. University of Oslo. 196-211.
8. Koch, K. and M. Zimmermann (2010). Focus-sensitive operators in Nle?kepmxcin (Thompson River Salish). In M. Prinzhorn, V. Schmitt and S. Zobel (eds.), *Proceedings of Sinn und Bedeutung* 14, Vienna,. 237 – 255.

3.4   Plan for the next funding period

3.4.1   Goals and methods

The empirical focus of project A5 in the next funding period lies on the three phenomena P1 to P3 from 3.2:

P1:   Focus realisation and focus interpretation

P2:   Association with focus

P3:   Predicate-centred focus

The investigation of these topics is carried out on the language groups specified in 3.2: West Chadic (Grubic; assisted by PI); Tibeto-Burman; other languages (e.g. Hungarian, German, Salish) (PI, cooperating with external partners). Based on the empirical results of the current funding period, it is now possible to supplement the large-scale empirical coverage of the current funding period with fine-grained research questions on individual languages that have a bearing on the theoretical analysis of the focus-semantic phenomena in **P1** to **P3**. **P3** will be mostly investigated for Tibeto-Burman for the following reasons: (i.) a large part of the empirical work on African languages (including Chadic) is taken over by project **B7** (Güldemann); (ii.) systematic markings of predicate-centred focus are rare in West Chadic.

The methodological focus is on the further development of reliable methods for semantic field work in the form of direct elicitations, (web-based) production and rating experiments, and corpus-based discourse analysis, and in particular on the (semi-automatic) creation of web-based corpus resources on Hausa.

The overarching theoretical goal of project A5 for the next funding period consists in contributing to a cross-linguistically informed general theory of focus and association with focus. This involves a cross-linguistically robust analysis of focus realisation and interpretation, and – in particular – of the relevant factors triggering grammatically optional marking of focus in natural languages, in close cooperation with project A1 and the other A-projects. Second, it involves a cross-linguistically informed analysis of the different kinds of focus-sensitive elements and association with focus in as wide a range of languages as possible, with the help of the focus-semantic questionnaire *QUISsem*. To this end, the three project components will be in constant exchange (moderated by the PI) concerning empirical results, theoretical analysis, and methodology.

A. Research on West Chadic (Ngamo, Ngizim, Bole, Hausa) (Mira Grubic, assisted by PI):
The primary goal of the Chadic project part is the analysis of the syntactic, prosodic and semantic properties of *focus realisation* and *association with focus* in three West Chadic languages (Bole, Ngizim, Ngamo), which are spoken in Yobe State/ Northern Nigeria. The study of these three closely related languages also serves to identify possible loci of micro-variation in the expression of information structure. Based on the empirical and theoretical results so far, the focus of this project part lies on the following aspects/questions:

i.   How do syntax and prosody interact in the realisation of focus in West Chadic? Given that the asymmetry between focused subjects (inverted in (1a)) and focused non-subjects (unmarked in canonical position, (1b)) is difficult to account for in terms of designated syntactic focus positions (Tuller 1992, Rizzi 1997, Aboh 2004), we will explore an alternative analysis in which focused constituents are (right-) aligned with the edges of prosodic phrases (**A1**: Féry, submitted), and in which semantic and prosodic information are possibly directly related via OT-style correspondence rules (Truckenbrodt 1999)?

(1) a. Q: Who called Yura? [*SUBJ -focus*]   b. Q: Who did Shuwa call? [*OBJ-focus*]   [Ngamo]

       esha Yura-**i**   **Kule**.   Shuwa esha **(-i)** Jajei.
       call Yura-BM Kule   Shuwa called -BM Jajei
       'KULE called Yura.'   'Shuwa called JAJEI.'

ii.   What are the exact discourse conditions that license or trigger the grammatically optional marking of focus-background structure with non-subjects in Bole, Ngamo, Ngizim, which comes in the form of a background marker *–i/-ye* preceding the focused constituent, cf. (1b)?

By hypothesis, a major factor governing the presence of absence of *–i/-ye* in the Yobe-state languages is identical to the one proposed for Hausa in Hartmann and Zimmermann (2007a), and more generally in Zimmermann (2008): the (un)expectedness of the denotation or grammatical function of the focused constituent in the given discourse situation.

iii. How do Chadic tone languages without de-accenting realise backgrounded VPs? In particular, (a.) what is the correct syntactic and semantic analysis of the background markers *-i/ye* in Ngamo, Bole, and Ngizim?; (b.) can they be analysed as definite determiners over events (Baker and Travis 1997, Larson 2003), as proposed for Mandarin Chinese in Hole (submitted) and Hole and Zimmermann, t.a.)?; (c.) do exhaustiveness effects in West Chadic follow from the presence of such background markers?; and (d.) can the backgrounding effect of such markers be derived in a compositional way?

iv. The formal realisation of contrastive topics in non-intonation languages, as found, e.g., in partial answers to questions about plural subjects (*What did the boys do?*) and in multiple questions (*Who did what?*). In particular, does the formal realisation of contrastive topics in West Chadic provide evidence for the analysis of contrastive topics as topics containing a focus (**A2:** Krifka 2008, Tomioka 2010)?

v. The association behaviour and semantic analysis of different kinds of focus-sensitive expressions (exclusives (*only*), additives (*also*), scalar-additives (*even*), quantifying adverbials) in West Chadic: For instance, the exclusive (*yak*) and the additive (*ke*) particle in Ngamo differ in that the associate of exclusive *yak* must be, but the associate of additive *ke* must not be explicitly marked for focus (2ab). This difference in distribution points to a different association behaviour as conventionally (*yak*) vs freely (*ke*) associating with focus:

(2) a. Salko bano-i **yak/*ke Shuwa**   b.   ke/#yak **Shuwa** salko bano.
       built   house-BM only/also Shuwa   only/also Shuwa built   house-BM
       'Only SHUWA built a house.'   'SHUWA built a house, too.'

More generally, the study of focus-sensitive elements in West Chadic will serve to evaluate Beaver and Clark's (2008) proposal concerning the flexible nature of focus-sensitivity in natural language, as well as the usefulness of their empirical diagnostics for cross-linguistic investigations of association with focus.

Finally, we will try to extend the analysis of additive particles in terms of free association to accented additive particles (AUCH) in intonation languages (Krifka 1999), which arguably carry main accent because the VP is given and, hence, deaccented (**A1:** Féry 2011), not because they are focused.

Methods and Data collection: The principal means of collecting data for answering the above questions is the *direct elicitation* of translations and intuitive speaker judgments concerning the well-formedness, truth, or felicity of utterances in context (Matthewson 2004). In part, these elicitations will be carried out with the help of the focus-semantic questionnaire *QUISsem* (Renans et al. 2010). Since speakers of the West Chadic languages investigated cannot be found in Germany, the data collection is largely carried out during two field trips in 2011 and 2012 to Northern Nigeria (Potiskum, Yobe State), where the project has already established some infrastructure (with the help of Russell Schuh (UCLA), PI of the *Yobe Languages Research Project*). In addition, the results of the data elicitations can be checked against a *corpus of narratives and other texts* in Ngamo, Bole and Ngizim, which was collected and made accessible by the *Yobe Languages Research Project* (http://www.humnet.ucla.edu/humnet/aflang/Yobe/yobe.html).

The second objective of the Chadic project part (in co-operation with the PI) is the investigation of several focus-semantic issues in Hausa that have not been settled in the past and the current funding period of the SFB. The project aims at evaluating the following claims put forward by project **B2** (Hartmann) in the first funding period: (a.) grammatically optional focus-fronting with non-subjects expresses unpredictability in discourse (disagreement/correction, surprise, mirativity) (Hartmann and Zimmermann 2007a); (b.) Exhaustiveness effects with focus in Hausa are not caused by syntactic focus-fronting per se, but they are due to the presence of the focus-sensitive particle *nee/cee*, which frequently co-occurs with fronted foci (**B2:** Hartmann and Zimmermann 2007b); (c.) The semantic effect of *nee/cee* in sentence-final position, which has been argued to express emphasis on the entire sentence (Green 1997), but which may also be a strategy of marking all-new focus in answers to *why/how*-questions, see B.ii below; (d.) (in co-operation with project **B4**) The differences between two kinds of indefinite expressions (wani-DPs, bare NPs) in terms of interpretation (scope, specificity) and their potential to be focused and to introduce discourse referents as antecedents for anaphoric reference in sub-sequent discourse (Jaggar 1988); (e) (in co-operation with project **B7**) The (discourse-) semantic function of the relative TAM-marker in *ex situ* focus constructions and in narrative sequences (Jaggar 2006). Concretely, we will explore the hypothesis that the relative TAM-marker does not operate on the focus/background domain, but rather indicates topic continuity.

Methods and Data Collection: Since the collection of reliable information on these issues by means of directly elicited intuitive judgments has shown to be difficult, the project will employ both corpus-based and (web-based) experimental methods in order to get a clearer, quantifiable picture.

The ***corpus-based investigations*** involve the study of larger discourse segments of naturally occurring language, as widely used, e.g., in news broadcasts, chats, and twitters on the internet. These forms of written language may differ from speech, but they can provide evidence for IS-marking (especially the informal style used in chats/twitters) and are interesting and increasingly important in their own right. To this end, projects **A5**, **B7**, and **D1** continue their cooperation in the development of a (semi-automatically) POS-annotated corpus of Hausa sentences and texts from the internet, which is currently under construction.

The **experimental studies** include controlled production and rating experiments, some of which have been developed in projects **A1** and **D2** in the current funding period, and some of which will be developed in cooperation with project **A1** in the next funding period. The experiments will be carried out as web-based experiments on the internet, which is widely available in the Hausa-speaking regions of Nigeria.

EXP 1: The source of exhaustive focus interpretations: focus fronting or particle *nee/cee*?: (2x4) Rating experiment with the factors [+/- exhaustive context] and [bare *ex situ* focus vs *ex situ* focus + particle *nee/cee* vs *ex situ* focus + exclusive particle *kawai* 'only' vs *in situ* focus], which is based on the experimental design for Hungarian focus in Onea & Beaver (2010).

EXP 2: The effects of (un)predictability on focus realisation *ex situ* or *in situ*: Controlled (2x4) production experiment with the factors [expected/ confirmation vs unexpected/ correction] and [short video description vs response to video descriptions vs answers to neutral *wh*-questions on short video vs answer to *yes/no*-questions with narrow focus (*Does BILL have a banana? Yes, Bill has a banana/ No, JOHN has a banana*). This experiment will be partly adopted from Greif (**D2**: 2010b, in prep.).

The video description tasks may be done using the software Poser (with the aid of project C6), which has been successfully applied to cross-linguistic psycho-linguistic research (Butler et al. 2010).

EXP 3: The effect of (un)predictability on the emergence or blocking of exhaustive interpretations with marked *ex situ* foci in Hausa: Rating experiment adopting an experimental design developed and carried out in (**D2:** Skopeteas and Fanselow, submitted).

The (semi-automatic) construction of web-based corpus resources for Hausa and the application of (web-based) experimental methods in Hausa can be considered highly innovative in the Africanist context and constitutes pioneering work in Chadic linguistics.

B. Research on Tibeto-Burman (Burmese, Chin)
The central objective of the Tibeto-Burman part is to extend the empirical coverage of focus-semantic phenomena in Burmese together with a detailed analysis of these phenomena. The focus of this project part lies on the following questions:

i. Does Burmese exhibit a subject/non-subject asymmetry in the formal marking of focus, or is it a topic-prominent language that does not require overt focus markings on subjects? In this connection, we plan a principled investigation of the IS-function and contextual licensing conditions of different topic/subject markers (Myint Soe 1999), such as *hma*, which seems to mark a contrastive topic in (3a), and *ka.to* (non-proto-typical subject+*to*), which seems to mark (contrastive) focused subject in schematised (3b):

(3) a. *nga* **hma**   *a-can ta-hku.   to.   shi.   te*   = 'I have a plan (=> unlike you).'
     1sg PRT   plan 1 CLS   PRT   have R(ealis)

   b. The first... Then she got the second.... **The third prize ka. to.** that Aung San Suu Kyi received,…

The investigations should shed more light on the existence of contrastive topics, as opposed to regular subjects and focused (non-prototypical) subjects in Burmese, and on the more general question of whether contrastive topics are just regular topics with additional focus marking (**A2:** Krifka 2008). See also the remarks on the contrastive focus marker *pe:* under (iv.).

ii What are the semantic and pragmatic differences, if any, between the three alternative syntactic ways of realising focus in Burmese (preverbal position in finite clause (4a), preverbal position in nominalised clause (4b), cleft sentence (4c)) identified in Hole and Zimmermann (t.a.) and their semantic interpretation or their pragmatic use?

(4) a. pol: naji-ta-loun:-kou   pe:ris-hma we-khe.-te   b. [pol: naji-ta-loun:-kou we-(khe.) **ta**]
      Paul clock-one-CL-OBJ Paris-at   buy-DIST-RLS   Paul clock-one- CL-OBJbuy-DIST R-NLZ
      'Paul bought A WATCH in Paris.'   'Paul bought A WATCH.'

   c [pol: pe:ris-hma   we-khe.-**ta**]   naji-ta-loun: (pe:)   (**hpji'**   te).
      Paul   Paris-LOC   buy-DIST-NLZ   clock-one-CL   PRT   COP   RLS
      What Paul bought in Paris was A WATCH.'

In particular, (a.) What are the semantic and/or pragmatic effects of different structural realisations of focus in Burmese? (b.) Is the exhaustiveness effect with Burmese clefts (4c) reported in Hole and Zimmermann (t.a.) robust, and what would be its structural source (see **H4** in 3.3.1)? (c.) Are there different contextual or discourse-semantic factors that trigger a particular focus realisation over others?

Preliminary results show that Burmese differs from other Tibeto-Burman languages (e.g. Kiranti, Bickel 1999) in that nominalised clauses in Burmese can be readily used to express narrow focus, and are not restricted to expressing *all-new* focus on the entire clause, e.g. in providing reasons or causes for an

event, comparable to the effects of the sentence-final NLZ *de* in Mandarin Chinese (Cheng 2008) and, possibly, the sentence-final particle *nee/cee* in Hausa (Green 1997).

iii. What are the interpretive effects of the different ways of forming *wh*-questions in Burmese [+/- nominalisation, +/- clefted] in terms of existence and uniqueness presuppositions? Are they comparable to those found with (non-) clefted *wh*-questions in English (*Who left?* vs *Who is it that left?*). Answers to these questions may also shed light on the semantic nature of *wh*-questions in English and German.

iv. How are backgrounded VPs marked in the tone language Burmese (**H6** in 3.3.1)? Is there evidence for post-focal compression as in Mandarin (Xu 1999) or are there morphological background markers? What is the role of the functional element *pe:* in presenting the VP-content as backgrounded in (5) (Ozerov 2010)? Is *pe:* a focus-marker on the preceding material, or is it a background marker on the VP?

(5) da hne. [gu: pau'wa. ka.] **pe:** [thu: ya'] pyi: hcinthe. ci: kou o mei: te
    this with cave door PRT PRT he stop non-final lion big OBJ shout ask RLS
    'Because of that he stopped AT THE ENTRANCE and asked the lion.'

Our findings so far suggest that *pe:* is a morphological marker of contrast in terms of *excluding focus alternatives* and not a background marker on VPs (Ozerov 2010). In this connection, the project will investigate the question of whether the addition of *pe:* on a focused constituent obviates the need for focused constituents to be realised in preverbal position (Simpson and Watkins 2005), similar to what accenting achieves in SOV-languages like Turkish (e.g. Kilicaslan 2004, see also **B9**). One possibility is that *pe:* attaches to sentence-initial constituents in Burmese in order to serve as a carrier for a low (phrasal) boundary tone, as has been argued for Prinmi (Tibeto-Burman) in Greif (**D2**: Greif 2010a)

v. The expression of predicate-centred focus in Burmese: In particular, what is the precise interpretation of verb doubling plus the morphological (topic/object) particle *ko* in (6), and how do reduplication and morphological marking (also *le:*, *pe:*, *hma.*, *taun*) interact in deriving the semantic effect compositionally?

(6) mənɛ?phyaN^2 sa^2.me^3.pwe^3 ʃi^1 **Ko^2** ʃi^1 mɛ^2
    tomorrow exam happen TOP happen PFV:IRR.ASS
    'The exam will take place tomorrow *for sure*.' (Vittrant 2008)

In addition, we will clarify under which contextual conditions sentences with final nominaliser (4b) can be used to express verum focus. Does Burmese constitute a case in which all-new focus and verum focus can be expressed by the same structural means?

vi. The expression of exclusion, addition, and scalarity in Burmese: (a.) What is the distribution, association behaviour, and semantic meaning of the different particles *le:* (additive), *taun* (scalar), and *pe:* (exclusive), identified in Hole and Zimmermann (t.a.)? (b.) How can the (contrastive) focus marker *pe:* function as an exclusive marker on bare NPs, and what is its semantic relation with the rare exclusive particles *hma.* and *hce:*? Do these exclusive particles differ, like their English and Hebrew counterparts *only/ merely* and *rak/stam* (Orenstein & Greenberg 2010), in that they operate on different kinds of scales (Jacobs 1983, Beaver & Clark 2008)? (c.) What are the semantics of the exclusive particle *hte:,* which combines only with numerals (*only three*) (Ozerov 2010), and what its relation to *pe:*?

vii. Association with focus: Do focus-sensitive particles in Burmese differ in distribution and association with focus (conventional vs free) on par with their West Chadic counterparts? In particular, do both exclusive and additive particle require their semantic associate to be explicitly focus-marked (as predicted by Beaver & Clark 2008), or does neither of them, or are only additive particles able to associate with non-focused material (as in West Chadic)? What similarities and differences are there between focus particles and adverbial quantifiers in Burmese?

The second goal of the Tibeto-Burman project part is the collection of general data on information structure and focus-semantics from one or two Chin languages (Tibeto-Burman), a family of SOV-languages spoken in the border regions of Burma, India, and Bangladesh. Although grammatical sketches and analyses of individual grammatical phenomena exist for some Chin languages, the investigation of focus-semantic phenomena in Chin languages is pioneering work. Their geographic location between the non-tonal SOV-languages of India and the tonal SOV-language Burmese makes them an ideal source for information on (micro-) variation in the coding of information structure in Tibeto-Burman SOV-languages.

The project focuses on Thadou Chin and Hakha Chin for the following reasons: Availability of basic grammatical and phonological descriptions; Thadou is spoken outside Burma and thus accessible for field research; the tonal system of Thadou arguably resembles African register tone languages more than Asian contour tone languages (Hyman 2007).

Methods and Data collection: The investigation will start with a corpus-based discourse analysis of the general system of focus marking in Burmese. In addition, the project makes use of controlled elicitations of missing data or data required for clarifying certain points of theoretical interest. Parts of the elicitations (e.g. on focus particles) will be carried out by means of the questionnaire on focus semantic issues (*QUISsem*). The corpus construction and the elicitations (translations, truth value/ felicity judgments) will be carried out in cooperation with Burmese speakers in Berlin. Additional data will be collected in a field trip to Thailand (because of the problematic political situation in Burma).

In order to facilitate the comparison across Tibeto-Burman languages, the Tibeto-Burman project part will make use of the *Questionnaire on Information Structure*, which was developed in project **D2** (Skopeteas et al. 2006) and used there for the elicitation of IS-related data in a third Tibeto-Burman language Prinmi. By means of QUIS, we will be able to elicit comparable data sets for Burmese and the Chin languages.

Some of the successful experiments on Hausa may also be adopted for Burmese, e.g. the rating experiment investigating the interpretation of the different structural focus realisations as [+/- exhaustive].

C. Other Languages and the Methodology of Semantic Fieldwork (PI):
The third research component of project A5 in the next funding period is carried out by the PI (Zimmermann). It comprises investigations on the following focus-semantic phenomena:

i. *Hungarian focus & Guest professor :* Since Hungarian is the only language in the SFB-sample so far in which the default strategy of focus marking comes with a strong exhaustive interpretation (É. Kiss 1998, Horvath 2010), a detailed analysis of the relevant structural, semanto-pragmatic and prosodic factors conspiring to bring this effect about is of crucial importance for project A5 and for the SFB as a whole. To this end, we rely on the help of a (native speaker) specialist on the prosody and interpretation of focus, Dr. Kriszta Szendröi, who will join the SFB 632 as a guest professor in the spring of 2012. Our investigations (also supported by project **A2** (Krifka/Repp)) will be based on the cross-linguistic study of focus-clefts and aim at clarifying whether exhaustiveness in Hungarian is structurally coded by the focus configuration, or whether pragmatic accounts in terms of answerhood conditions (Onea 2007) are more appropriate. We will consider a range of factors concerning their effect on the interpretation of *ex situ* foci in Hungarian: context; semantic type of focused constituent; prosodic realisation; and sentence type.

ii. *Focus-sensitive expressions:* The PI continues his joint work with members of Matthewon's (UBC) Salish group on focus-sensitive expressions and non-exhaustive clefts in Salish (Koch & Zimmermann 2010). Besides, project A5 will continue to exchange empirical results, theoretical insights and elicitation methods with Greenberg's (Bar Ilan University) project on focus-sensitive expressions in Hebrew..

iii. *The interpretation of wh-questions*: The PI will continue his work on the interpretation of *wh*-questions and their answers in German as weakly exhaustive in the sense of Karttunen (1977). In addition, the PI is engaged in a cooperation with Petra Schulz (Frankfurt) and Tom Roeper (UMass Amherst) on the exhaustiveness of *wh*-questions in children. This part of the investigations will be partly carried out in cooperation with projects **A2** (Krifka & Repp) and **C3** (Höhle & Adani).

iv. Support for project **D5** (Kügler) in their investigations of the prosodic realisation of (unsolicited) new vs focused (alternative-related: answers to *wh*-questions, corrections, association with focus) vs contrastive (unexpected) constituents in German. The question is whether a more pronounced 'contrastive' prosodic realisation is triggered by mere focushood (the presence of alternatives), as argued in (Katz & Selkirk 2010), or whether a contrastive prosodic realisation is triggered by the stronger notion of unexpectedness, as shown for Mandarin Chinese in Greif (**D2:** 2010a).

Moreover, the PI will further engage in the development of methods for collecting focus-semantic data by means of direct elicitations, corpus-based studies, and experiments. A close cooperation is planned with project C1 of the SFB 833 in Tübingen (PI: Beck) regarding the discussion of empirical results and theoretical analysis, the development of methods for semantic fieldwork, the discussion of possible parameters of semantic variation in natural language, and the joint supervision of PhD theses. The cooperation will be formally established by means of bi-annual project meetings in Tübingen and Potsdam.

Data Preservation and Sustainability: All fieldwork data will be archived on the servers of the SFB. Representative data sets for the central languages studied in project parts A and B (Ngamo, Ngizim, Bole, Burmese, Chin) will be fed into ANNIS2 (**D1**). In addition, field note data on Ngamo, Ngizim and Bole will be published in the newly established *fieldnote*-series of the SFB Working Papers-series *ISIS* in order to make them accessible to the international research community; see e.g. Grubic (2010).

3.4.2   Program

2011 - 2012	A (Chadic):	Data collection on Ngamo, Ngizim, Bole: 1st field trip to Nigeria; Experimental design for Hausa; Evaluation and refinement of hypotheses; Participation in the development of a Hausa POS-tagger and construction of a POS-annotated Hausa corpus.
	B (Tibeto-Burman):	Data collection: Corpus work and elicitations on Burmese/Chin, discourse-semantic corpus analysis of syntactically and morphologically marked focus constructions in Burmese; Formulation of hypotheses and preparation of field trip to Thailand.
	C (Others):	Interpretation of syntactic foci in Hungarian (with Kriszta Szendröi); interpretation of *wh*-questions in German; focus-sensitive particles in Hebrew and Chadic (both Afro-Asiatic); Experimental design, methods for semantic fieldwork; Participation in development of Hausa-tagger and construction of POS-annotated Hausa corpus; Prosodic realisation of newness/focus/contrast in German: Recordings (with D5).

2012 - 2013	A (Chadic):	Data collection: 2nd field trip to Nigeria (Grubic and PI); Experiments on Ngamo (with A1); Web-based experiments on Hausa; first corpus-studies on Hausa; Evaluation of hypotheses; PhD-thesis on *Focus-semantic phenomena in West Chadic*.
	B (Tibeto-Burman):	Data collection: field trip to Thailand; Corpus construction and (QUIS-) elicitations on Burmese and Chin in Germany; evaluation of empirical findings; refinement of hypotheses.
	C (Others):	Focus-sensitive particles in Salish; Interpretation of *wh*-questions in children; Prosodic realisation of newness/focus/contrast in German: Evaluation (with D5).

2013 - 2014	A (Chadic):	Evaluation of Hausa (web-based) experiments; corpus-studies; Summary of empirical findings and theoretical analysis.
	B (Tibeto-Burman):	Data collection on Burmese and Chin in Germany; Cross-linguistic comparison of focus realisation and focus interpretation in Tibeto-Burman.
	C (Others):	Implications for a general theory of focus marking and interpretation.

2014 - 2015	A (Chadic):	Publication of results; Data archiving; Hausa corpus; Identification of further questions for future research on Chadic.
	B (Tibeto-Burman):	Experiments on Burmese; Summary of empirical findings; Evaluation of hypotheses; Completion of PhD-thesis; Data archiving; Publication of results.
	ALL:	**Integration of project results into a general cross-linguistic theory of focus (realisation) and association with focus; including parametric variation.**

3.5   Unpublished / submitted papers

Grubic, M. (2010). Ngizim fieldnotes. In S. Petrova & M. Grubic (eds.), *Linguistic Fieldnotes I: Information strucuture in African Languages. Working Papers of the SFB 632 (ISIS)* 13. 1-76.

Grubic, M. and M. Zimmermann. (t.a). Conventional and free association with focus in Ngamo (West Chadic). In I. Reich et al. (eds.), *Proceedings of Sinn und Bedeutung* 15. Universität des Saarlandes, Saarbrücken.

Hartmann, K. and M. Zimmermann. (submitted). Focus Marking in Bura: Semantic Uniformity matches Syntactic Heterogeneity. Submitted to *Natural Language and Linguistic Theory*. (Status: NLLT-Begutachtungsprozess abgeschlossen, das abschließende Votum des Herausgebers steht noch aus).

Hole, D. (submitted & conditionally accepted). *The deconstruction of shì. . . de clefts revisited*. Ms. To appear in E. Onea and M. Zimmermann (eds.) Lingua –special issue on *Focus marking and focus interpretation*.

Hole, D. and M. Zimmermann. (t.a.). Syntactic Partitioning in (South) East Asian: A cross-linguistic comparison of clefting in Burmese, Japanese and Chinese. To appear in K. Hartmann, A. Haida and T. Veenstra (eds.), *The structure of clefts*. Amsterdam: Benjamins.

Karvovskaya, E. (2010). Not only about 'only'. Focus particles in Kola Saami. BSc. thesis, Universität Potsdam.

Ozerov, P. (2010). Exclusively highlighting: The sentence-medial particle *pe:* in Colloquial Burmese. Ms. Universität Potsdam.

von Prince, Kilu. (submitted) Predication and Information Structure in Mandarin Chinese. Ms, Universität Potsdam. Submitted to JEAL.

Zimmermann, M. (resubmitted). The grammatical expression of focus in West Chadic: Variation and uniformity in and across languages. To appear in *Linguistics*.