3.1 General information about the project <B6> new

3.1.1 Title: Underspecification in Voice systems and the syntax-morphology interface
Kurztitel: Voice

3.1.2 Research areas:
Syntactic theory, comparative syntax, syntax-morphology, syntax-lexicon interface, lexical semantics

3.1.3 Principal investigator:
Prof. Dr. Alexiadou, Artemis, 13.02.1969
Institut für Linguistik: Anglistik
Universität Stuttgart
Keplerstr. 17
70174 Stuttgart
Telefon: 0711-6858-3121
Telefax: 0711-6858-3122
Email: artemis@ifla.uni-stuttgart.de

Does the principal investigator hold a permanent position?
☒ Yes ☐ No, limited until _________________
☐ Further employment is planned until ____________

3.1.4 The project includes:

- research on human subjects or material ☐ Yes ☒ No
  A copy of the required approval of the responsible ethics committee is included with the project proposal ☐ Yes ☒ No

- clinical studies ☒ Yes ☐ No

- experiments involving animals ☒ Yes ☐ No

- experiments involving recombinant DNA ☒ Yes ☐ No

- research with human embryonic stem cells ☒ Yes ☐ No

Legal authorisation has been obtained ☒ Yes ☐ No

- research concerning Convention on Biological Diversity ☐ Yes ☒ No

3.1.5 Requested funding
<table>
<thead>
<tr>
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<th>Funding for instrumentation</th>
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(Figures in thousands of euros)

### 3.2 Summary

**Short summary:** The main research topic of this project is the relation between syntactic Voice alternations (and syntactic configurations more generally) and Voice morphology, and its implication for theories of Voice and theories of morphology/syntax interactions. The main goal of this project is to offer an integrative theory of the interaction between the morphological realization of Voice and argument structural Voice within the framework of Distributed Morphology.


**Extended Summary:** The main research topic of this project is the manner in which syntactic voice alternations relate to voice morphology, and the implications of this for theories of Voice and theories of morphology/syntax interactions.

A central observation is that, across languages, these two dimensions of Voice do not stand in a one-to-one relation. Specifically, different operations on a verb’s argument structure are often encoded by the same morphological device, i.e. Voice systems show massive syncretisms. While we find such syncretisms in all languages - there is no language that uses a specific morphological realization for each argument structure Voice - their specific shape is subject to considerable variation which, however, is not totally random. Rather they are ordered in subset relations. The main goal of this project is to offer an integrative theory of the interaction between the morphological realization of Voice and argument structural Voice, within the framework of Distributed Morphology.

Specifically, we will pursue an analysis that treats Voice morphology as being sensitive to the output of the syntax. This clarifies our position with respect to alternatives which attempt to capture Voice syncretisms by making morphology sensitive to the workings of Argument Structure, with the latter conceptualized as a module of the grammar distinct from the syntax (in the sense of e.g. Grimshaw 1990). Our approach advocates a direct interaction between interfaces: the morphology realizes the features of the syntax directly, without any intermediate levels or features added after the syntactic derivation.

Furthermore, we would like to see whether the claim that the middle Voice is distinct from the passive Voice can indeed hold, and whether a proper characterization of the middle voice can be formulated in our theoretical terms.

In our investigation, we look at the behavior of Voice in Germanic, Romance and Greek, and we investigate a range of analytic and synthetic constructions which participate in the realization of Voice.
Our results are expected to be significant theoretically as well as empirically. On the theoretical side, we hope to show how different interpretations of Voice come about from the various structural combinations of the different heads within the building blocks of verbal meaning. On the empirical side, our analysis will seek to identify possible and impossible combinations across individual languages, and to explain why certain generalizations seem to hold cross-linguistically.

3.3 Starting point of the project
3.3.1 State of the art
3.3.1.1 AS- and M-Voice

Among the different theoretical frameworks of contemporary linguistics, one finds considerable variation in the way the term Voice is applied. In our project we will use the term Voice in the following two senses: a) Voice denotes a particular alternation in a verb’s argument structure (AS-Voice here) and b) as Voice alternations are typically marked on the verb’s morphology, Voice is considered a morpho-syntactic category of the verb (M-Voice here).

In B6 we are interested in the interaction between AS and M-Voice, and in particular the manner in which semantico-syntactic Voice alternations (and syntactic configurations more generally) relate to Voice morphology, and the implications of this for theories of Voice and theories of morphology/syntax interactions.

Main types of AS-Voices:
A central alternation in the literature on AS-Voice is the one between the active Voice and the eventive passive Voice, exemplified in (1) for English:

(1) a. John read the book (active)
     b. The book was read (by John) (passive)

Besides the active and the passive Voice, three further AS-Voices are frequently identified across languages, illustrated below with English examples (but see Haspelmath 1990 for a list of further, less frequent AS-Voices and Siemund & Hole 2000 for a broader use of the term ‘Voice’ or ‘Voice alternation’).

(i) anticausative Voice refers to spontaneous events like break, open, or melt which can also be construed as transitive/causative verbs:

(2) a. John broke the vase (causative)
     b. The vase broke (anticausative)

(ii) generic or dispositional middle Voice:

(3) Such books always sell well

(iii) reflexive (and reciprocal) Voice involves inherently and naturally reflexive (or reciprocal) verbs, e.g. ‘body care verbs’ (wash, comb), or ‘verbs of assuming position’ (sit down, turn).

(4) John washed and combed every morning

Terminological clarification:
Some studies subsume the three AS-Voices just discussed under the term middle Voice and thus establish a contrast between the basic active Voice with two different non-active Voices: the
passive Voice and the middle Voice (Lyons 1969, Givón 1979, Shibatani 1985, Geniušienė 1987, Kemmer 1993, Klaiman 1991, Siewierska 1984). However, the term middle Voice has a range of interpretations in contemporary linguistics. Sometimes it denotes a formal category, i.e. it refers to an inflectional category of the Classical Greek verb (see Kaufmann 2001 for a recent discussion). In other cases, it receives a purely semantic characterization, as e.g. in Lyons (1969: 373), where the middle Voice indicates that "the action or state affects the subject of the verb or his interests". Kemmer (1993) suggests that the appropriate semantic characterization of middle Voice makes reference to two properties: i) initiator as affected (endpoint) and ii) low degree of elaboration of events. We note here that the phenomena that these studies subsume under middle Voice are rather heterogeneous both from a functional and a formal perspective, as we will immediately see below.

In most formal studies, on the other hand, the term middle is used in a more restricted way, namely to refer to dispositional constructions as in (3). Here, following Doron (2003), and Alexiadou & Doron (2007), we will use the term dispositional middle to refer to constructions of the type in (3). We will use the term Middle Voice to refer to a Voice different from the passive Voice which potentially sub-sumes the other three AS-Voices described here. In doing so, we are interested in the question of whether this Voice can indeed be established in its own right, and whether Affectedness is the proper characterization for it.

Properties of the main types of AS-Voices:

Descriptively, in the eventive passive (1b) the external argument of the verb is not overtly expressed. However, it is generally agreed upon that this argument is implicitly present, as it is semantically and syntactically active. This is suggested by a number of well-known tests such as the (non-)licensing of (i) purpose clauses, (ii) agentive by-phrases, (iii) agentive adverbs or (iv) instrumental phrases.

Anticausatives differ from actives and passives in that they do not make reference to an (implicit) external argument (e.g. Levin & Rappaport Hovav 1995 or Reinhart 2000; but see section 3.3.2). It has been widely acknowledged that passives differ from anticausatives in all the tests mentioned in (i-iv) above (Burzio 1981, 1986, Manzini 1983, Williams 1985, Jaeggli 1986, Baker, Johnson and Roberts 1989 and others). Furthermore, unlike all the other AS-Voices, anticausatives are compatible with phrases like English ‘by itself’ (see e.g. Chierchia 1989/2004, Levin and Rappaport Hovav 1995, Reinhart 2000, Härtl 2003 among others.)


Finally, reflexives (and reciprocals) make reference to two theta roles (agent and patient) which are both assigned to the same entity. Many languages thereby make a morphological difference between naturally reflexive/reciprocal/non-other directed verbs (as well as inherent reflexives) on the one hand and ordinary transitive verbs in a reflexive construal/other-directed verbs on the other hand (e.g. Haimann 1983, Kemmer 1993, Reinhart & Reuland 1993, König & Siemund 2000a, b, König & Vezzosi 2004, Smith 2004). For the latter class of verbs, English uses the anaphor himself in object position (5a) while the former class of verbs is typically intransitive under a reflexive interpretation. The example in (5b) clearly involves two thematic
roles (an agent and a theme) which are both assigned to the subject referent; (5b) differs from other “derived” intransitives involving implicit objects such as ‘John ate’ where the theme is also not overtly expressed but understood as disjoint from the subject referent.

(5) a. John hates himself
   b. John washed and shaved

3.3.1.2 The morphological realization of AS Voice across languages
The different AS-Voices mentioned above can be semantically identified crosslinguistically. However, there is large variation concerning the morphological realization of these AS-Voices across languages as we will show in this section based on a small selection of languages.


(i) Analytic/periphrastic passives are formed with the help of a passive auxiliary and a passive participle as in the English example in (1b), repeated below in (6b).

(ii) In synthetic passives, exemplified with Greek in (7b), a verbal suffix (tik) is attached directly to the verbal stem and is followed by other inflectional categories like aspect, tense and agreement marking. Alternatively, the suffix is attached outside of other inflectional categories as in the reflexive passive found in some Scandinavian, Slavic or Romance languages (see below) (See Haspelmath 1990 for other rare strategies to form synthetic passives).

(6) a. John reads the book
   b. The book is read (by John)       (analytic passive)

(7) a. O Jianis anikse tin porta
     John opened the door
   b. I porta anix\textit{tik} (apo ton Jiani)
     the door open.NACT (by the John)

I. AS-Voice/M-Voice interaction in languages with analytic passives
The active/passive alternation is morphologically marked in all languages of the world that have a passive in the first place (Haspelmath 1990; but see Comrie 2008). This is clearly not the case with other AS-Voices which sometimes surface in the same M-Voice as ordinary active verbs. A case in point is English. The other three AS-Voices discussed are morphologically unmarked in English and involve plain (active) verb morphology (but see Brame 1983 for morphologically marked inherent reflexive predicates in English such as John prided himself). However, in languages other than English, the morphological realization of anticausatives, reflexives and middles shows certain interesting properties.


(8) a. Der Mann wäscht \textit{sich}          (reflexive)
    the man washes REFL
   b. Diese Art von Büchern verkauft \textit{sich} immer gut    (middle)
    this sort of books sells REFL always well
c. Die Tür öffnet **sich** (anticausative)
the door opens REFL

Dutch is located between English and German. On the one hand, it forms a periphrastic passive akin to the one in German and English. Like German, it marks inherent reflexives and a (minority of its) anticausatives with the reflexive element ‘*sich*’. But standard Dutch, like English, leaves its generic middles unmarked (e.g. Everaert 1986, Reinhart & Reuland 1993, Hoekstra & Roberts 1993, Ackema & Schoorlemmer 1995, 2005, Geurts 2004, Marelj 2004, Lekakou 2005).

(9) **Dit sort boeken heft (*zich*) altijd goed verkocht** (middle)
this sort books has (*REFL) always well sold

To conclude, all three Germanic languages set their passive morphologically apart from the other three AS-Voices. English leaves all the other AS-Voices unmarked, Dutch marks two of them and German all three of them with a reflexive pronoun. The situation in the Romance languages as well as the Scandinavian and Slavic languages is quite similar to the situation in German.2

It seems that the languages that use reflexive morphology as an M-Voice marker share one important property. Specifically, this marker is morphologically light or simple. Languages differ, however, in the exact morpho-syntactic, i.e. phrase-structural status of their light/simple reflexive element (Faltz 1985, Haspelmath 1987, 1990). This can be a light reflexive pronoun (Dutch, German), a reflexive clitic (Romance) or a verbal reflexive (Russian). While both in German and in Dutch the reflexive is a (light) pronoun, and hence an XP, (Everaert 1986, Koster 1987, Steinbach 2002, Steinbach & Gärtner 2000), the two languages differ in that the German reflexive can be focused without the addition of an intensifier, while the Dutch reflexive can only be focused with the help of an intensifier (e.g. Geurts 2004). In Romance (and many Slavic languages), the reflexive is a clitic, and hence a head.

The fact that only light reflexive elements act as M-Voice markers becomes especially clear in languages with a so-called two-form reflexive system like Dutch (10) (see Kemmer 1993). These languages have in addition to SE-anaphors a so-called SELF-anaphor (in the terminology of Reinhart & Reuland 1993) which is morphologically heavy or complex (typically involving an intensifier). As in English, the heavy reflexive is used to form the reflexive use of other-directed verbs. However, non-other directed verbs are expressed with the light reflexive marker (10b,c):

(10) a. Zij haat ??zich/zichzelf
She hates REFL/REFL-SELF
b. Jan schaamt zich/*zichzelf/*Marie
John shames REFL/REFL-SELF/Mary
‘John is ashamed’
c. Jan waste zich/*zichzelf/Marie
John washed REFL/ REFL-SELF/Mary
‘John washed (Mary)’

The generalization is that only SE (and not SELF-anaphors) are used to mark AS-Voices (see also König & Siemund 2000a, b).

Besides reflexive middles and reflexive anticausatives, some Romance (Slavic and Scandinavian) languages have a second passive Voice formed with reflexive morphology. This reflexive passive must be kept apart from the dispositional middle, because it has an episodic reading which is absent from dispositional middles which are derived statives. An example of the reflexive passive in French is given below. (11) is clearly eventive and hence cannot be analysed as a dispositional middle. Note that while the reflexive passive in French does not license the by-phrase, reflexive passives in Slavic languages do license by-phrases. Haspelmath (1990) suggests that the availability of a reflexive passive is correlated with a very light nature of the reflexive element as a clitic or an affix. At least the better studied languages that have a reflexive passive all have an analytic passive in addition.

(11) Ce poème s’est lu hier pendant la fête (*par Marie)
‘The poem was read during the party yesterday’ (Dobrovie-Sorin 2005)

II. AS-Voice/M-Voice interaction in languages with synthetic passives

Turning to languages that mark the eventive passive with synthetic morphology, we observe that they are also not uniform. At least two groups must be distinguished. In one group of languages, the passive is not morphologically set apart from the other AS-Voices. In Greek (12), for example, (a subset of) anticausative verbs (12c), reflexive verbs (12d) and dispositional middles (12e) are formed with the same non-active (NACT) morphology used for the passive (see Tsimpli 1989, Alexiadou & Anagnostopoulou 2004, Zomboulou 2004). Albanian is relatively similar to Greek (Rivero 1990, Massey 1992, Kallulli 2006, Manzini & al. 2009), but see section 3.4.

(12) a. O Janis ekapse ti supa (active)
the John-nom burnt-.ACT the soup-acc
‘John burnt the soup’

b. To vivlio diavastike apo to Jani (passive)
the book read-NACT by the John
The book was read by John

c. I supa kaike (anticausative)
the soup-nom burnt-NACT-3sg
‘The soup burnt’

d. I Maria htenistike (reflexive)
the Mary-nom combed-NACT-3sg
‘Mary combs (herself)’

e. Afto to vivlio diavazete efkola (middle)
this the book-nom reads-NACT-3sg easily
‘This book reads easily’

3 In addition, some Romance and Slavic languages have impersonal constructions marked with a reflexive marker (Cinque 1988). These have to be kept apart from reflexive passives (D’Alessandro 2007). We do not include these constructions in this presentation for reasons of space, although they are obviously relevant for our investigation.
Note that non-inherently reflexive/other-directed verbs in Greek can appear in reflexive constructions when the verb is prefixed with the marker *after 'self' in addition to bearing NACT morphology (Rivero 1992, Embick 1998):\(^4\)

\[(13) \quad i \text{ Maria afto-katastrefete} \quad \text{(Self-Reflexives)} \]

the Mary-nom self-destroys-NACT

‘Mary destroys herself’

Anticausatives formed with NACT can be distinguished from passives (also formed with NACT) in Greek on the basis of different tests (AAS 2006a, b, and subsequent work). For example, like in the other languages only anticausatives are compatible with the phrase *ton eafios tu ‘by itself’.\(^5\) Middles can also be distinguished from passives by their generic/dispositional semantics. Reflexives are also set apart in that they license agentive adverbs referring to the sole argument DP. But importantly, such forms are in principle ambiguous between a passive and a non-passive interpretation, with the exception of examples like (13), which are clearly reflexives and the verbs which lack a passive reading altogether (12c) (see Alexiadou & Anagnostopoulou 2004, 2009 for details).

In the second group of languages, the synthetic eventive passive is set apart from the other AS-Voices. For example, Hebrew distinguishes between morphological passive and morphological middle Voice (both are synthetic). But only the latter is used for anticausatives, reflexives and dispositional middles (Doron 2003).

III. Summary: Voice syncretisms

Summarizing, the relation between AS-Voices and M-Voices is blurred by syncretisms in all languages; i.e. there is no language that uses a special M-Voice for each AS-Voice. This seems to be a universal property. A consequence of this is that languages typically use only one or two M-Voices in addition to the active Voice.

Table I graphically illustrates an interesting property of Voice systems. While languages differ in whether they single out the passive morphologically or not, the other AS-Voices are ordered in a subset relation with respect to their morphological marking. To our knowledge, this synchronic subset dimension has not been discussed, let alone analyzed, in the syntactic discussion of Voice systems (but see Alexiadou & Doron 2007 for a first attempt). It has, however, been mentioned within the typological literature. For example, both Haspelmath (1987, 1990, 1993) and Geniušiené (1987) observe that there seems to be no language where reflexive and passive under exclusion of anticausatives form a syncretism. (Haspelmath explicitly excludes middles from this subset relation, a point which we do not subscribe to; see also below). The subset relation has also been acknowledged within diachronic analyses of Voice; especially for the well studied Romance (but also for Slavic) languages it was observed that reflexive clitics were used first to form reflexive verbs; in a next step, this morphological device shifted to anticausatives and to generic middles and finally to passive uses (Lehmann 1982, Croft, Shyldkrot & Kemmer 1987, Haspelmath 1987, 1990, 1993, Cennamo 1993, Oesterreicher 1992, Michaelis 1997, Selig 1998, König & Siemund 2000a, b).\(^6\)

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\(^4\) There is a fourth case involving the Non-active form, namely deponent verbs which are not part of an alternation (Mackridge 1987, Embick 1998).

\(^5\) Most anticausatives formed with NACT morphology have no passive counterpart, while those anticausatives formed with ACT morphology do have a passive counterpart, a fact that can be diagnosed by the thematic role of by-phrasal they allow (see AAS 2006, Alexiadou (to appear) for discussion).

\(^6\) In table 1 we put together the reflexive passive and the synthetic passive mainly for reasons of space and illustration. It is an open question whether we should analyze the reflexive element as a part of the verbal morphology in the same way as the NACT morphology in Greek.
Table 1: Voice-Syncretisms forming subsets across languages:

<table>
<thead>
<tr>
<th>Language</th>
<th>active passive</th>
<th>analytic passive</th>
<th>synthetic passive</th>
<th>dispositional middle</th>
<th>anticausative</th>
<th>inherent reflexive</th>
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<td>Greek/Albanian</td>
<td>Act ∅</td>
<td>Nact Nact Nact</td>
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<tr>
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<td>Pass Middle</td>
<td>Middle</td>
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<td>Refl</td>
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<tr>
<td>German</td>
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<td>∅ Refl</td>
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<tr>
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<td>∅ Act Act Act Act</td>
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</tbody>
</table>

A further question that, to our knowledge, has not been investigated in the syntactic literature is whether it is a general property of languages with synthetic passive that they use the same NACT-device to mark further AS-voices (besides the active). The situation in Hebrew suggests that the subset relation holds for synthetic passives in the same way as it holds for reflexive passives. The historical development of Greek supports this idea as well (see e.g. Kaufmann 2001).

3.3.1.3 Non-canonical analytic passives, Affectedness and AS(Middle)-Voice

As already mentioned, periphrastic passives are built on the basis of the combination copula + participle. Across languages, other constructions involve what from a morphological point of view seems to be the same participle found in passives, i.e. the participle is involved in syncretisms, too. These are referred to as non-canonical passives in the literature and typically involve auxiliaries other than be. For instance, in English, formally the same participle used in the eventive passive also shows up in the so-called get-passive (Haegeman 1985). Other environments where the same form is found are adjectival passives (Wasow 1977, Levin & Rappaport 1986, Embick 2004a), and the present perfect:

(14) a. The door was slowly opened (passive)  
b. The door got opened (get-passive)  
c. The door is already opened (adjectival passive)  
d. He has opened the door (perfect)

A similar state of affairs holds in German. The very same participle II found in the eventive passive shows up in the so-called bekommen-passive (or kriegen-passive) (15). Like in English, the participle appears in the adjectival passive and the perfect (Rapp 1996, 1997, Kratzer 1996, 2000; for an exhaustive list, see Höhle 1978). For a recent discussion of the morphophonological properties of the German participle II, see Rathert (2009).

(15) a. Er bekam das Obst (klein) **geschnitten**  (bekommen-passive)  
       He got thw fruits small cut  
b. Er bekam den Text ab-ge-**geschrieben**  
       He got the text copied
c. Er bekam das Buch ver-kauf
He got the book sold

Leaving the perfect and the adjectival participle aside, as these have been extensively discussed in the literature, we are mainly concerned here with the participial syncretism between the eventive verbal passive, and the non-canonical passives i.e. the English get-passive and the German bekommen-passive. The reason for this is twofold: i) such constructions raise the question of alternative realization of analytic passive Voice, and ii) a number of researchers view non-canonical passives as a form of middle Voice, since their subjects are interpreted as ‘affected’ (in the sense of Klaiman 1992, Kemmer 1993 described above, see e.g. Hatcher 1949, Givon & Yang 1994, Arrese 1999, McIntyre 2005)). For this reason, we call the get constructions and their cognates across languages affected participial constructions here.

Let us consider the properties of such constructions. It has been observed that the bekommen-passive which advances a dative to nominative and preserves the structural accusative is not possible with all dative verbs (Reis 1976, Haider 1984, 1986, 2001 Reis 1985, Wegener 1985, 1991, Fanselow 1987, Leirbukt 1997 Vogel & Steinbach 1998). Leaving aside monotransitive dative verbs, which form the bekommen-passive only for some speakers, the underlying generalization is that only verbs with the basic/unmarked word order dat >> acc can form bekommen-passives, while verbs with the basic/unmarked word order acc >> dat cannot (Czepluch 1988, Haider 1993, Molnárfi 1998, Fanselow 2000, McFadden 2004, Cook 2006), see (16-17); for detailed discussion, see Cook (2006):

(16) a. Die Mutter schickt dem Jungen das Paket (basic order: dat >> acc)
   the.nom mother send the.dat boy the.acc parcel
b. Der Junge kriegt/bekommt das Paket geschickt.
   the.nom boy gets the.acc parcel sent

(17) a. Der Professor unterzog den Studenten der Prüfung (basic order: acc >> dat)
   the.nom professor subjected the.acc student the.dat test
b. *Die Prüfung kriegt/bekam den Studenten unterzogen
   the.nom test gets the.acc student subjected

As explicitly demonstrated in Cook (2006), the two basic word orders (dat >> acc and acc >> dat) do not go along with the animateness of the two object DPs (cf. Fanselow 2003, Heck 2000, Vogel & Steinbach 1998, Müller 1999), but they go along with a difference in conceptualization, which means that the high and low datives have different thematic roles. Low datives express locations or goals and irrespectively of their animateness they cannot be advanced in the bekommen-passive. High datives, on the other hand, are affected objects, associated with the θ-roles Beneficiary or Maleficiary, and these can, again irrespectively of their animateness, be advanced in the bekommen-passive (see Leirbukt 1997 for a similar conclusion).

Turning to English, it has been noted that the get-passive is not permitted with stative verbs and verbs that do not allow for the subject of the construction to be interpreted as affected, see Siewierska (1984). Similarly to German, the English get-passives describe events that are perceived to have a fortunate or unfortunate consequence on the subject. The same holds for the French construction se faire (Labellle 2002), as in (18). All these constructions are often com-


pared with the so-called adversity passive in Japanese, which is named after its affectedness semantics (e.g. McCawley 1972, Kuroda 1979, Miyagawa 1989, Shibatani 1994, Pylkkänen 2008).

(18)  Jean s’est fait écraser (par une voiture).
Jean refl aux made run-over (by a car)
‘Jean was run over by a car.’

3.3.1.4 Previous analyses
Since the early days of the investigation of Voice, the different sub-phenomena of AS-Voice have always been taken up separately and studied as independent ones. Thus, some authors exclusively deal with passive formation, while others are primarily concerned with a particular AS-Voice, e.g. reflexive, anticausative or dispositional middle or a particular M-Voice (reflexive morphology, NACT-morphology) and yet others are concerned with affected participial constructions, which are contrasted to eventive passives mainly. As our overview suggests, there are several contradicting analyses for each sub-phenomenon, but none that unifies the constructions we are interested in.

In this area, we observe the familiar tension between syntactic and lexicalist analyses (but see Steinbach 2002 for a postsyntactic account of reflexive verbs, middles and anticausatives). Some studies (e.g. Kemmer 1993, Manney 2000) utilize cognitive grammar terminology to describe the Voice relations at hand (Givón 1979, Talmy 1988, Langacker 1987), since this approach has developed a system of diagrams which are useful in depicting the internal relations between different participants of an event.

Within the Government and Binding (GB) framework, the standard analysis of the eventive passive is based around two principles (Baker 1988, Baker, Johnson & Roberts 1989 among many others): i) the passive morphology absorbs accusative Case and ii) the passive morphology absorbs the external theta-role. In the standard treatment, these two properties are related if we assume that the passive morphology is itself an argument that is assigned Case and receives the external theta-role. Recently, the specifics of this analysis have been challenged, see e.g. Embick (1997) and most prominently Collins (2005). Importantly, Kratzer (1996) develops a neo-Davidsonian association of external arguments in the syntax, according to which external arguments are not arguments of the verb, but are introduced by a VoiceP. On this view, the implicit argument of the passive has not been absorbed but it is introduced by a Voice-projection, similarly to the external argument in actives, albeit in an existentially bound fashion.


In order to derive the different AS-Voices, different types of reflexives are often assumed. Zubizarreta (1982, 1987) assumes three different versions of the French se: one is the ordinary reflexive anaphor, one is a verbal suffix deleting the external theta role (anticausatives) and a third one is the medium/middle se that blocks the assignment of the external theta role. Cinque (1988) assumes even five different sI-morphemes for Italian. Wehrli (1986), on the other hand, assumes only one reflexive element which always absorbs either an internal or an external argument: in reflexives, the internal argument is absorbed, in anticausatives, the external argument is absorbed.

The theta system developed by Reinhart (1996, 2000, 2002) and Reinhart & Siloni (2004) assumes different lexical operations that can apply to a verb’s underlying theta structure.

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9 We deal with the issue of the representation of the implicit argument in section 3.4.
Saturation has the effect of existentially binding an argument; in passives, the external argument is saturated. Reduction eliminates theta-roles. Reduction of the external theta-role leads to anticausatives; reduction of the internal theta-role leads to reflexive verbs. Later work on the theta system (Reinhart & Siloni 2005) assumes that reflexives are derived by a process called theta-bundling. This process applies in some languages in the lexicon and in other languages in the syntax; its semantic effect is, however, always the same: it collapses two arguments (one necessarily the external argument) and, thereby, transforms a relation into a one place predicate which projects as an unergative verb. The different M-Voices either indicate that a lexical operation saturation or reduction/bundling has applied to a verb or are needed for formal reasons to avoid that the derived Voices crash at the interfaces after the syntactic derivation. In German, for example, the reflexive pronoun is inserted in reflexives and anticausatives to absorb the structural accusative case feature of the (basically transitive) verb.

Kallulli (2006), adopting some key ingredients of Reinhart's (2002) theta system, namely the assumption that \( \theta \)-roles are features, analyzes M-Voice as the result of the suppression of the first element in a thematic feature cluster. Such an account shares some of the problems of the theta-system.

Recently, Doron & Rappaport Hovav (2007) criticized the proposal that \( \theta \)-bundling can take place either in the lexicon or in the syntax (see also Labelle 2008). Specifically, they question the claim that bundling can take place in the syntax and they argue that most examples analyzed as syntactic bundling by Reinhart & Siloni (2005) are actually instances of ordinary anaphoric binding. Obviously, the claim that reflexive verbs are derived by anaphoric binding asks for an alternative explanation for the well-known facts that suggest that reflexive verbs are intransitive in French (Kayne 1975, Grimshaw 1981).

The operation of Reduction has also been criticized in the literature for the main reason it has never been semantically defined; crucially, Doron (2003) argues that an operation eliminating a predicate’s semantic argument cannot be semantically formalized and Koontz-Garboden (2007) argues that natural languages in general do not have operations eliminating semantic arguments.

Syntactic analyses of middles typically assume an unaccusative syntax similar to the one in passives. Since these analyses assume that the external argument is realized as a zero element (Stroik 1992, 1999, Hoekstra & Roberts 1993), they have problems to explain why the implicit argument of passives differs from the one of middles in being less active (see Ackema & Schoorlemmer (1995, 2005) for detailed discussion).

A relatively well known syntactic theory of reflexive verbs is the unaccusative analysis, originally proposed in Marantz (1984), and taken up in Embick (2004b) and especially in McGinnis (1998, 2000). On this view, the reflexive element is merged in the external argument position, Spec,v and the full DP is merged in the internal argument position. That is, reflexive verbs are ordinary transitive verbs that involve two thematic arguments. The unaccusative aspect comes in with the following derivation: since the reflexive element needs an antecedent (Principle A of the Binding Theory (Chomsky 1981, 1986)), the internal argument must raise to a position c-commanding the external argument position. This syntactic movement is similar to the movement found with one-place unaccusatives and it is responsible for the unaccusative properties shown by reflexive verbs in Romance languages (participle agreement, auxiliary selection). The proposal by McGinnis faces a number of severe theoretical problems, most specifically, it is not in accordance with phase theory (Chomsky 2001, seq., Marantz 2006).

Syntactic accounts of reflexive anticausatives and dispositional middles (Haider 1985, Everaert 1986) often assume that the reflexive is an A'-element. For a detailed discussion and criticism of Haider’s account see Fagan (1992) and especially Steinbach (2002). One central observation is that the German reflexive element in anticausatives, dispositional middles as well as reflexive verbs has the same free distribution as ordinary NPs, i.e. it does not have to be
adjacent to $C_0$ nor to the lexical verb. Instead, it freely scrambles. Furthermore, it is clearly case marked. This behavior is hardly expected if the reflexive in anticausatives and middles occupies an A'-bar position. Instead, most authors discussing German reflexive anticausatives and middles come to the conclusion that they are syntactically transitive even though they only involve one theta-role (Fagan 1992, Steinbach 2002, Haider & Bierwisch 1989, von Stechow 1996, Wunderlich 1997, Haider 2000).

As is clear thus far, researchers working on reflexives as M-Voice markers have nothing to say about languages that use non-active morphology. The reverse also holds: researchers working on non-active morphology have nothing to say about reflexive morphology. For instance, Embick (1998, 2004b) proposes that the morphological realization of Voice is conditioned by the following requirement: the non-projection of the external argument is sufficient to give a NACT-form. In this sense the morphological realization does not coincide with the expression of agentivity.

Turning to the affected participial constructions, these do not figure prominently in the most recent syntactic literature. (For some discussion on the similarity between these constructions and eventive passives, their proper analysis in terms of raising or control and the status of the auxiliary verb see Haegeman 1985, Fox & Grodzinsky 1998, Huang 1999 for English, Labelle 2002 for French and the Reis vs. Haider debate for German).

3.3.3 Preliminary work by this research group

Our previous work focused on the causative alternation. We developed criteria to distinguish the properties of anticausatives as opposed to passives and we identified the semantic and syntactic properties of the two morphological classes of anticausatives in German and Greek. Furthermore, we offered an explanation of the gaps in the distribution of M-Voice in the case of anticausatives in Greek and German. These results as well as our results from our work in nominalizations and participles will be presented in a book for Oxford University Press (External arguments in transitivity alternations: a layering approach authored by Artemis Alexiadou, Elena Anagnostopoulou and Florian Schäfer).

Alexiadou & Anagnostopoulou (2004) investigated anticausatives in Greek and concluded that the two morphological types of anticausatives (active vs. non-active) are structurally different. Alexiadou, Anagnostopoulou & Schäfer (2006a, b) and Alexiadou & Schäfer (2006) develop a syntactic theory of the causative alternation. The central claim is that both causatives and anticausatives are built from a common root plus a verbalizer; they differ only in the presence vs. absence of a Voice projection. This means that causatives and anticausatives do not differ in their event decomposition but only in the presence vs. absence of a canonical external argument. However, against common assumptions in the literature, anticausatives crosslinguistically can make reference to an external argument which is necessarily a causer (a causative event or a natural force, (19a-b).

\[(19)\]  
  a. The vase broke from the pressure  
  b. Die Tür öffnete sich durch den Windstoß  
  the door opened REFL through the gust-of-wind

As argued by Schäfer (2008c, 2009d), partly on the basis of data like the one in (20a,b), this implicit causer argument cannot be lexically encoded, but is licensed in the context of a bi-eventive, resultative event structure.

\[(20)\]  
  a. Der Ball rollte (*durch den Wind)  
  The ball rolled through\textit{causer} the wind  
  b. Der Ball rollte (durch den Wind) über die Torlinie
The ball rolled through the wind across the goal-line

Building on AAS (2006), the investigation of the causative alternation was extended in the domain of aphasia (Stavrakaki, Alexiadou, Kambanaros, Bostantjopoulou & Katsarou submitted) and in the domain of language acquisition (Zombolou, Varlokosta, Alexiadou & Anagnostopoulou 2009).

Alexiadou (to appear b) is concerned with morphological patterns in the causative alternation, and argues that the morphology we see in the alternation helps us explain why anticausative and causative formation is more productive in some languages as opposed to others. The crosslinguistic variation relates to the pieces languages have at hand in order to realize Voice and v heads, the two heads that are involved in the formation of causative verbs. Alexiadou (to appear a) is concerned with postverbal nominatives as a diagnostic for unaccusativity. Alexiadou (2005) offers a syntactic analysis of the participles in the get-passive arguing that this is actually a resultative participle. Alexiadou & Anagnostopoulou (2008) discuss crosslinguistic patterns in the formation of stative and resultative participles.

On the basis of Greek and Hebrew, Alexiadou & Doron (2007) tried to offer a first approximation that there are indeed two non-active voices, passive and middle, both preventing the insertion of an external argument, but with different properties. Finally, Alexiadou (submitted) offers a survey of the general relation between syntax and the lexicon.

Schäfer (2002) gives an overview of different syntactic accounts to the binding theory with an emphasis on theories that abandon the independent Principles B (and C) and derive their effects from general economy principles on bound elements. Schäfer (2003) is specifically concerned with the implementation of locality constraints in such a framework.

Building on the theory of the causative alternation developed by AAS (2006), Schäfer (2007, 2008a, to appear) develops a (post-)syntactic theory of anticausative Voice-morphology, with special emphasis on the reflexive morphology found in Indo-European languages. The overall claim is that anticausative morphology reflects a way to avoid the merging of a thematic external argument.

Schäfer's work is concerned with the question why dispositional middles are crosslinguistically marked with the same device as anticausatives in reflexive languages. Schäfer (2007, 2008a, b) argues that reflexive anticausatives and middles have exactly the same morphosyntax; they differ only in the presence vs. absence of a generic, dispositional operator in the sense of Lekakou (2005). Furthermore, this work explicitly states that if a language has marked anticausatives, then the same morphological device is used to form middles in this language; the rationale is that middles are newly coined anticausatives in a generic context. Dutch, which has reflexive anticausative but unmarked middles, is not an exception to this claim because the reflexive marking of anticausatives is no longer a productive strategy in this language: for example, it is not used for newly coined anticausatives.

Heidinger & Schäfer (2008) investigate how the distribution and the semantic properties of French par-phrases introducing external arguments in the context of the reflexive passive and anticausative developed from the 16th century to present-day French. They argue that the thematic role of the element introduced by the preposition provides a strong clue for the categorization of the construction as a passive or an anticausative.

Schäfer (2007, 2008a, 2009b) develops a theory of free datives in the context of transitive and intransitive change-of-state verbs. These datives denote either the beneficiary/maleficiary of the change-of-state event or, in the case of anticausatives, the oblique causer of the event; i.e. thematically; these are exactly the kind of datives that can be advanced in the bekommen/get-passive.

Schäfer (2009a) provides a survey on the theoretical questions that the causative alternation poses as well as on the different types of analyses that have been proposed. It makes specific
reference to recent work and explicitly discusses the question of morphological syncretisms found in this area.

We have recently been invited to contribute to the following projects: i) Alexiadou: a paper for a volume on the Art of Getting: GET verbs in European languages from a synchronic and diachronic point of view, edited by A. Lenz and G. Rawoens, ii) Alexiadou: a paper for a special volume of Linguistics on the diachrony of labile verbs edited by N. Lavidas and L. Kuli-kov and iii) Alexiadou, Anagnostopoulou and Schäfer an overview paper for the project mentioned in (ii).

3.3.4 List of relevant publications

- Peer-reviewed publications

- Submitted manuscripts

- Non peer-reviewed publications

Patents: does not apply

- Presentations

3.4 Project description (goals, methods, work program)
While Voice phenomena have been studied from a variety of perspectives, we observe that this has been done in a very fragmentary manner. Specifically, previous researchers focus on certain sub-aspects of the phenomenon or on the description of individual languages or phenomena. In addition, researchers either focus on reflexive morphology or non-active morphology, but rarely consider both in parallel. We think that the lack of a unified treatment of reflexive and non-active morphology is a considerable drawback of the theory of grammar. Furthermore, most previous research has not attempted to unify the treatment of what we call here affected participial constructions with their canonical cognates. But importantly, for an accurate characterization of Voice phenomena such constructions are of importance in order: a) to understand the difference between canonical and non-canonical passives; b) to understand the syntactico-semantic properties the affected constructions are subject to; c) to formally define Affectedness in a principled manner and ultimately d) to answer the question whether middle Voice has its own right in the grammar.

A second important drawback is the fact that the question of interaction between AS and M-Voice is largely ignored in most recent syntactic literature assuming a decomposition approach to verbal structure, see e.g. Borer (2005), Ramchand (2008). Especially in a system such as Ramchand's the only way to treat M-Voice would be to assume multiple lexical entries
for verbs, thus leading to an explosion of the lexicon, which should be avoided (see Reinhart 2000).

In addition to these general issues, further specific problems for previous accounts can be identified. For instance, in lexicalist accounts it is not clear why different lexical operations should always be marked by the same morphological device across languages. Moreover, such accounts give no answer to the question why the same lexical operations are marked across languages and offer no explanation concerning the difference and/or similarity between the reflexive device and the non-active/middle device. Thereby different accounts are often not compatible with each other.

Another problematic issue concerns the assumption that different morphemes exist with exactly the same morpho-syntax. This seems to us to be a weakness that should be avoided if possible. As mentioned, there are clear typological and historical indications that the formation of reflexive verbs is the “basic” AS-Voice in languages with SE-anaphor while all other AS-Voice marked with SE-anaphors come in later. We think that all other uses of SE-anaphors must be related to this basic use. Either there exists only one element SE that brings about different AS-Voices because it combines with different syntactic structures or there are indeed different SE-elements. However, in the latter case there must be similarities in the featural make-up between the different SE-elements that motivate why they are spelled-out in an identical way (see Burzio 1991 for an account along these lines explaining the syncretism between reflexive si and impersonal si in Italian).

We note also that while it is quite uncontroversial that a heavy reflexive realizes an internal argument of a (di-)transitive predicate and shares its referent with a different (typically the external) argument of this predicate, concerning the class of reflexive verbs involving light morphological marking quite different theoretical analyses have been put forward and there is no agreement as to whether the reflexive element is an argument of the verb or not, as well as whether these predicates, if intransitive, are better analyzed as unergative or unaccusative predicates.

Finally, and most importantly, previous accounts (lexicalist as well as syntactic ones) have nothing to say about the sub-set relationships summarized in table 1.

3.4.1 Questions
The main research topic of this project is the manner in which syntactic Voice alternations relate to Voice morphology, and the implications of this for theories of Voice and theories of morphology/syntax interactions. In this project we assume that a broader typological perspective can guide our deeper theoretical understanding of individual Voices and the relations among different Voices and lead us to a formal characterization of the phenomenon of Voice.

In this project, we take the phenomena of Voice to be a good testing ground for the general discussion on underspecification vs. ambiguity in the grammar. In particular, the phenomena and constructions we are interested in will shed light on the following questions: i) does the grammar produce an identical morpho-syntax that is subject to different readings at the interpretative component or ii) does it produce different morpho-syntaxes and the elements used in a particular language to realize them are underspecified, i.e. are they sensitive to one (or a limited amount) of features that are shared by these constructions? The task is then to find out which features underlie the distribution.

The questions of our project can be identified as follows:
(i) How can we offer a formal characterization of Voice that captures its morphological, syntactic and semantic properties as well as its cross-linguistic variability?
(ii) In connection to (i), we would like to investigate the Number of Voices available across languages and whether the view that considers the middle voice as distinct from the passive Voice can indeed be established, and, if so, to find the proper characterization of the middle Voice.
(iii) Syncretisms: which is the appropriate level of grammar where syncretism should be dealt with: the core grammar or the interface?
(iv) What is the nature of reflexive and non-active marking and can they be seen as comparable to one another?
(v) What is the relationship between semantics and morphology, given our view on the place of morphology within grammar?
(vi) Why do gaps in the distribution of a particular M-Voice exist?
(vii) Formation of subsets: Why do they exist and why do languages select different cut-off points?
(viii) Which of our constructions contain implicit arguments in the syntax? If so, how are these represented in the grammar?
(ix) What is the status of light verbs in non-canonical passives?
(x) What is the role of Affectedness in grammar and in the characterization of Voice apart? Can a formal characterization be offered?
(xi) How do the participles in non-canonical and canonical passives differ from another within a language and across languages?

3.4.2 Goals
The central aim of this project is to offer an integrated theory of Voice, by accounting for the syntactic, semantic and morphological properties of different Voice systems. We will do this by first formulating generalizations about M- and AS-Voice in the formal framework we are committed to (Theory of Principles and Parameters and Distributed Morphology), as it offers a rigorous formalism within which explanations can be given.

Specifically, we will advance an analysis that treats voice morphology as being sensitive to the output of the syntax. Our approach advocates a direct interaction between interfaces: the morphology realizes the features of the syntax directly without any intermediate levels or features added after the syntactic derivation.

Our results are expected to be significant theoretically as well as empirically. On the theoretical side, we hope to show how different interpretations of voice come about from the various structural combinations of the different heads that constitute the building blocks of verbal meaning. On the empirical side, our analysis will seek to identify possible and impossible combinations within individual languages, and to explain why we find certain generalizations cross-linguistically. Taking as a starting point the observation that languages vary with respect to the cutoff points for assigning M-morphology to the different derivations that form the core of our research proposal, we want to understand why specific options are chosen, others are blocked, and how morphology interacts with the constructions which appear in the languages under discussion.

A second theoretical aim is to contribute to the theory of Underspecification in Morphology and Syntax. While in most work within Distributed Morphology (DM), underspecification is made use of to systematically express syncretisms, in the recent syntactic literature, we observe a conceptual move against underspecification, see Kayne (2008), Caha (2008) and Manzini & al. (2009); especially Manzini & al. favor an ambiguity view. Since, however, different morphosyntaxes can be systematically teased apart for the different AS-Voices, we cannot see how such an ambiguity account can be maintained. Thus, we assume that in order to understand the nature of syncretisms, morphological elements may be underspecified with respect to the syntactic environment in which they appear. ‘Underspecification’ in this sense refers to the properties of phonological exponents (M-Voice markers here) with respect to the syntactico-semantic environments in which these exponents will be inserted. The underspecification of phonology with respect to morphosyntax or syntax/semantics in this manner allows for the pervasive patterns of
syncretism found in natural language to be captured systematically, a point which has figured prominently in the critique of Lexicalist approaches to morphology.

3.4.3 Methods and work program

Methods

In this project, we will build on work carried out in Stuttgart and in co-operation with our colleagues in Greece, Israel and the USA within the framework of DM, a piece-based, realizational theory of morphology. Specifically, we will adopt a syntactic approach to word structure (Hale and Keyser 1993, Halle & Marantz 1993, Kratzer 1994, 1996, Marantz 1997, Embick 2000, Alexiadou 2001, Embick 2003, Doron 2003, Harley & Noyer 2003, Alexiadou, Anagnostoulou & Schäfer 2006, and subsequent work).

The architecture of the model of grammar that we adopt here is illustrated in (21). The syntax consists of a set of rules that generate syntactic structures, which are then subjected to further operations in the course of the derivation of the PF and LF interface levels:

(21) The Grammar

\[
\text{Syntactic Derivation} \\
\text{(Spell Out)} \\
\text{PF} \quad \text{LF} \\
\text{Morphological adjustment}
\]

Every word is formed by syntactic operations (Merge, Move). The principles of morphology are therefore to a large extent the principles of syntax. In the default case, the morphological structure at PF simply is the syntactic structure. In more complex cases, which are in no way exceptional, some further operations apply at PF to modify the syntactic structure (morphological adjustment). The units that are subject to the syntactic operations Move and Merge are the morphemes. On the widely-held view according to which syntactic structures are hierarchical tree structures, the morphemes are the terminals of such trees.

There are two types of morphemes: i) the Roots, items like √CAT or √SIT, make up the members of the “open class” and ii) the abstract morphemes—such as [pl] or [past]—are the (contents of the) familiar functional categories of syntactic theory. In this model, all word formation is syntactic, i.e. involves syntactic operations on Roots and abstract morphemes.

Word (and thus verbal too) meaning comes about via the combination of roots and functional elements. In particular, we assume that roots become verbal via v (which introduces an eventuality) and external arguments are introduced by VoiceP, Kratzer (1996). On this view, the same head that introduces a DP in the active licenses an implicit argument (or a PP) in the passive Voice. Unlike Kratzer, however, we assume that no (not even the internal one) argument is specified in a lexical entry, as these do not exist as primitives. That is, we assume a configurational theta-theory (as in Hale & Keyser 1993) and together with project B1 we will develop a model for the introduction of internal arguments (but cf. B4/B5).

(22) [VoiceP [vP [Root ]]]
For the particular concerns of this project, a piece-based approach allows us to investigate M-Voice from the perspective of available units to encode it. If we compare English, German, Romance and Greek, we see that the languages have different units in their Vocabulary to encode M-Voice. Only German (and Romance) have a SE-anaphor and use it productively as an M-Voice marker. Greek and English both lack a SE-anaphor, but they fill this gap in different strategies. Greek has non-active morphology available which it uses extensively for Voice marking. English lacking both SE-anaphors and non-active morphology has to fill the gap by active morphology. The question is whether this is the right direction to look at the differences among languages and of course how the pieces in (22) are distributed in the case of the participial constructions.

In view of the complexity of the enterprise, our approach is by definition comparative in nature. We will deal with languages we are familiar with and for which detailed descriptions exist in order to be able to make sense of the subset relationships. In view of our expertise and the general expertise present in Stuttgart, and that of our colleagues abroad, we will consider and compare Germanic languages (English, German and Dutch), with Romance (Italian, French, Spanish and Romanian), and Greek and Hebrew primarily. These languages provide us with the core morphological properties we are interested in in the domain of realization of AS-Voices (unmarked, reflexively marked (both XP and clitic) and non-active) and further provide an interesting split when it comes to the affected participial constructions, namely Greek lacks them altogether in spite of having both light verbs and participles of the right type. Scandinavian and Slavic languages might eventually be used as control cases. As we show below, Albanian might also turn out to be of special interest.

**Work program**

**I Characterization of Voices**

As already stated, we aim at providing a formal characterization of the different Voices that we described in section 3.3. To this end, we need to answer the following questions: what are the relevant categories to fully describe Voice? Are passive and middle the right terms/ enough? What about the term medio-passive, a label often used in formal and typological studies alike? Importantly, how can we define the different Voices semantically and syntactically?

Doron (2003) and Alexiadou & Doron (2007), following Kemmer (1993), suggested that passive and middle are two instantiations of Nonactive Voice. Thus the main opposition is between active and non-active. These two non-active Voices are alike in that they both prevent the insertion of the external argument. They both derive intransitive verbs, but the crucial difference between the two voices is that passive applies to verbs and is found only if the active exists, whereas middle applies to roots, so that the existence of a middle verb does not depend on an active verb. But is this the correct characterization, in view of the diversity in the interpretation and the syntactic behavior of the constructions subsumed under Middle? And how does it generalize to reflexive verbs? Can they uniformly be sub-sumed under Middle?

Kratzer's Voice hypothesis suggests that the Voice projection reflects the active vs. non-active contrast. But what about the Middle Voice? Does this also involve the presence of a Voice head? But then this Voice head must be clearly different from the passive Voice head, and should be sensitive to different features across the other instantiations of Middle Voice. And is this Voice head also present in the affected participial constructions?

**II Number of Voices**

Do all languages have access to all Voices or are there languages that have more semantic Voices than others? Reflexive languages have reflexives, anticausatives and middles. But they differ as to the presence vs. absence of reflexive passives, e.g. Spanish vs. German. German does not have
a reflexive passive. Is the Spanish reflexive passive identical in use to the periphrastic passive? If not, does this mean that German has a gap or are the functions of the reflexive passive taken over by the periphrastic passive?

Non-active languages have non-active morphology in the above environments. But do they have other AS-Voices in addition to passive? For instance, Lekakou (2005) argued that the dispositional middle in Greek is not a discrete Voice-category but a dispositional passive, as it licenses by-phrases and is available with a much bigger class of verbs than in other languages.

This brings about the general productivity question as well: why are passives more productive in some languages (English/German/Romance) but not in others (Greek)?

III Explaining Voice syncretisms

How can we explain the syncretism between semantically different Voices? Are they syntactically encoded (DM) or do they emerge at the conceptual interface (Manzini & al. 2009).

Let us briefly consider the two alternatives. Beginning with the latter, in their discussion of Voice syncretisms in Albanian and Greek, Manzini & al. state that single lexical items may be open to a number of interpretations (syncretism), in the same way that the same morphosyntactic structure may be open to them (passive, reflexive, anticausative or even impersonal in the case of middle-passive) and vice versa: the same interpretation may map to different morphosyntaxes, as is the case in Albanian that shows different realizations across tenses. On this view, syncretism does not reflect a mismatch between syntax and morphology, but a lack of non-isomorphism between morphosyntactic structure and interpretation.

In a DM approach, a single lexical item can be realized in a number of syntactico-semantic environments. This is so because the item in question is 'underspecified' for the domain of insertion and because there is a common property that all these environments share, see e.g. Embick’s work on Greek Voice.

We think that Manzini & al. overlook an important insight: namely, the AS-voices never share all syntactic-semantic properties, suggesting that they differ syntactically. In other words, they minimally differ in a number of respects described for some of the AS-voices most forcefully in AAS (2006) and Doron (2003). If this is so, the interface approach cannot be maintained and pursued. Rather the interfaces 'receive' a transparent syntactic structure and what remains under-determined is the morphological realization.

In this project, we want to systematically describe the complete set of AS-Voices and propose a syntactic theory of morphological encoding. We will spell this out in more detail below.

IV Reflexive marking vs. non-active marking.

As already mentioned, reflexive marking and non-active marking are dealt with separately in the literature, with few notable exceptions (e.g. the work by Reinhart 2000, 2002, Reinhart & Siloni 2005). This naturally raises the question whether they are identical or totally different? If they are identical, why do they have distinct realizations? If they are different, how do they differ and why are they used for the same task? Perhaps the behavior of Albanian is illuminating: in this language, the morphological realization of different AS-Voices can take the form of a specialized inflection, a clitic (ι) associated with the ordinary 3rd person active forms of the verb, or a specialized auxiliary (jam, i.e. 'I am', as opposed to kam 'I have' in the active followed by a participle). The fact that e.g. anticausatives, reflexives and passives can alternate between the three forms depending on tense (and mood) enables the formulation of the hypothesis that the three realizations serve the same purpose.

As we already mentioned, reflexive languages differ as to the phrasal status of the reflexives, e.g. XP (Germanic) vs. clitic (Romance), which influences the auxiliary selection patterns (have in Germanic vs. be in Romance). But even within Romance, we find considerable differ-
ences. For instance, Kayne's (1975) tests which suggest that reflexive verbs are intransitive do not apply the same way in Italian as they do in French. What is the reason for this difference, and how does the status of the reflexive influence auxiliary selection and participial agreement?


(23) a. Heute kann sich über Sonne gefreut werden
   Today can REFLEX about sun rejoiced be
   b. Zuerst wird sich geküsst, dann wird geheiratet
   First is REFLEX kissed, afterwards is married

The observation that reflexive verbs passivize in some languages makes the unaccusative analysis for at least these languages untenable; if we think that AS-Voices are syntactically uniform across languages (the null hypothesis, as Reinhart & Siloni (2005), in our view correctly, point out), the accusative analysis has to be refuted for other languages, too. Furthermore, under the proposal that the reflexive pronoun in German acts as a case absorber in the derivation of reflexive verbs, we would expect that the reflexive pronoun disappears in passives because structural accusative case should already be absorbed by passive formation thereby making the reflexive superfluous.

Data such as the ones in (23) raise new questions. First of all, which reflexive verbs can form a passive? Some preliminary research seems to suggest that the construction is limited to inherent and naturally reflexive verbs both in Iceland and German. Second, why does this not appear in other languages such as Dutch or Norwegian even though both languages form their reflexive verbs with a SE-anaphor?

Finally, consider once again the Greek data in (13). Embick took such examples as a strong argument that non-active morphology is incapable of reflexivizing any type of verb. Verbs that are reflexive with non-active only are verbs which are capable of being 'inherently reflexive', which never appear with *after*. This is supported by the observation that nominals, which clearly lack non-active morphology prefixed with *after* receive a reflexive interpretation ('after-traumatismo' self-hitting). But practically no research exists on the nature of this element. We can safely conclude that *this* is not an intensifier, as Greek uses another element in this function (*o idios 'the same'). But how exactly does *after* interact with non-active marking, and in what relationship does it stand to the syntactic projection Voice?

V Relationship between semantics and morphology

A central question of this project concerns the relationship between semantics and morphology. The fact that we find syncretisms suggests that the constructions in question have something in common. Otherwise we would not find these systematic patterns. Standardly, morphological marking is a reflex of an operation on AS (e.g. Williams 1981 and much subsequent work). But why should different AS operations be realized with the same marking? Why should we find the subset relation? Lexical treatments have no answer to these questions. Lexicalist accounts in fact say nothing about the specific type of morphology. For instance, what is it that qualifies a reflexive pronoun as an M-Voice marker? Other approaches such as e.g. Manzini & al. deal with this problem as an issue of ambiguity. Working within a piece-based approach, such as DM, we are forced to answer this question. Specifically, within DM a particular exponent has to be ranked in terms of 'specification' for its context of insertion, as it competes with other items. Thus the fact that distinct syntactic environments opt for the same exponent suggests that first there is a link
between them, and second this particular item is flexible enough to be inserted. But what are the features that this marking is sensitive to? These will emerge once we are able to provide formal characterizations of the different Voices.

Related to that is the following issue: Can we define the semantic and/or syntactic properties shared by these constructions in a systematic way? Within a realizational framework such as DM, two options are in principle possible. One option is to assume that different Voices share syntactic substructures, while they differ in other syntactic properties, leading to a common morphological marking (as in Embick 1998, 2004b). Alternatively, the syncretisms could be seen as the spell-out of a syntactic item, a head or an XP that takes part in the syntax of the different Voices. Which of the two can account for the phenomena at hand in a satisfactory manner? We note here that Embick's approach faces problems with the analysis of passives if we assume that these do contain an implicit argument. If so, this must be projected in the syntax (see below) and cannot be reduced to features on a functional head.

**VI Gaps in the paradigm**

Why do we find gaps in the distribution of morphology only with anticausatives but not with middles and reflexives? In other words, anticausatives in languages other than English are divided into two main categories, those that carry morphological marking and those that surface with active M-Voice. Such gaps are not found in the other AS-Voices. Does this suggest that the marking of middles and reflexives is indeed a process on AS, while the marking on anticausatives is simply expletive and, therefore, more idiosyncratic? This has consequences for the correct characterization of the features the morphological realization is sensitive to and the number of Voice patterns to be assumed.

**VII Subset relationships**

A puzzling fact about the syncretisms is the subset relation. Why do we find this? The morphological subset property suggests that we have a semantic and/or syntactic subset. How can we account for this? To our knowledge, no theoretical account of the phenomenon exists. Are the cut-off points related to the type of marking?

As mentioned above, Alexiadou & Doron (2007) suggested that anticausatives, reflexives and dispositional middles instantiate middle Voice which is seen in opposition to the passive Voice. By comparing English to Greek and Hebrew, they pointed out that in Greek, there is no morphological distinction, hence a unique NACT morphology is used for all AS derivations, though on the basis of tests such as agentive by-phrase, causer PP and by-itself modification, they behave differently from one another (contra e.g. Lekakou 2005). In Hebrew, middle morphology marks 1-3, and passive marks 4. In English, 1-3 is unmarked, 4 is marked as passive. This suggests that if a language has two distinct markings for middle and passive they will distribute across these lines.

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But the case of German and Dutch suggests that the picture is far more complicated than this. In this project, adding other languages to this picture, we want to achieve a deeper understanding of the subset relation. In addition, we want to understand why i) some languages develop a second passive, namely a reflexive passive; ii) why in some languages (German) reflexives can also form a passive, and iii) why participial constructions are not uniformly passive (non-canonical-passives in English, German and Romance and Greek stative participial constructions).
VIII Implicit arguments

Any study of Voice would be incomplete without raising the issue of implicit argument representation. The literature on implicit arguments has defined them as syntactically active elements that nevertheless do not occupy a syntactically projected position, though the definitions vary in their details (cf. e.g. Roeper 1987, Roberts 1987, and section 3.3.). In agreement with Bhatt & Pancheva (2005), we find the existence of elements that are syntactically active but not syntactically projected conceptually problematic. Thus, unlike Williams (1985, 1987), we are unable to conclude that implicit arguments are not projected syntactically.

While we can safely conclude that anticausatives lack an implicit agent, work by Kallulli (2006) and AAS (2006a, b) pointed out that anticausatives can involve a causer argument. The question is whether this should be represented as an implicit argument similar to the one found in passives (Kallulli 2006, 2007) or whether its licensing can be reduced to the presence of a causative event in anticausatives as suggested by AAS (2006a, b) and Schäfer (2008a, c, 2009b) (cf. also Kratzer 2005).

Things do not become easier in the case of the implicit arguments of passives and middles. We have already discussed and criticized above accounts that represent the implicit agent of middles in the syntax. On the other hand, the implicit argument of passives is syntactically much more active suggesting that it is also syntactically represented. But how exactly is this argument projected? As a kind of pronoun in Spec,Voice (e.g. Sternefeld 1995, but see e.g. Jaeggli 1986 for criticism), by the passive morphology (Jaeggli 1986, Baker, Johnson & Roberts 1989, (see Embick 1997, and Collins 2005 for criticism), a potentially silent by-phrase (Collins 2005, Kallulli 2007) or as a thematic feature on Voice (Embick 1998, 2004b, Kallulli 2006)?

Arguably, a decision should be taken on the basis of the semantic and syntactic properties associated with the implicit argument. One such property is that the implicit argument cannot be controlled (Chomsky 1986, Jaeggli 1986, Williams 1987, Bhatt & Pancheva 2005); in (24a), but not in (24b) can the giver(s) of the testimony be they, an observation that is not compatible without further ado with the proposal that the implicit argument is a covert pronoun (pro, PRO). Similarly, in example (24c) the implicit argument is disjoint from John, or at least is vague on that point in the same way as John wants Mary to be seen by someone is.

(24) a. They expected [PRO to give damaging testimony]
   b. They expected [damaging testimony to be given]
   c. John wants Mary to be seen

The same holds for German (25a). Note, however, that the addition of a by-phrase allows the implicit argument to co-refer with the matrix subject, suggesting that there is no general disjoint reference effect on the implicit argument. This is not compatible with the view in Williams (1987) that the existentially bound implicit argument acts like an R-expression.

(25) a. Der Komissar hofft, dass der Verdächtige bald überführt wird
   b. Der Kommissar, hofft, dass der Verdächtige bald von ihm, überführt wird

An important, related question that has not received much attention in the literature is how the properties of the implicit argument of passives can differ across languages. As discussed in AAS (2006), Alexiadou & Schäfer (2006) and Doron (2003), there are languages such as Greek (Hebrew) or Icelandic that allow only agent subjects but not causer subjects as implicit arguments of passives (27b vs. 26c); this is so even if the corresponding transitive sentence allows causer subjects (26a).
Interestingly, impersonal passives across languages show a general human restriction on their implicit argument (e.g. Maling & Sigurjónsdóttir 2002).

A further potential difference concerns secondary predication. Chomsky (1986) claims that the implicit argument of passives differs from PRO in that it cannot be modified by a depictive.

Müller (2004) gives examples that show that this does not hold for German.

However, it is not clear that we face a real difference between English and German. Baker (1988) and Collins (2005) both provide examples which suggest that the implicit argument of English passives behaves in fact like its German counterpart.

But in Greek, the modification of the implicit argument is definitely ungrammatical as (31) shows:

While this could indicate a peculiarity of the implicit argument of Greek passives, an alternative explanation might be more promising. As discussed by Jónsson (2009), the implicit argument of Icelandic passives can be modified by uninflected present participles but not by adjectives which are inflected for person. This suggests that the problem of the above examples relates to the licensing of the adjectival inflection: if the implicit argument of passives makes no φ-features
available and if adjectives do not allow default agreement, the differences between the examples is explained.

(32) a. Minningargreinin var lesin grátandi
   the.obituary was read crying

b. *Morgunnatur er alltaf þorðaður nakinn
   breakfast is always eaten naked.sg.masc

The same set of questions emerges also in the area of nominalizations in B1, and we will address them jointly. An important issue here is whether nominalizations constitute a form of passive Voice, or whether at least some of them (e.g. examples of the type the city's destruction) are dispositional middle constructions, as suggested by Longobardi (2001). Longobardi points out that a difference between verbal passives and nominal passives is that unaffected objects can passivize in the former, but not in the latter. This raises the question once again, what kind of constructions are subject to Affectedness, and whether the same form of Affectedness is relevant in all cases (see below).

IX Get-verbs
We use this label as a cover term for all non-canonical passive auxiliaries. What is the status of these verbs? Are they semi-lexical (Haider 2001, van Riemsdijk 1998) or fully lexical? Or do they have the status of auxiliaries (Haegeman 2005, McIntyre 2005)? And if so, how do they differ from their be counterparts?

We note that while English, German and French all have such verbs, they differ as to the type of light verb they use. English/German use a possessive light verb, Romance uses a causative light verb. In addition, only Romance languages contain an overt reflexive (se faire, 18), although German also uses a reflexive with its dispositional middles and anticausatives. Why do the Romance languages require a reflexive to achieve an affected interpretation? How are possession structures (arguably involved in English and German get/bekommen constructions, see McIntyre 2005), light causative verbs and reflexive marking linked to affectedness? (see below)

We further observe that Italian se faire constructions differ from their French counterparts, as they allow both causer and agent par-PPs (French allows only Agentive phrases). What is the source for this difference and how similar are these then to real passive constructions?

X Affectedness
Typological studies all agree that the single argument present in Middle Voice is 'affected'. In the syntactic literature, the notion of affectedness was used in Anderson (1979) to describe the relation between a preposable object and its head in noun phrases (e.g. the city's destruction). Since then, others have extended this notion to dispositional middles and to dative/possessive constructions (e.g. Landau 1999) which constitute areas of our investigation. Authors, however, disagree as to the correct description of the phenomenon and the factors that are responsible for it (see Anderson's 2006 overview for detailed discussion and references).

Specifically, for Tenny (1994) and Krifka (1989) affectedness is primary a term for arguments that are taken to be affected by the eventuality denoted by the predicate. Often this term is seen as comparable to the term quantized arguments. The other notion Affectedness is understood as relating to possession. It is not clear how the quantized view on Affectedness extends to the possessive one. Do we have different types of affectedness, i.e. does affectedness make reference to scales, as suggested in C2? If so, how are these structurally encoded? If possessors do give rise to affectedness, how is this represented in the structure? Is it represented in terms of a possessive structure which relies on the presence of an applP (Marantz 1993, Cuervo 2003, Pylkkänen 2008), or via an Affect head, as recently argued for by Bosse et al. (2009)? Why do
some languages use reflexives for applicative structures? How is this different from/similar to what we find in dispositional middles? What are the general constructions that languages use to encode Affectedness?

**XI Participial constructions**

We know by now that participles fall into a number of distinct categories (stative, resultative, eventive), see Kratzer (2000) and Embick (2004a) for German and English respectively. In some languages these are distinct morphologically (Greek, Alexiadou & Anagnostopoulou 2008) but in most languages they are not (e.g. English, German).

Which of the participles is involved in the periphrastic get-passive and bekommen-passive? How are the auxiliary and the participle compositionally interpreted in these periphrastic constructions? Can such constructions be alternative realizations of middle Voice? For instance, a closer look at the syntactic behavior of get-passives reveals that these are indeed similar to dispositional middles and anticausatives. Get-passives, unlike be-passives, but like dispositional middles and anticausatives, do not license agressive adverbs or control into purpose clauses and (33-34) (McIntyre 2005, Toyota 2007 for a recent discussion and references; cf. Bowers 2002):

(33) a. The ship was sunk [PRO to collect insurance money] (passive)
   b. The ship was sunk deliberately
   c. *The ship got sunk [PRO to collect insurance money] (get-passive)
   d. *The ship got sunk deliberately

(34) a. *This bureaucrat bribes easily to avoid the draft (dispositional middle)
   b. *This bureauacrat bribes deliberately
   c. *The ship sunk to collect the insurance (anticausative)
   d. *The ship sunk deliberately

What explains the difference between the eventive verbal passive and the above constructions? How do the participles in the canonical and non-canonical constructions differ? Are they globally different or do they share some but not all syntactic/semantic properties (subset-relation)? Why are the differences between the different participles not morphologically reflected, i.e. contrary to what isomorphism/iconicity suggests?

What explains the cross-linguistic distribution of affected constructions (possible in Germanic and Romance but not in Greek)? We note that e.g. Greek has participles quite similar to the participles used for in other periphrastic constructions in languages like German or English (Alexiadou & Anagnostopoulou 2008, Anagnostopoulou 2003). Specifically, -menos- participles involve stativization of a phrase that contains an external argument. Nevertheless, Greek has not developed a second periphrastic passive, besides its synthetic passive. Thus, the question is: since all building blocks of this alternative passive are available in Greek, why is this construction not passive? In addition, the Greek participial constructions cannot be used in manner similar to the get-passives either. Rather, the Greek participial constructions seem to convey the Perfect of Result reading associated with the Present Perfect in languages like German. In Greek this is systematically expressed via the be + participle construction (and not via the have +participle one, which is used for the other readings of the Present Perfect). The exact ways this comes about need to be identified, and this can only be done if Greek is contrasted to its Germanic and Romance counterparts. Especially, we would like to investigate Italian and French participles in the light of Kratzer's and Embick's results in order to better understand the restrictions observed. In fact the problem is not limited to the status of participial constructions. Greek has light verbs of the appropriate type but still is not able to form such affected constructions.
Time schedule

2010/2: Work on reflexive passives and participial constructions and get verbs. Implicit argument in passive constructions. Work on afo-.

2011: Unification of reflexive marking and non-active morphology. Identification of reasons for the subset relation. Affectedness and the scales it is subject to. Beginning to develop a theory of Voice syncretisms.


2013: Enlarge the typological picture. Work on monograph.

2014/1: Completion of monograph on Voice.

3.5 Role within the Collaborative Research Center

3.5.1 Position with respect to the overall concept of the Research Center
The project addresses questions of mismatch of form and interpretation that are the core concerns of the research concerns of this SFB. It is concerned with the theoretical question of underspecification vs. ambiguity and it aims at advancing our understanding of the theory of underspecification at syntax-morphology interface.

3.5.2 Interaction with other projects
The SFB presents an ideal environment for this particular research to be carried out as a number of sub-issues that are important for this proposal figure prominently in other projects as well.

To begin with, B1 and B6 study phenomena that have been argued to be comparable, nominalization and verbal argument alternations. We believe that a joint study of these phenomena will lead us to better understand the syntactic constraints on a) implicit arguments and passivization and b) questions of argument structure. What is its source? How can arguments be reduced, if at all, and what are the different mechanisms available cross-linguistically? Within area B, projects B4 and B5 address issues of argument alternations (verb particles and causative alternation respectively), in areas which neighbour our own. We expect fruitful discussions with both these projects concerning the projection of arguments and the role root classification plays in determining verb meaning.

We expect to interact actively with project C2 not only on general issues of argument alternations but also on the role of Affectedness in grammar, its semantic ingredients and its syntactic representation. Thus we hope to profit from each other's results.

Project B6 is interested in active-passive Voice alternations and in light verbs of a particular type, phenomena that are being looked at from a different perspective within D2. We expect to profit from each other's results in pursue of an appropriate characterization of the constructions at hand.

3.6 Demarcation from other funded projects of the principal investigator
Does not apply.

3.7 Auxiliary support for the project
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*Tabelle wird von der Geschäftsleitung anhand der Angaben des Teilprojekts erstellt*
### Staffing of the project

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<th>Field of research</th>
<th>Department of the university or non-university institution</th>
<th>Requested funding period: Work performed in the project in hours/week (consultancy: C)</th>
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#### Core support

3.7.1.1
Research assistants (incl. student assistants)

3.7.1.2
Non-scientific assistants

#### Auxiliary support

3.7.1.3
Research assistants (incl. student assistants)

3.7.1.4
Non-scientific assistants

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1) Bitte durchnummerieren und Aufgabenbeschreibung nachfolgend erläutern
2) Bitte Verfahrensgrundsätze der DFG zur Bezahlung wissenschaftlichen Personals beachten.

<Tabelle wird von der Geschäftsführung anhand der Angaben aus den Teilprojekten erstellt.>
Job description of staff paid from core support of the funding period requested

zu 1:  <Artemis Alexiadou>
Responsible for the co-ordination of research. Work on the theory of implicit arguments, argument structure, subset-relations, *get*-verbs in English; responsible for English and Greek.

zu n:  <Name>
<Aufgabenbeschreibung>

Job description of staff paid from auxiliary support for the funding period requested

zu 1:  <Florian Schäfer>
Florian Schäfer is an expert in issues concerning the causative alternation, dispositional middles, the morpho-syntax of *sich*, and the syntax of nominalization, as can be seen by his record of publication. In this project, he will be concerned with the following tasks: i) Auxiliary selection and participial agreement with reflexive verbs, ii) the passive of reflexive verbs, iii) the structure of participles in Germanic, iv) the morpho-syntax of unaccusativity diagnostics iv) *bekommen*-constructions in German and v) subset relations.

zu 2:  <Cinzia Campanini>
Cinzia Campanini finished her BA in Venice, and is currently an MA student at the University of Stuttgart. She will complete her MA thesis on optional pseudo reflexives in Italian and their relationship with applicative and dative constructions: In this project, she will be responsible for the investigation of the inner-Romance variation in the following areas: i) reflexives and their relation to applicatives, ii) the *se faire* construction, iii) the structures of participles and iv) the application of Kayne's diagnostics. It is expected that she will complete a Ph.D. thesis on issues of inner-Romance variation and Romance vs. Germanic comparison.

Both core and auxiliary members will work on the theoretical question of argument structure, syncretisms, reflexive and non-active marking and the characterization of Voice.

3.7.1 Distribution and justification of funding for direct costs (excl. salaries and instrumentation) (by financial year)

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(All figures in euros)
**Justification for auxiliary support for direct costs (as above)**

for **financial year**

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**<Hinweise zu "Sachmitteln":>**

Vor der Begründung der Einzelpositionen sind die Mittel anzugeben, die aus der Grundausstattung für das Teilprojekt für Sächliche Aufwendungen zur Verfügung stehen werden.


- **Kleingeräte bis 10.000,- EUR (brutto) ohne Fahrzeuge:**
  Bei der Begründung ist ggf. auch kurz darauf einzugehen, warum vergleichbare Geräte, die an den am Teilprojekt beteiligten Instituten eventuell vorhanden sind, nicht herangezogen werden können.
  Es wird darauf hingewiesen, dass die Ausstattung mit Arbeitsplatzrechnern grundsätzlich aus Mitteln der Grundausstattung bereitzustellen ist und nur bei ausdrücklicher projektspezifischer Begründung beantragt werden kann.

- **Verbrauchsmaterial:**
  Bitte den Bedarf für einzelne Verbrauchsmaterialien (z.B. Chemikalien, Glasgeräte) spezifizieren und begründen. Mittel für Bürobedarf sollen im zentralen Verwaltungsprojekt für den gesamten Sonderforschungsbereich beantragt werden, nicht bei den einzelnen Teilprojekten.

- **Reisen:**
  Mittel für projektspezifische Reisen (Forschungsreisen, Expeditionen etc.) sind bei den einzelnen Teilprojekten zu beantragen und aufgeschlüsselt nach Fahrt- und Aufenthaltskosten zu begründen. Allgemeine Reisemittel eines Sonderforschungsbereiches (Tagungsreisen etc.) sind im Rahmen des zentralen Verwaltungsprojekts zu beantragen. Soweit Veranstaltung, Teilnehmer und Art der aktiven Teilnahme zum Zeitpunkt der Antragstellung bekannt sind, sind diese Angaben im Finanzierungsantrag aufzuführen, im übrigen der Größenordnung nach plausibel zu machen.

- **Sonstiges:**

### 3.7.3 Instrumentation (instruments exceeding € 10,000 gross and vehicles)

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<tbody>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

(All prices in thousands of euros incl. VAT and transportation costs, etc.)
Literature:


