Interfaces as locus of historical change
Workshop: Grammaticalization and Linguistic Theory

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1   Introduction

The phenomenon of complex predicates (V-V, N-V or A-V sequences) is extremely pervasive in the South Asian linguistic area, occurring in all of the major language groups (Dravidian, Tibeto-Burmese, Indo-Aryan). Complex predicates have in fact been viewed as an example of areal spread due to language contact (Masica 1976). It is not clear, however, where these constructions first spread **from** — various hypotheses propose Dravidian (Chatterji 1926) or Altaic (Hook 1991). In this paper, I take a look at a particular V-V complex predicate which occurs in both Urdu/Hindi and Bengali[1] and, in investigating the origin of the construction, propose a path of syntactic change that goes hand in hand with a continual semantic bleaching over the event structure of a predicate.

2   Complex Predicates — Synchronic Data

In V-V sequences as in (1) and (2), the first verb in the sequence is considered the main verb, as it accounts for most of the semantics. The second verb has been dubbed a *light* verb, because it generally signals the completion/inception of the event denoted by the main verb rather than contributing a full verbal semantics. Verbs which can appear in this position are limited in number (there are about 20 for this particular construction in both Bengali and Urdu/Hindi) and also always have a corresponding usage as main verbs (their main verb meaning is indicated in the close gloss). For further details on the synchronic use of these constructions see Butt (1995), Singh (1994) and Hook (1974), among others.

(1) naadyaa=ne   xat   **lik^h li-yaa**
     Nadya.F=Erg letter.M.Nom **write take-Perf.M.Sg**
     'Nadya wrote a letter (completely).'   (Urdu)

(2) naadyaa   **gaa ut̺^{h}-ii**
     Nadya.F.Nom sing rise-Perf.F.Sg
     'Nadya fell to singing (suddenly).'   (Urdu)

   In Urdu/Hindi the form of the main verb is identical to the stem form and never carries any inflection. The second verb carries tense and aspect marking and is inflected according to the standard paradigms governing simple verb inflection.
   Examples of the corresponding construction in Bengali are shown in (3) and (4). Here, the *light* verb always signals the completion of an event (Ramchand 1990, Zbavitel 1970).

(3) raam   pat^{h}or-t̺a   **t^{h}el-e   p^{h}el-lo**
     Ram.Nom stone-Class push-Perf throw-Past.3
     'Ram pushed the stone.'   (Bengali)

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[1]Modern colloquial Urdu and Hindi differ mainly in terms of vocabulary, but not structure, and are thus not differentiated here. The Bengali under discussion is Standard Colloquial Bengali.

(4) raam   **eś-e**   **por-lo**
     Ram.Nom come-Perf fall-Past.3
     'Ram arrived.'   (Bengali)

In contrast to Urdu/Hindi, the form of the main verb is not identical with the stem (or citation) form, but carries the morphological marking *-e* or *-iya* associated with the perfective. As in Urdu/Hindi, the light verb carries tense marking and is inflected according to the standard paradigms governing simple verb inflection.

3   The Diachronic Perspective

3.1   Purported Origin

The consensus in the literature on the history and structure of modern Indo-Aryan languages is that this type of complex predicate is an innovation in Indo-Aryan (i.e., Chatterji 1926, Kellog 1893, Beg 1988), as the construction appears to be almost completely absent in the ancestral Sanskrit. According to Hook (1991), the construction is first attested in Buddhist Pali writings of the early centuries:

(5) mayā (varo) gahitkam **ka-tvā**   **thāpito**
     by-me boon   in-reserve make-CP put
     'I have kept (the wish you granted me) in reserve.'
     (Jatāka Tales, Sri Lanka, Hook from Hendriksen 1944:136)

Hook also espouses the view that the construction may have come into Indo-Aryan from either Dravidian ((6)) or Altaic ((7)).

(6) araiyolai   **cey-tu**   **koṭu-ttu viṭu-taka**
     proclamation make-CP give-CP   leave-IMP
     '. . . prepare the proclamation and issue (it).'
     (Tamil inscription, circa 550 AD, in Zvelebil 1964)

(7) (kül tigin), **uč-a   bard-ɨGɨz**
     Kul Prince fly-CP went-2PL
     '(Prince Kul, you) died.'
     (Orkhon inscription, circa 650 AD, in Tekin 1968)

   Note, however, that the verbs in (5)–(7) do not actually form a simple V-V sequence. Rather, the main verb always carries a suffix glossed as CP. In Pali in (6), this CP is realized as the suffix *tvā* on the main verb 'make'.

3.2   The Conjunctive Participle

Some investigation of this *tvā* suffix shows that it must clearly be related to the Sanskrit suffixes *tvā/tvāya* or *ya*, which were used to form participials (generally labeled as "gerunds", cf. Whitney 1889:345–360), and which were also sometimes referred to as *conjunctive participles* (CP). Thus, the *tvā/tvāya* in (8)–(9) and (5) are presumably identical.

(8) puroḍāçam evá   [kūrmám   bhū-**tvā**]   sárpantam
    rice-ball.Acc Emph. Part. tortoise.Acc become-CP snake.PresPart
    'to the sacrificial cake creeping about, having become a tortoise'
    Sanskrit — Çatapatha-Brāhmaṇa

(9) [striíyaṁ   dṛṣ-**ṭvāya**] kitavám   tatāpa
    woman.Acc see-CP   gambler.Acc distress.Perf
    'Having seen the woman, the gambler is distressed.'
    Sanskrit — Rigveda, Gambler:11

Given this relationship, I would like to put forward the proposal that while complex predicates as such may not have occurred in Sanskrit, the construction which gave rise to them was probably a participial as in (8) and (9). Note also that the criteria for identifying a "true" instance of a complex predicate are not clear. Hook presumably only admitted those constructions as evidence where the meaning of the complex predicate is more than the composition of its individual parts. This, however, also opens the door to the danger that only idiomatic or lexicalized meanings may in fact have been counted. As such, it would be instructive to reexamine the Sanskrit writings from a primarily syntactic perspective for the occurrence of possible precursors of the modern V-V complex predicate. This is left for further research.

The historical development of the conjunctive participle as it has been reconstructed is roughly as in (10), with some examples given in (11) (cf. Beg 1988:185, Kellogg 1893:341, Chatterji 1926).

(10) **Change:**

Sanskrit	*tvā, tvāya* and *ya* >
Prakrit	*ia* >
	i and *a* >
Urdu/Hindi	lost
Bengali	*e*

(11)

Sanskrit		**Prakrit**
šrutvā 'having heard'	>	*suṇia*
niskramya 'having gone out'	>	*nīkkamia*

The Prakrit forms descended from the various possible Sanskrit realization was *ia* where it must be noted that the *t* in *tvā* tended to assimilate with the preceding consonant and was thus lost or palatalized as shown below (cf. Chatterji 1929:1009).

(12) *-tya > -cca*

The Prakrit *ia* was then further reduced to *i* or *a*, from which the current Bengali "perfective" morphology *e* is descended. As we have already seen, this morphology is retained in the formation of V-V complex predicates, as in (13).

(13) mer-e   pʰel-a
     hit-Perf throw-Inf
     'to kill'   (Bengali)

These developments are all instances of perfectly reasonable changes. In a surprise move, however, the form was lost completely in Urdu/Hindi, as illustrated again in (14), so that the form of the main verb is now identical to the stem (or citation) form.

(14) a. pʰẽk de-naa
     throw give-Inf.M.Sg
     'to throw away'   (Urdu)

   b. de   de-naa
      give give-Inf.M.Sg
      'to give away'   (Urdu)

This development is surprising because languages do not usually just drop a given form without the presence of further conditioning factors. In the case of Urdu/Hindi, to date no such prosodic or morphological factors are known to apply to the verbal paradigms.[2] Kellog (1893) in fact maintains that the main verb in complex predicates is not in the stem form, though it may look identical on the surface, but that it is formed with a now null conjunctive participle. Whether we assume a null morpheme, or simply acknowledge the loss of the morphology is ultimately neither here nor there, and I take the question of the Urdu loss up again in section 3.4.

3.3 Adverbial Participles and Complex Predicates

In both Bengali and Urdu/Hindi a complex predicate and adverbial participial reading exist side by side in the synchronic grammars for the same V-V sequence. This would appear to provide further confirmation of the Sanskrit participials as the purported origin of complex predicates.

As illustrated in (15) and (16), some V-V sequences are potentially ambiguous between a complex predicate and an adverbial participial reading. In the adverbial reading the second verb in the sequence is in fact the main verb of the sentence, while the first verb in the sequence is embedded. The potentially ambiguous sequences also display differing phonological properties (Lahiri and Fitzpatrick-Cole 1997) in that complex predicates constitute one phonological phrase, whereas the verbs phrase separately in the participial construction.

(15) naadyaa   gaa uṭʰ-ii
     Nadya.F.Nom sing rise-Perf.F.Sg
     'Nadya burst into song.'
     'Having sung, Nadya got up.'   (Urdu)

(16) raam   eś-e   por-lo
     Ram.Nom come-Perf fall-Past.3
     'Ram arrived.'
     'Having come, Ram fell.'   (Bengali)

Note further that in an adverbial reading the two verbs must not necessarily form a sequence, but that the adverbial participial clause can be scrambled away. This possible

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[2]Beg (1988:69–70) notes that Urdu lost the final (long and short) vowels of Old and Middle Indo-Aryan. However, this generalization appears to apply only to the nominal paradigms, not the verbal paradigms.

non-adjacency is also demonstrated by the Sanskrit (9), where the verbs are not adjacent, in comparison with the Sanskrit (8), where the verbs are adjacent. The scrambling possibilities with the complex predicate, on the other hand, are much more restricted: in Urdu/Hindi the light verb may only be scrambled away when topicalized in highly marked constructions.

Not all V-V sequences are potentially ambiguous. There are some where a complex predicate reading is blocked, presumably by the lexical semantics of the verbs involved.

(17) naadyaa   soc   uṭʰ-ii
      Nadya.F.Nom think rise-Perf.F.Sg
      'Having thought, Nadya got up.'   (Urdu)

And, conversely, in many of the V-V sequences the complex predicate reading has become dominant so that the adverbial reading is not available.

(18) naadyaa=ne   haar   banaa di-yaa
      Nadya.F=Erg necklace.M.Nom make give-Perf.M.Sg
      'Nadya made a necklace (completely, for somebody else).'
      *'Having made a necklace, Nadya gave it.'   (Urdu)

In fact, this form of the adverbial participial appears to be falling into disuse in Urdu/Hindi, as there is another, preferred, form available in which the conjunction *kar/ke* (apparently descended from the Sanskrit verb *kṛi* 'do' (Kellog 1893:341)) is attached to the embedded verb.

Aside from these variabilities in available readings, the potential synchronic availability of both a participial and a complex predicate reading for the same V-V string, especially as it is available irrespective of whether or not the descendent of the Sanskrit *tvā* has survived as an overt form, serves as a strong indicator that the purported Sanskrit participial origin of the V-V complex predicate as postulated by Hook (1991) is correct in its essence.

3.4   Whence the conjunctive participle in Urdu/Hindi?

In comparison with Urdu/Hindi, Bengali has lost a number of morphological distinctions. For instance, Bengali has managed to get rid of all the morphological gender distinctions retained by Urdu/Hindi. Given this general developmental trend, it is quite surprising that traces of the conjunctive participle should have disappeared in Urdu/Hindi, but have been retained as in Bengali.

One possible hypothesis as to this difference in development is that the surviving Urdu/Hindi form of the participle may have been in competition with the polite form of the imperative (*iye/ye*), as illustrated in (19) and (20).

(19) xat   likʰ-iye
      letter.M.Nom write-Imp.Polite
      'Write a letter.'   (Urdu)

(20) ai-ye   ai-ye
      come-Imp.Polite come-Imp.Polite
      'Enter, enter.'   (Urdu)

Thus, Urdu/Hindi may have reinstituted a distinction through the loss of the participle suffix. The need for such a **compensation** would not have arisen in Bengali. The Bengali imperative has a different form, so that no similar clash would have taken place and the participle could have survived as the suffix -*e*.

4 Proposed Syntactic Change

In this section, I pull together the bits and pieces of diachronic data accumulated above in order to present a comprehensive picture of the hypothesized path of change leading to the existence of V-V complex predicates in the synchronic grammars of Urdu/Hindi and Bengali.

4.1 Theoretical Assumptions

I embed the hypothesis within Harris and Campbell's (1995) approach to historical syntax and adopt their strong proposal that there are only a limited number of mechanisms of syntactic change, namely **Reanalysis, Extension**, and **Borrowing**. In addition to these major mechanisms they posit a set of operations and general principles of diachronic change.

Within their approach, the complex predicates examined here are clearly an example of **Clause Fusion**, by which a biclausal surface structure gives rise to a monoclausal construction through **Reanalysis**. With regard to Clause Fusion, the following universal principle is assumed to hold.

(21) The Heir-Apparent Principle (Harris and Campbell 1995:193)

When the two clauses are made one by diachronic processes, the main verb governs the syntax of the reflex clause.

In our case, the syntax of the complex predicate is still governed by both verbs. The light verb, which plays the role of the main verb in the adverbial participial construction, not only carries tense/aspect marking, but also imposes selectional restrictions on the type of main verb it may combine with, and indeed determines the case of the subject (see Butt (1995)). However, with continuing change over time, the *actualization* of the initial reanalysis, as Harris and Campbell put it, may indeed still result in the fulfillment of the Heir-Apparent Principle. Indeed, the V-V combinations in which the light verb "overrides" the case requirement of the main verb are marked in Urdu/Hindi (and non-existent in Bengali).

The other more detailed principles and operations discussed by Harris and Campbell are not directly related to the path of change proposed here, whereby complex predicates are taken to be the result of a participial adverbial construction being reanalyzed as a single clause. This reanalysis may have possibly been triggered, or at least encouraged, by language contact with Dravidian or Altaic. However, the likelihood of such **borrowing**, if we can indeed call it that, remains subject to further investigation in that several major questions remain unresolved with regard to this hypothesis: were the Indo-Aryan language branches indeed in contact with Dravidian or Altaic at the right time, and in the "right" way, and, what is the history of complex predicates in both Dravidian and Altaic, i.e., where did they in turn "come from"?

The path of change schematized below thus presents a hypothesis which is based on a purely "language-internal" view on historical change. Whether, and at which stage language

external factors may have played a role in the form of borrowing or language contact remains to be determined.

The Path of Change Schematized

Sanskrit	N [... V-tvā] V participial sentence adverbial	as in (8)
	⇓	by Reanalysis
Pali	N V-tvā V complex V-V predication participial sentence adverbial	as in (5)
	⇓	Sound Changes as in (10)
Prakrit	V-ia V complex V-V predication participial sentence adverbial	as in (11)
	⇓	Sound Changes (Bengali) Compensation (Urdu/Hindi)
modern Bengali	V-e V complex V-V predication participial sentence adverbial	as in (3) as in (16)
modern Urdu/Hindi	V V complex V-V predication participial sentence adverbial	as in (18) as in (17) (falling into disuse)

Harris and Campbell take the mechanism of Reanalysis to affect the underlying structure of a syntactic pattern, but not the surface form. The development of a complex predicate from a participial adverbial is entirely consistent with this view. The surface form of the Pali complex predicate identified by Hook is identical to the surface form of a participial adverbial. And, in fact, this surface identity would appear to hold even today, as we saw above.

Given that there is no evidence to date that V-V complex predicates existed in Sanskrit, I posit the Reanalysis to have taken place in Pali. I also hypothesize that the participial reading was retained alongside the complex predicate reading throughout Pali and Prakrit. The morphological marking on the first V in the sequence changed from the Pali *tvā* to the Prakrit *ia, i, a* to the modern Bengali *e* via the sound changes detailed in table 10, and were lost utterly in Urdu/Hindi (hypothesized to be due to a clash with the polite imperative).

Finally, in modern Urdu/Hindi the participial adverbial in which the main verb carries no morphological marking is falling into disuse, as it is being replaced by a *kar/ke* conjunction that marks the participial. In Bengali, however, the participial construction that is string

identical with the complex predicate V-V sequence continues to flourish.

4.2 Why Reanalyze?

So far, we have mainly looked at the morphosyntactic aspects associated with the appearance of complex predicates. However, the formation of complex predicates crosslinguistically appears to involve some semantic bleaching of the *light verb*. In Urdu/Hindi and Bengali, for example, there is always a corresponding, surface identical, full verb for each light verb, indicating that the light verb is a semantically "lighter" or bleached version of that original main verb. Semantic bleaching in fact is generally associated with continuing grammaticalization (see Meillet 1912 for the original term, Hopper and Traugott 1993 for a theory of Grammaticalization).[3]

In the remainder of the paper I investigate the question of whether there may not indeed be an language internal motivation for the Reanalysis that took place (rather than the idea of possible language contact). Namely, that as frequent use of the same kind of adverbial constructions may have lead to continued lexicalization/grammaticalization, the semantic content of a predicate was progressively bleached. This is not a new idea by far. However, the formalization of semantic bleaching remains vague, in part because it is not clear which part of a predicate's lexical semantics might be being bleached in particular. I would like to suggest that it is a predicates's *event structure* which is most susceptible to semantic bleaching, and that therefore any steps towards first formalizing the notion of semantic bleaching should go in that direction.

In most approaches to event structure, ranging from linking theories (see the comprehensive discussion in Croft (1997)) to a semantic discussion of events (e.g. Parsons 1990) a predicate's event structure is taken to include:

Event Structure:
1. A spatio-temporal extension
2. Participants

The event participants are usually encoded in terms of an argument structure (often by means of thematic roles), and are taken to be directly relevant for syntactic issues such as linking (argument projection). The spatio-temporal extension of an event in the form of verbal aspect tends to interact with the syntactic linking of arguments, but would appear to be primarily semantic in nature. Within Lexical-Functional Grammar (LFG), I propose to represent the event participants at a(rgument)-structure and the spatio-temporal extension at s(emantic)-structure, basically following the architecture presented in Butt, Dalrymple and Frank (this volume).

The event structure of a predicate thus represents an interface between syntax (a-structure used primarily for the syntactic linking of arguments) and semantics. Given this assumption, I would like to propose the view that event structure is most susceptible to semantic bleaching exactly because it represents an interface between syntax and semantics: it is volatile because of its role connecting two (or possibly more) modules of grammar.

Before pursuing this idea in some more detail, I first establish some relevant pieces of the synchronic analysis of complex predicates in the next section.

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[3]The notion of Grammaticalization is given no special status by Harris and Campbell (1995) — it is subsumed by the three major mechanisms of change.
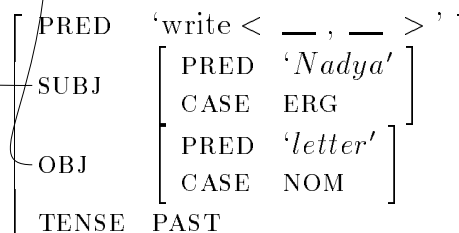
5 Synchronic Analysis

5.1 Defining Characteristics of a Complex Predicate

The analysis presented here is mostly as in Butt (1995), which argues that a distinguishing characteristic of complex predicates is that a *light verb* combines with a main verb to form a single syntactic predicate (single PRED at f-structure). The complex a-structure consists of contributions from both verbs. Furthermore, lexically encoded semantic information is contributed by both verbs. In a many-to-one relationship this complex a-structure corresponds to a single f-structure nucleus with one PRED and one SUBJ. This is illustrated in (23) and (24) for the example in (22).

(22) naadyaa=ne   xat   **lik$^{\text{h}}$ li-yaa**
    Nadya.F=Erg letter.M.Nom **write take-Perf.M.Sg**
    'Nadya wrote a letter (completely).'   (Urdu)

(23) TAKE $<$ ag   WRITE $<$ ag th $>>$

(24)

$$
\begin{bmatrix}
\text{PRED} & \text{'write} < \underline{\quad} , \underline{\quad} >\text{'} \\
\text{SUBJ} & \begin{bmatrix} \text{PRED} & \textit{'Nadya'} \\ \text{CASE} & \text{ERG} \end{bmatrix} \\
\text{OBJ} & \begin{bmatrix} \text{PRED} & \textit{'letter'} \\ \text{CASE} & \text{NOM} \end{bmatrix} \\
\text{TENSE} & \text{PAST}
\end{bmatrix}
$$

Complex predicate formation is argued to involve the composition of two or more a-structures (either in the lexicon or in the syntax, cf. Alsina (1996), Butt (1995, 1997)). There is thus a **mismatch** between the complex argument structure and the simple f-structure.

As far as the c(onstituent)-structure is concerned, two verbs of a complex predicate may form a constituent, but need not. A good example for the latter is the Urdu permissive, see Butt (1995). In the complex predicates examined here, the main verb and the light verb form a constituent, but are separable through emphatic clitics and can thus not be analyzed as compounds (cf. also Lahiri and Fitzpatrick-Cole (1997) on Bengali).

(25) $\overline{\text{V}}$
    V   V

Rather, they form a **double-headed** structure and must be considered co-predicators.

5.2 Event Semantics

In Urdu/Hindi, the light verbs signal the inception or completion of an event (e.g., Hook 1974, Chakraborty 1992, Butt 1995). The lexical semantics of the Bengali light verbs are more restrictive in that only completion is expressed (e.g., Zvabitel 1970, Ramchand 1990).
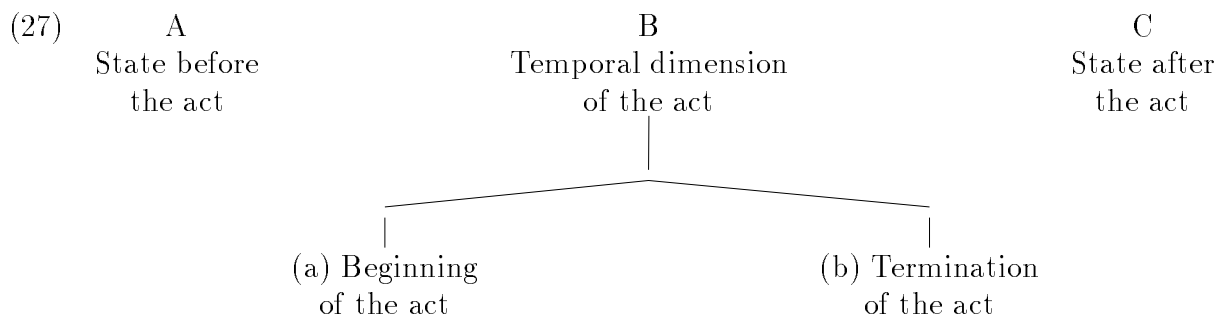
In light of this aspectual contribution, Hook (1991) views the emergence of the complex predicates as an instance of *Aspectogenesis* and takes the light verb to mark perfectivity (in the sense generally used by Slavicists). By tracking the (increasing) usage of complex predicates since the 1600s, he established that the early use of complex predicates most often occurred with accomplishment verbs before spreading throughout the verbal system.

While this is an interesting body of data to consider, I here wish to reject Hook's proposal that the light verbs mark perfectivity. For one, in tenses other than the past (perfect), as illustrated in (26), perfective readings are not obtained.

(26) naadyaa   xat   lik^h par-egii
      Nadya.F.Sg.Nom letter.M.Sg.Nom write fall-Fut.3.Sg
      'Nadya will begin writing a letter.' (will fall to writing)   (Urdu)

Rather than invoking aspectual notions, I therefore propose that light verbs in fact serve the purpose of *internal event modification* in that they signal inception or completion.

The following sketch from Chakraborty (1992), who comes to much the same conclusion, but via a different route, serves as a good illustration of the intended conception.

(27)   A   B   C
        State before   Temporal dimension   State after
         the act   of the act   the act

                                     (a) Beginning   (b) Termination
                                        of the act   of the act

The letters A, B, and C in (27) represent the areas surrounding the spatio-temporal dimensions of an event which are usually referred to in terms of aspectual terminology: C represents the culmination of an event and is an integral part of achievements and accomplishments in the Vendlerian (1967) terminology; A represents the initial stage, and B spans the event itself, representing activities and states in the Vendlerian terminology. It is within this B space, the actual spatio-temporal extension of the event, that the light verbs come into play. They in fact indicate the inception and completion of an event ((a) and (b), respectively). And while the completion of an event often also entails a culmination with a concomitant change of state, this is not necessarily so. Activities and states, for example, might find an end somewhere (be completed) and these Aktionsarten are not generally taken to entail a culmination/change of state.

The conclusion I would like to draw from this discussion is that light verbs retain a defective event structure, and that this defective event structure contains only information about the inception, duration or completion of another (modified) event.

In fact, I take the occurence of argument composition in complex predicate formation to be directly related to the defective event structure of the light verb. With Alsina (1996), I consider light verbs to be *incomplete* predicates which cannot stand on their own and which therefore must be "supplemented" with the event structure of a full verb. The predicates are

rendered incomplete by exactly the fact that their event structures are *defective* and can no longer stand on their own, but instead must serve as modfiers of another predicate's event structure.

6   Change in Terms of Event Structure

This section is more speculative in nature in that it points towards work to be done rather than presenting a polished analysis of events and complex predication. It proposes a preliminary representation of defective and "full" events, based on the synchronic analysis of complex predicates, and suggests that the emergence of complex predication could be viewed in terms of diachronic change through progressive event structure bleaching. Finally, it addresses the problem of understanding the notion of complex events as arising in serial verbs vs. complex predicates vs. conjunction vs. single lexical items.

6.1   Representation

In pursuing the idea that event structure plays a role in the formation of complex predicates, and could furthermore be usefully applied to an understanding of historical change, one of the first questions that must be addresed is that of an appropriate formal representation of event structure.

I assume that at the very minimum the event structure of a verb includes a spatio-temporal extension which is encoded at s(emantic)-structure, and a representation of the event participants, which is encoded at a-structure. The a-structure is assumed to be as in Butt, Dalrymple and Frank (this volume), the spatio-temporal event properties are somewhat more tricky since this particular problem has not been tackled before within an LFG approach.

As a preliminary representation of spatio-temporal dimension, I propose that there be the kind of feature-value representation shown in (28) and (29) for complete and defective events, respectively.

(28)   **Complete Event:**

$$
\textit{s-str}\begin{bmatrix} \ldots \\ \text{EV-STR} & \begin{bmatrix} \text{EVENT} & \begin{bmatrix} \text{INCEPTION} & [\,] \\ \text{DURATION} & [\,] \\ \text{COMPLETION} & [\,] \end{bmatrix} \end{bmatrix} \end{bmatrix}
$$

(29)   **Defective Event (inceptive):**

$$
\textit{s-str}\begin{bmatrix} \ldots \\ \text{EV-STR} & \begin{bmatrix} \text{INCEPTION} & [\,] \end{bmatrix} \end{bmatrix}
$$

This s-structure representation provides the necessary information for further semantic interpretation in terms of model-theoretic semantics. That is, this information plus semantic

information about the event participants can in turn be fed into a module of semantic interpretation such as, for example, Discourse Representation Theory (DRT) (Kamp and Reyle 1993).

6.2 The Emergence of Complex Predication

The essential problem to be solved by any adequate treatment of complex predicates is the fact of complex predication itself, the fact that more than one lexical item contributes to the predicative power of the clause. I would like to propose that this complex predication is the result of a bundling of events into a tightly connected "super-event". This tight event bundling essentially does the predicative work of a single verb. Effectively, it results in an interface mismatch in that the predicative power at a-structure is analogous to that of a single predicate, while the event bundling remains complex. Semantic bleaching of the event structure occurs in order to remedy this mismatch across levels of representations: a complex event bundling is progressively reanalyzed and finally lexicalized to a single verb, with a single event structure and a correspondingly single syntactic domain of predication.

Note that this model implies that aspectogenesis may, but need not necessarily, be a consequence of the emergence of complex predication. In the case of the Urdu/Hindi and Bengali complex predicates investigated here, semantic bleaching indeed gave rise to light verbs which make an aspectual contribution. However, as one would not necessarily want to make a case for aspectogenesis with respect to causatives (morphological or syntactic) or applicative constructions, for example, this model may provide a more universally applicable view of the emergence of complex predication.

6.3 Complex Events

Again, the idea of "bundling" events into a complex event is not an original idea, but is inspired by Durie's (1997) treatment of serial verbs. Durie proposes a notion of **subevents**, where each verb in a serial verb construction serves as a representative of a subevent. A major function of verb serialization is then taken to be the syntactic encoding of a series of subevents which generally occur together (or sequentially) to form a particular, often recurring, complex event. Durie notes that not just any sequence of events may be bundled together in a serial construction, but that the events in question have to "construable", i.e., plausible within the context of the language's culture. A striking example to illustrate this comes from Alamblak (Durie (1997) from Bruce (1988:29)).

(30) a. mɨyt ritm   muh-hambray-an-m
        tree   insects climb-search.for-1S-3PL
        'I climbed the tree looking for insects.'

    b. *mɨyt guñm muh-hambray-an-m
        tree   stars   climb-search.for-1S-3PL
        'I climbed the tree and saw the stars.'   (Alamblak)

In Alamblak a reasonable sequence of events is considered to be the one in (30a), as this describes an action prompted by the daily necessities of life. The action in (30b), on the other hand, is more unusual and can thus not be expressed in a serialized construction, but must instead be realized in terms of a non-serialized, conjunctive clause.

This idea of complex events realized in terms of a number of subevents is intuitively very appealing and would appear to provide a good initial insight for a broader understanding of complex predication. However, a number of deep questions as to the underlying semantics of complex events must be resolved first. How, for example, do the complex events represented by serial constructions differ from purported lexicalized complex events like the much discussed English *kill* or *poison*?

A promising treatment of complex events that might possibly be extended to encompass lexical items as well as complex predication as in serial verbs and complex predicates is presented in Eckardt (1996). In proposing a formal semantics of events, Eckardt distinguishes between *big* and *small* events, where big events are treated as complex events consisting of a sum of small events: $e_1 \oplus e_2$.

The issues addressed by Eckardt do not involve complex predicates or serial verbs as discussed here, but take on complex events such as 'solve each problem in ten minutes' and the semantics of (indirect) causation. However, the underlying semantics proposed by Eckardt provide the basic machinery needed for an extension of her approach to the formulation of a distinction between differing *types* of complex events such as serial verbs, complex predicates, coordinations/subordinations and a sequence of clauses.

Within the scope of this paper, I take the formal semantic interpretation of events in complex predication as work to be done, and see as a first step the development of a representation of events at s-structure (as done above), which can then be fed into a semantic interpretation component such as that proposed by Eckardt.

7 Summary

The (preliminary) consideration of event structure in the last section provides the necessary basis of the overall view, shown in (31), that I would like to propose for the emergence of complex predication. This view takes diachronic change to affect several dimensions of the grammar in parallel. The syntax of independent clauses goes hand in hand with a semantics of independent events.

(31)

Syntax	Independent Clauses	>	Serial Verbs/ Complex Predicates	>	Lexical Items/Morphology Complex Predicates
Semantics	Independent Events	>	Complex Events	>	Event Modification/ Argument Addition

A series of events which occur again and again, or which describe some particularly salient sequence of actions may be bundled together into one readily identifiable "complex" super-event. The proposal in essence is that languages use mechanisms such as serial verbs or complex predicates to provide a linguistic "shortcut" for the expression of a recurring sequence of events. This complex predication is then particularly vulnerable to semantic bleaching over event structure because of a mismatch of information across the syntactic and semantic dimensions of a grammar: the complex predication acts as a single syntactic clause which corresponds to a complex interrelation of events.

The process of semantic bleaching serves to remedy some of this mismatch by bleaching out the contents of a predicate's event structure on two levels of representations:

1. Argument Structure — the number of arguments is reduced/erased

2. Semantic Structure — the internal event structure is reduced/erased

Progressive bleaching then ultimately leads to the reduction of a complex event structure to that of a simple event. This reduction can be achieved in several ways. One possibility is the use of light verbs for *event modification*, as in the Urdu/Hindi and Bengali inception/completion complex predicates. Another route to event reduction is evidenced by the development of many serializing verbs to prepositions or affixes which simply serve to license the addition of an extra argument (cf. Lord 1993), but no longer make any contribution to the spatio-temporal dimension of event structure, just to the list of event participants. The complex predicates examined here represent a stage in the development towards ultimate event reduction in that they are still able to influence case-marking on the subject, and impose selectional restrictions on the main verb in addition to modifiying the event of the main verb. As the influence on the argument structure of the complex predicate is already quite weak, a further development of the light verbs into "mere" aspectual markers is predicted.

The proposal for historical change presented here is entirely compatible with the theory of Grammaticalization (Hopper and Traugott 1993) and the approach to historical syntax presented by Harris and Campbell (1995). It takes things a bit further, however, by proposing to connect event semantics to the emergence of complex predication.

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