The Concept of Semantic Phase and the different readings of 'again'

Summary: The paper makes a new kind of proposal how to account for the contrast between the repetitive and restitutive reading of 'again'. The heart of the theory is the concept of *semantic phase* that parallels the recent syntactic concept and can be seen as following from the general principle of hierarchical abstraction. Semantically, the concept refers to a switch from imperfective to perfective view of a situation at the level of VP. Applying the modifier before or after phase transition produces the two readings without stipulation of lexical ambiguities. The framework used for implementation is *Finite-state Temporal Semantics* by Fernando. The syntactic background is an *Orphan* analysis of peripheral adverbials and the idea of resolving syntactic underspecification by the use of pragmatic information.

Abstract:

The contrast between the repetitive and restitutive reading of 'again' (German 'wieder') is one of the most prominent examples for the relation between semantic interpretation and syntactic position of adverbial modifiers. While the sentence in (1b) is ambiguous between both readings, for the sentence in (1a) only the repetitive interpretation is available.

(1) a. *Again, John opened the door.*
     b. *John opened the door again.*

The restitutive interpretation presupposes that the door has been open sometime before, but it does not require that is has been opened by John or anybody else. For the repetitive interpretation to be true, the door must have been opened by John at some point of time in the past.

There are a number of approaches that try to explain and formally account for these data, each having its own merits as well as problems. For instance, Dowty (1979) assumes lexical ambiguity for the adverb. Fabricius-Hansen (1983) has a postulate that yields the different readings of the modifier in dependence of the entity to be modified. In contrast, von Stechow offers an exlanation entirely in terms of syntactic scope. There also is the proposal of Pittner (2003) that can be understood as combining the ideas of the two previous theories. Finally, Jäger and Blutner (2003) use the framework of optimality theory and the idea of pragmatic strengthening as an explanatory base.

The paper offers a new type of approach that replaces any arbitrary stipulations on the side of semantic theory by an independently motivated, general principle. In order to account for the two different readings of 'again', the proposal

introduces the theoretical concept of *semantic phase*. This is based on the principle of hierarchical abstraction, and parallels the concept of *phase* in recent syntax (Chomsky (2001)). When leaving the VP, the conceptual perspective changes from *imperfective* to *perfective* aspectual view (Comrie (1976)). In result, the situation gets shrunk to a temporal point. Interpreting a modifier with respect to the *imperfective* or *perfective* concept will have a different semantic effect. In the case of 'again' the two semantic results will just be the restitutive and the repetitive reading.

The theoretical framework used is *Finite-state Temporal Semantics* by Tim Fernando (2003, 2004). A situational concept is characterized as a *regular language*. Each string of such a language is viewed as a temporal sequence of observations or a *comic stripe*. Given a finite set Φ of formulas, a symbol in the alphabet of the language consists of a consistent subset of Φ, which non-exhaustively enumerates what holds true at some single point in time.

Implementing the idea of *semantic phase* on that framework, the change from *imperfective* to *perfective* aspectual view amounts to a change in temporal granularity of the model. So, while under the former perspective the situation appears to be internally structured and consists of various separate phases (2), it gets shrunk to a unstructured temporal point under the latter view (3).

(2) $\boxed{\neg\exists x \le o \text{ (open door(y, x))}}$ $\boxed{\exists x \le o \text{ (open door(y, x)), } \neg\text{open door(o)}}^{+}$ $\boxed{\text{open door(o)}}$

(3) $\square^{*}$ $\boxed{\text{y open the door}}$

As the single lexical entry for 'again' the proposal assumes the representation in (4). It is using the last symbol ω of the *regular expression* that is representing the situational concept the adverb gets compositionally combined with.

(4) $\Lambda(again) = \omega(\text{L}) \square^{+}$

With respect to the two different situational concepts above, this procedure yields the restitutive (5) and the repetitive (6) reading of the adverb, respectively.

(5) $\boxed{\text{open door(o)}} \square^{+} \boxed{\neg\exists x \le o \text{ (open door(y, x))}} \boxed{\begin{array}{l}\exists x \le o \text{ (open door(y, x)),} \\ \neg\text{open door(o)}\end{array}}^{+} \boxed{\text{open door(o)}}$

(6) $\boxed{\text{y open the door}} \square^{+} \boxed{\text{y open the door}}$

To supplement this semantic proposal by a fitting syntactic theory, left and right peripheral adverbial are assumed to be *orphans* (Shaer, 04). These are elements that are independent of their host sentence in the syntax. Their structural integration takes place by using information about the contextual status (focus/background) of the constituents of the sentence. A proposal for an implementation of this idea in the framework of *Dynamic Syntax* (Kempson et al., 2001) can be offered as the syntactic background.