Discourse Structure and Intonational Phrasing

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Theories that relate intonational structure and discourse structure concentrate on intonational and informational units that either correspond to a clause (proposition) or to a single referent. However, intermediate phrases of the intonational phrasing often segment units that are smaller than a clause, but that do not introduce a referent. Even though they are acknowledged (cf. Selkirk's "sense units"), there are no approaches that account for their role in building the discourse structure. The paper presents a new approach that describes the representation of such intermediate phrases and accounts for their functions in the construction of a more fine-grained discourse structure.

Intonation contours are represented by phonologists as a sequence of abstract tones consisting of pitch accents and boundary tones. Pierrehumbert & Hirschberg (1990, 308) assign discourse functions to the particular tones: "Pitch accents convey information about the status of discourse referents (...). Phrase accents [= boundary tones of intermediate phrases, KvH] convey information about the relatedness of intermediate phrases (...). Boundary tones convey information about the directionality of interpretation for the current intonational phrase (...)." The status of discourse referents can be accounted for in terms of given vs. new; the boundary tones of intonational phrases indicate how the proposition expressed by the whole phrase is integrated into the discourse. Similarly, boundary tones of intermediate (or phonological) phrases that correspond to a full proposition indicate the way these propositions are interpreted with respect to the linguistic context, as illustrated in (1) and (2).

However, in this view there is no account of treating intermediate phrases that correspond to units below the clause level and above the level of simple discourse referents, such as the modification "im achtzehnten Jahrhundert" ("in the eighteenth century") or the unsaturated phrase "lebte in Frankreich" ("lived in France") in example (3), which is the first sentence in Patrick Süskind's novel "Das Parfum. ("Perfume").

In order to account for these intermediate units and the function of boundary tone of these phrases, I modify the general assumptions of discourse theories, namely that the discourse structure is exclusiveley realized between propositions (e.g. Hobbs 1990, Roberts 1996, Büring 2000), and the view of DRT (Kamp & Reyle 1993) that discourse structure only relates discourse referents to each other. I modify Asher's (1999) segmented DRT (SDRT) and assume that we can also create discourse relations between sub-clausal elements such as modifications or unsaturated clauses (for a different approach see Steedman 1991). Therefore, I first introduce a mapping relation from intermediate intonational phrasing to the string (surface structure) of the sentence under discussion. For example, the short pauses indicated by "~", and the long ones ("|") in (3), yield the segmentation in (4). Second, each segment receives a discourse representation. Third, we can establish relations between the discourse representation of the sub-clausal unit and the of the established discourse, as in (5). I assume the following two relation for modifications: (i) modifying an already existing discourse referent; (ii) setting the stage for a discourse referent to be introduced. Modificational relation allows that the information is integrated into the already established discourse. Fourth, after having established these relations, the rest of the sentence can be analyzed, and finally the representation of the whole sentence is integrated into the discourse structure, as in (6).

To summarize, I have proposed an extension of Asher's SDRT with smaller discourse representations and new relations between sub-clausal discourse representations. This allows to assign discourse functions to intonational phrasing, including boundary tones for intermediate phrases.

(1)   (George ate chicken soup) (and got sick)
                        L   **LL%**

(2)   (George ate chicken soup) (and got sick)
                        H   **LL%**

(3)   [(Im achtzehnten Jahrhundert) ~(lebte in Frankreich)] | [(ein Mann,)
        (~der zu den genialsten und abscheulichsten Gestalten dieser an genialen
        und abscheulichen Gestalten nicht armen Epoche gehörte.)
        "In the eighteen century France there lived a man who was one of the most gifted and
        abominable personages in an era that knew no lack of gifted and abominable personages"
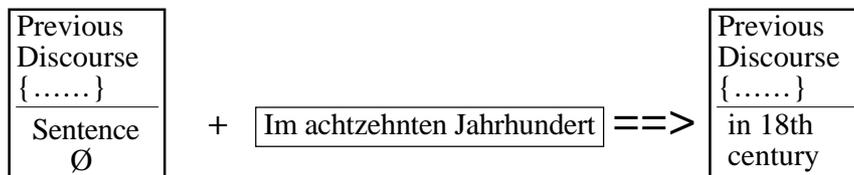
(4) | Im achtzehnten Jahrhundert | | lebte in Frankreich | | ein Mann |
        | der zu den genialsten und abscheulichsten Gestalten ... gehörte. |

(5)   Discourse Relation: "setting the stage"

(6)   Adding the representation for the whole sentence

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