

# An Experimental Discourse Structure Analyzer

## ABSTRACT

An experimental analyzer for Japanese text which extracts “discourse structure” that expresses rhetorical and logical relation between sentences in the text.

We formalized the constraints on the discourse structure detected by rhetorical expressions in the text, and the preference rules to the local structure depending on the occurrence of predefined surface expressions such as connectives.

## Features

- Description for Discourse Structure

The 24 “Rhetorical Relations” are defined for discourse structure description.

- Segmentation Rule

“Segmentation Rules” capture the relations between Japanese surface rhetorical expressions and the global constraints on the discourse structure.

- Thinking-flow Rule

“Thinking-flow Rules” are preference rules which express local constraints on the sequence of rhetorical relations and sub-structures.

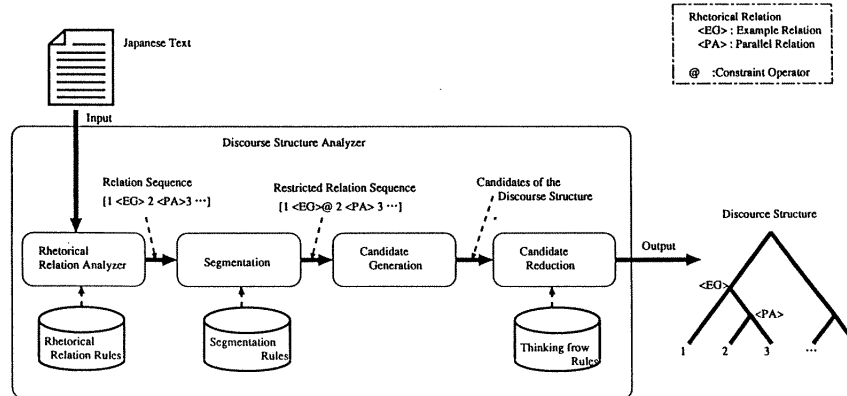


Figure 1: Configuration of the Discourse Structure Analyzer

## Example Text

O.Miyagi's "An Essay on Sleep (眠りについて)" Chapter 2.

1: The quantity of sleep (眠りの量) is a measure of amount of sleep. 2: The quantity (眠りの量) is (は:topic-marker) defined by the product of the length of sleep (眠りの長さ) and the depth of sleep (眠りの深さ). 3: So (したがって), deep sleeps can make the quantity (眠りの量) much even in a short time. 4: The length of sleep (眠りの長さ) depends on the age. 5: Babies sleep almost all day. 6: Five-year-old children sleep about half day,... 7: That is (このことは), it shows that (～を示しています) sleep and growth closely relate each other. 8: The depth of sleep (眠りの深さ) used to (以前は) be examined by .... 9: Nowadays (今では), the brain waves or motion of eyes tells us the depth. 10: In such ways (このような方法), we can observe the alteration of the depth of sleep (眠りの深さ). 11: As a result of (その結果) the observation, we got the following facts .... 12: In the beginning of sleep, we fall into a deep sleep. 13: Then, the depth of sleep changes to shallow, .... 14: After a couple of repetitions of this change, we wake up after about 8 hours sleep.

## Discourse Structure

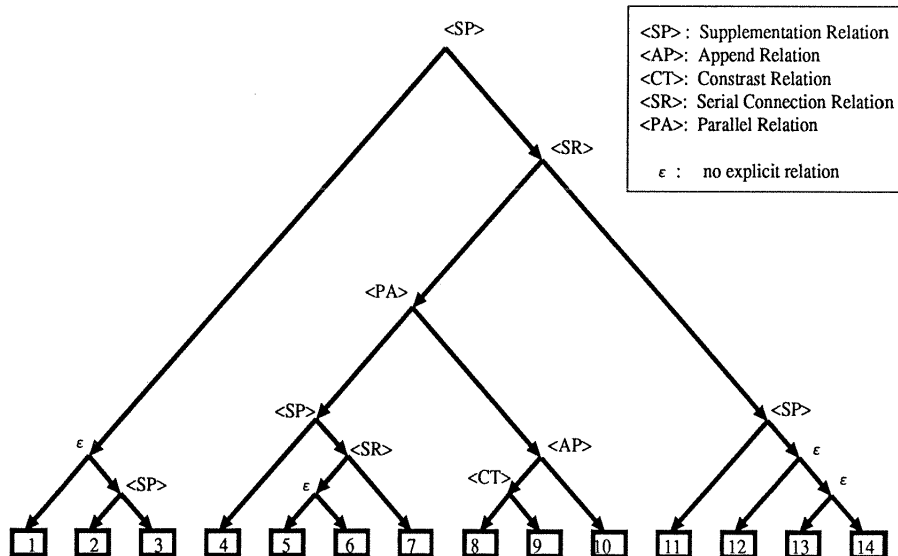
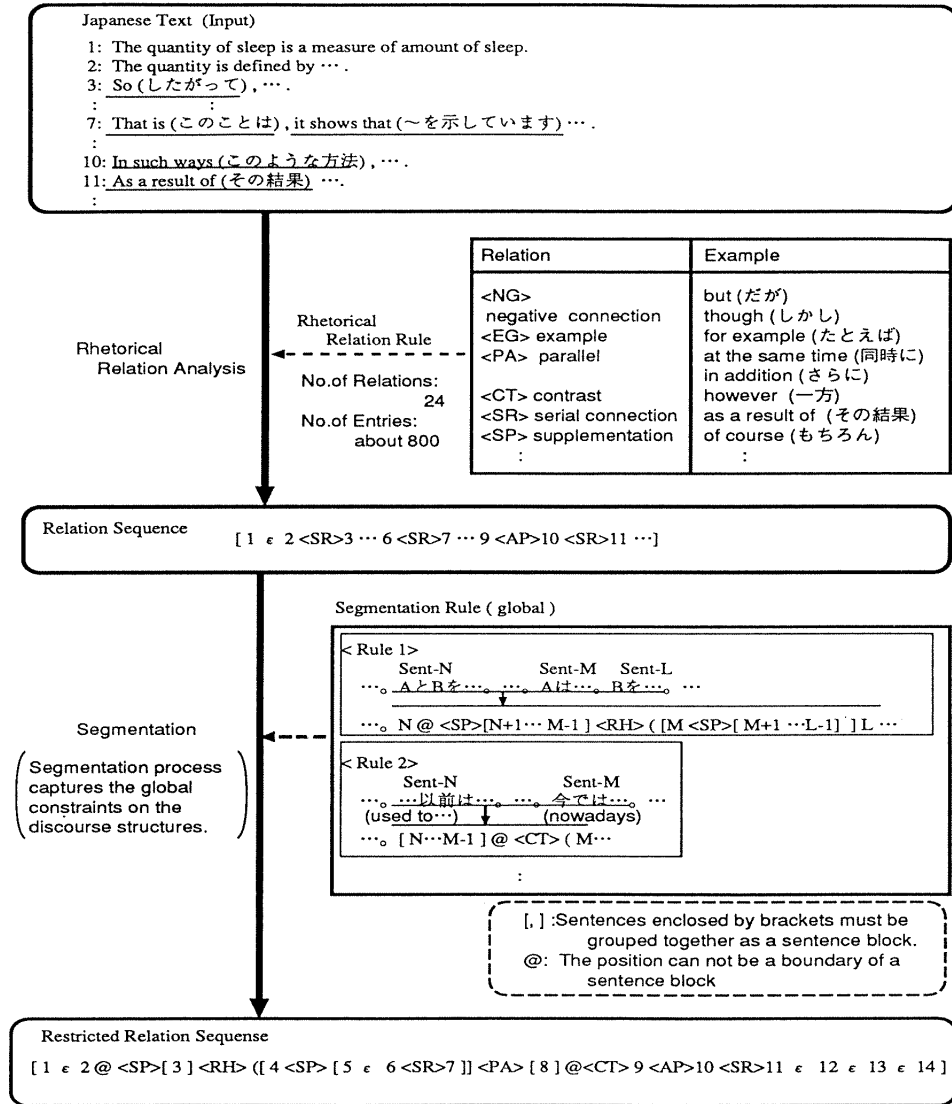


Figure 2: Discourse Structure for Example Text

## Discourse Structure Analysis 1



## Discourse Structure Analysis 2

