

in contrast – A Complex Discourse Connective

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Definition

A discourse connective links parts of a discourse and indicates what semantic relationship exists between these parts.

Examples:

before, after, while, because, although, but, in contrast, ...

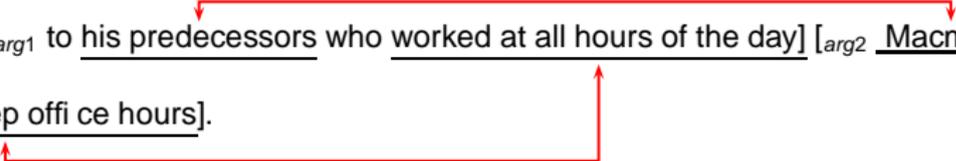
SYNTACTIC STRUCTURE	DISCOURSE STRUCTURE
predicates with varying arity: intransitive, transitive, ditransitive verbs	discourse connectives with fixed arity (2)
complex dependencies, including highly nested and crossing dependencies	simple, tree-like dependencies

(see Lee, Prasad, Joshi, Dinesh and Webber 2006)

Crossing Dependencies

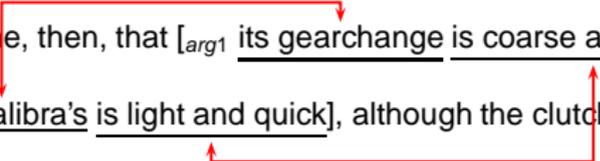
Crossing Intrasentential Dependency

[In contrast] [_{arg1} to his predecessors who worked at all hours of the day] [_{arg2} Macmillan
tended to keep office hours].

A diagram illustrating crossing intrasentential dependencies. Two red arrows originate from the phrase "to his predecessors who worked at all hours of the day". One arrow points to the word "Macmillan", and the other points to the phrase "tended to keep office hours".

Crossing Intersentential Dependency

It's a shame, then, that [_{arg1} its gearchange is coarse and sloppy]. [In contrast],
[_{arg2} the Calibra's is light and quick], although the clutch action could be more progressive].

A diagram illustrating crossing intersentential dependencies. Two red arrows originate from the phrase "the Calibra's is light and quick". One arrow points to the phrase "its gearchange is coarse and sloppy", and the other points to the phrase "although the clutch action could be more progressive".

- 1 The discourse connective *in contrast* provides a counterexample to Lee et al. (2006). The complexity of discourse relations needs to be re-thought.
- 2 The crossing dependencies of *in contrast* are an instance of a more general phenomenon of **discourse anaphora** in the sense of Webber, Joshi, Stone and Knott (2003).

Sentential Modifier

- (1) But both are acceptably direct, although the Corrado's steering has pinpoint accuracy. It's a shame, then, that its gearchange is coarse and sloppy. **In contrast**, the Calibra's is light and quick, although the clutch action could be more progressive. *A6W(0763)*

PP Modifier

- (2) Yet this is the first serious attempt to write about the revolution since the heyday of the early 1970s. **In contrast to the books written then**, The Road to Jaramillo is full of insight into the interactions, communications, thoughts and impressions that make scientific problem solving enlightening. *B72(1514)*

- (8) Sue grabbed one phone, as Tom darted to **the other phone**. (Webber, Joshi, Stone and Knott 2003, p. 555)
- (9) He retired to Hampshire and died in 1832 at the age of 76. The MCC continue to care for his grave. **In contrast**, on the other side of the same cemetery is the grave of the Burgess family, where the ashes of the spy Guy Burgess, who died in Russia, were placed. *BM4(0772)*

(10) It's a shame, then, that its gearchange is coarse and sloppy. **In contrast**, the Calibra's is light and quick, although the clutch action could be more progressive.
A6W(0763)

(11) Few countries have satisfactory legislation on pesticides or the trained manpower to enforce it. **In contrast**, extensive use of pesticides in Europe, North America and Japan is backed by government legislation or voluntary schemes that provide farmers with detailed advice. *B7G(0726)*

(12) a. Stack five blocks on top of one another. Now close your eyes and try knocking {**the tower, this tower**} over with your nose.

(Webber et al. (2003), p. 552)

b. Do you want an apple? **Otherwise** you can have a pear.

(Webber et al. (2003), p. 552)

(13) Jack's heart lurched as he saw the ambulances and the busy, functional building and he immediately forgot everything they had been saying. "I'll ask where he is," said Jamie Shepherd as they walked towards the reception desk. **In contrast to the outside**, the area was softly carpeted, softly lit, as if illness and death had to be cushioned away, made to look as if they didn't exist.
PD(0200)

- not just of interest from a theoretical perspective
- highly relevant for information extraction and text summarization
- typical case of *argumentative zoning* (Teufel and Moens (2002) and Siddharthan and Teufel (2007))

(17) a. $\text{in-contrast}(e_1, e_2)$

- b. According to the buyers' guide produced by estate agents Savills, who specialize in such properties, [e_1 the price of prime properties in Yorkshire has risen by more than 130 per cent over the last three years.] **In contrast**, [e_2 the price of average properties, those on which the Halifax has lent mortgages, has risen by only about 85 per cent.] *A5T(167)*

- (20) a. $\text{in-contrast}((\text{focus-item}_1, \text{prop}_1), (\text{focus-item}_2, \text{prop}_2))$
- b. **In contrast to his predecessors** who worked at all hours of the day Macmillan tended to keep office hours.
BOH(0476)
- c. $\text{in-contrast}((\text{Macmillan's-predecessors}, \lambda x [x \text{ worked-at-all-hours-of-the-day}]), (\text{Macmillan}, \lambda x [x \text{ tended-to-keep-office-hours}]))$

Conclusions

- The evidence in this paper provides additional evidence in support of the anaphoric nature of discourse connectives.
- The crossing dependencies of *in contrast* can be subsumed under the more general notion of **discourse anaphora** (Webber et al. (2003))

Future Research

In order to further elucidate the semantics and pragmatics of *in contrast* the interaction of discourse structure and information structure (particularly focus) needs to be explored.

Thank you for your attention.

References

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