

BORIS AN IN-DEPTH UNDERSTANDER  
OF NARRATIVES

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BORIS [4] is an experimental computer program designed to understand and answer questions about complicated narratives. By "complicated" we mean narratives which require the specification and interaction of multiple sources of knowledge, including: scripts, plans, goals, interpersonal relationships, object primitives, affects, settings, social acts, physical states, roles, etc.

In addition, BORIS partially implements a theory of MOPs (Memory Organization Packets) [5] which is used to represent and process such abstractions as: legal disputes, contracts, and personal favors.

While an earlier version of BORIS read a kidnapping story [2], the specific knowledge currently maintained in BORIS allows it to process two narratives, each involving a divorce. Although these narratives vary significantly (i.e. lexically, syntactically, and in terms of their outcomes and causal connections), the knowledge structures used by BORIS are general enough to handle both versions.

The demo will show an execution trace of BORIS comprehending a portion of DIVORCE-2, a six paragraph story which begins:

George was having lunch with another teacher and grading homework assignments when the waitress accidentally knocked a glass of coke on him. George was very annoyed and left refusing to pay the check. He decided to drive home to get out of bit wet clothes.

When he got there, he found his wife Ann and another man in bed. George became extremely upset and felt like going out and getting plastered...

and answering such questions as:

Q: Why didn't George pay the check?

A: Because the waitress spilled coke on him.

Q: How did Ann feel when George caught her cheating on him?

A: She was surprised.

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Instead of skimming [1] many stories, BORIS tries to understand a few complicated stories in as great a depth as possible. To accomplish in-depth understanding, BORIS employs the following:

- A memory overlay technique which allows BORIS to model multiple levels and multiple perspectives of knowledge.

- A theory of TAUs (Thematic Affect Units) [3] [4], designed for handling expectation failures and norm violations as they occur within narratives.

Another general issue examined in BORIS is processing integration. By 'integration' we mean that episodic memory is searched, and often created, while each word in a sentence is being parsed. One consequence of this approach (during question answering) is that BORIS often knows the answer to a question before the question has been completely understood.

REFERENCES

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