

Specifying Patterns of Situation-Evocation with PMA (with Help from MSFA)

What is PMA?

PMA was designed to describe (and visualize) the way the complex semantics of a sentence is integrated out of a set of particular semantics encoded by (sometimes superlexical) "subpatterns" in parallel, distributed fashion.

What is a (sub)pattern?

A subpattern encodes the (co-)argument structure of a predicate in terms of dependency network.

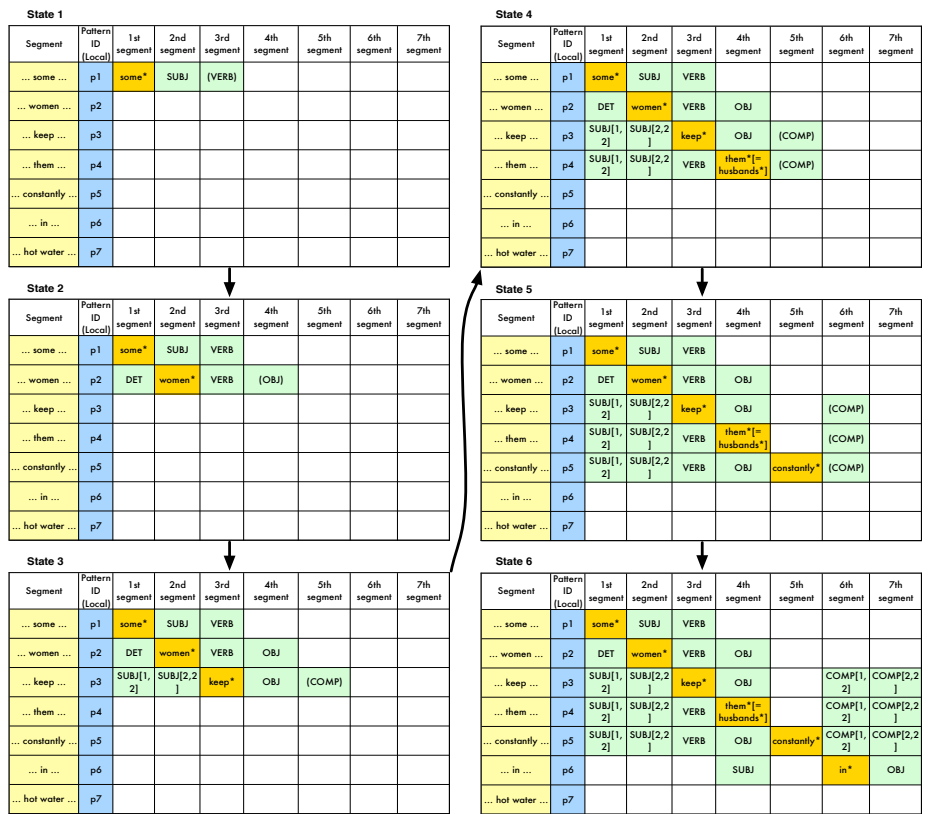
Sample PMA of (5):

(5) *Some women keep them constantly in hot water.*

The state of PMA updates every time a word (or morpheme) is recognized.

Benefit of PMA

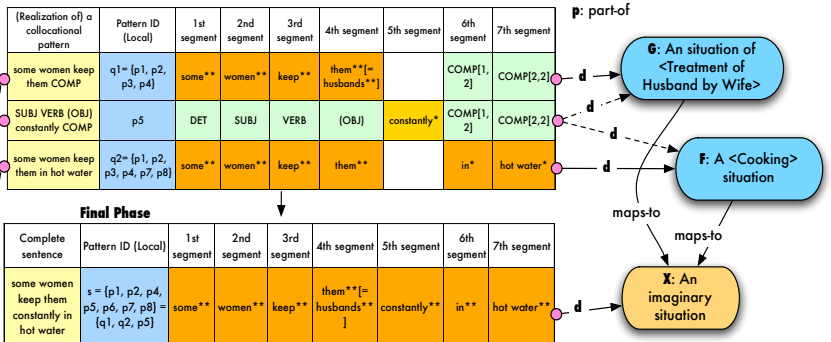
PMA specifies units of situation-evocation effectively: the units are "superlexical," collocational patterns hard to describe in terms of phrase structure. They need to be pattern-based constructs.



Result of Phase 1 (= State 7 of Phase 1)

Segment	Pattern ID (Local)	1st segment	2nd segment	3rd segment	4th segment	5th segment	6th segment	7th segment
... some ...	p1	some*	SUBJ	VERB				
... women ...	p2	DET	women*	VERB	OBJ			
... keep ...	p3	SUBJ[1, 2]	SUBJ[1, 2]	keep*	OBJ	COMP[1, 2]	COMP[2, 2]	
... them ...	p4	SUBJ[1, 2]	SUBJ[1, 2]	VERB	them* [= husbands*]	COMP[1, 2]	COMP[2, 2]	
... constantly ...	p5	SUBJ[1, 2]	SUBJ[1, 2]	VERB	OBJ	constantly*	COMP[1, 2]	COMP[2, 2]
... in ...	p6				SUBJ		in*	OBJ
... hot water ...	p7				SUBJ		PREP	hot water*

Phase 2: Identification of collocations associated with situations (aka Constructions)



What is MSFA for?

To avoid circularity, the identification of the internal structure of a situation needs to be specified independently of PMA. In our work, it is implemented by MSFA, a FrameNet-inspired framework of semantic analysis/annotation.

Prospect

If we had an inventory of frames at reasonably fine granularities, all sources of metaphoric interpretation could be specified in full detail. It would take a long time to have such an inventory, however.

Remark

Fauconnier-Turner's Blending Theory (BT) is much more like MSFA than PMA. Since MSFA needs PMA to be descriptively adequate enough, it follows that the account by BT **lacks** the set of specifications that PMA provides for MSFA.

Phase 2: Identification of collocations associated with situations (aka Constructions)

(Instantiation of) a collocational pattern	Pattern ID (Local)	1st segment	2nd segment	3rd segment	4th segment	5th segment	6th segment	7th segment
some women keep them COMP	q1 = {p1, p2, p3, p4}	some**	women**	keep**	them** [= husbands**]		COMP[1, 2]	COMP[2, 2]
SUBJ VERB (OBJ) constantly COMP	p5	DET	SUBJ	VERB	(OBJ)	constantly*	COMP[1, 2]	COMP[2, 2]
some women keep them in hot water	q2 = {p1, p2, p3, p4, p7, p8}	some**	women**	keep**	them**		in*	hot water*

