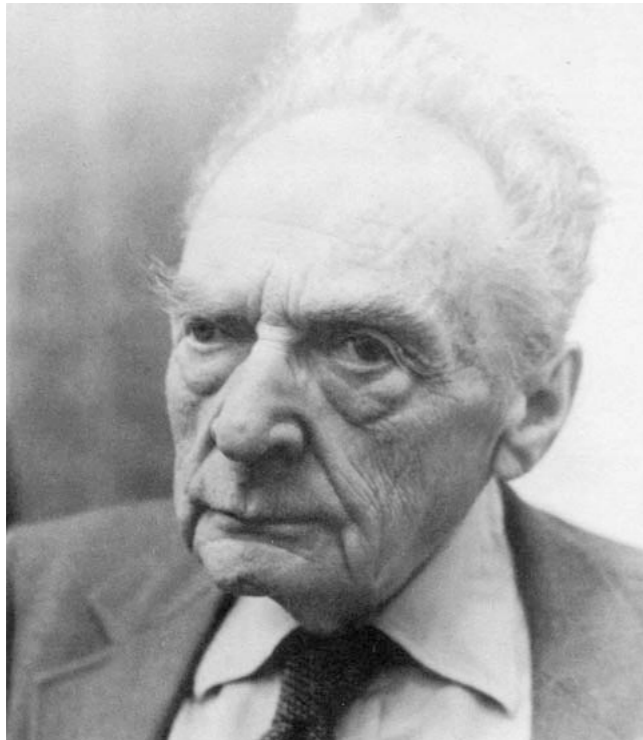


Semantic Frames in Human and Machine Translation

Frames as language universals



Languages differ essentially in what they must convey and not in what they may convey.-- R. Jakobson

- Having equivalent frames across languages doesn't mean that they **must** be used in comparable situations
- Equivalent frames might not be used with the same **frequency**
- Much of what **must** be said is as closely related to constructions as to frames: e.g. gender and number on NPs, tense for verbs

Translation and Evaluation

- Translation
 - Machine /Manual
 - Computer-assisted human translation
 - Crowdsourcing
- Evaluation
 - Manual (Quantitative / qualitative)
 - Automatic scoring
 - BLEU (Papineni et al., 2002), NIST (Doddington, 2002)-- *n*-gram based
 - TER, (Snover et al. 2006), METEOR (Banerjee and Lavie 2005), MaxSim (Chan and Ng 2008), etc
 - RTE (Padó et al. 2009)

Frame parallelism

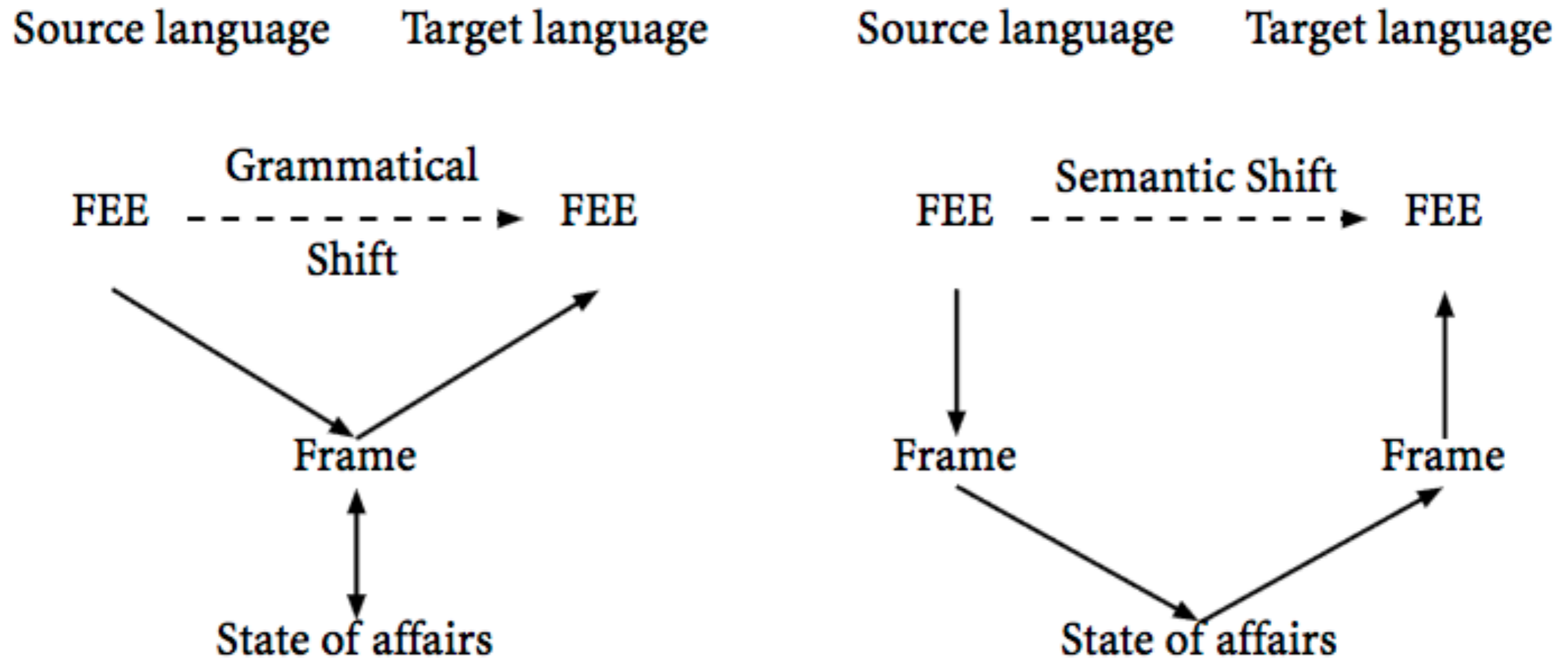


Diagram from S. Padó (2007 Nodalia)

Frame Shifts in Translation

SL: Tray 1 holds up to 125 sheets

TL: In Fach 1 können bis zu 125 Blatt Papier eingelegt werden

English allows unagentive subjects, German doesn't like them, so it uses a different construction, which leads also to a frame shift...

Frame Shifts in Translation

SL: Tray 1 holds up to 125 sheets

TL: In Fach 1 können bis zu 125 Blatt Papier eingelegt werden

SL: Frame: **Containing**

[Container Tray 1] HOLDS [Content up to 125 sheets]

TL: Frame: **Filling**

[Goal In Fach 1] können [Theme bis zu 125 Blatt Papier]

EINGELEGT werden

Frame Shifts in Expressions of Causation

Wenngleich der Welthandel einen **höheren** Wohlstand zur **Folge** hat = Causation+Change
Position on a scale

even-if the world trade a higher prosperity as a result has

even if world trade has the **result** of/**results** in **higher** prosperity

though world trade can of course **increase** prosperity. = Cause change of position on a scale

Motion Reconceptualized as Showing/Appearing

...**through***Path the fog, as **through***Path a curtain, there **stepped**Self_motion the man whom we were awaiting.

...銀の幕をたれたような濃霧の中から、待ちわびた人が姿をあらわしたCause_to_perceive [showed]。

...from the middle of the thick fog, which hung like a silver curtain, the awaited person showed (his) form