How to Combine Paradigms for Machine Translation

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Alphabet Soup of MT Paradigms

• Transfer-rule-based MT (RBMT, TMT, …)
• Statistical MT (SMT)
  – *Phrasal-based SMT (PSMT or SMT)*
  – *Syntax-based SMT (SBMT)*
• Example-Based MT (EBMT)
• Interlingua-Based MT (IL-MT)
• Knowledge-Based MT (KBMT)
• Context-Based MT (CBMT)
• Hybrid Approaches to MT (HAMT)
An Evolutionary Tree of MT Paradigms

Transfer MT

Large-scale TMT

Interlingua MT

Larger-Scale TMT

Stat Transfer MT

Context-Based MT

Example-based MT

Stat Syntax MT

Decoding MT

Statistical MT

Phrasal SMT

1950

1980

2010
What Works

• Best Overall Recombinant Group (BORG)
• Assimilate the best of other paradigms into a dominant one (e.g. SMT)