

**Research Methods and
System Designs in
Machine Translation**

**a ten-year review
1984-1994**

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Outline

Five eras of MT

Situation in 1984

From 1984 to 1989

rule-based transfer systems

rule-based interlingua systems

From 1989 to the present

corpus-based methods

rule-based methods

lexicalist tendency

constraint-based formalisms

Lexicon acquisition

Generation and database MT

Controlled language MT

Domain- and user-specific MT

Speech translation

"Third generation" systems

Wider perspectives

Situation in 1984

Systran

at USAF (1970)

at European Commission (1977)

Meteo (1976)

Fujitsu ATLAS

GETA (Grenoble)

SUSY (Saarbrücken)

METAL (Siemens)

Mu (Kyoto)

Eurotra (1982)

From 1984 to 1989

Rule-based transfer

Ariane (GETA)

SUSY (Saarbrücken)

Eurotra (CEC)

Rule-based interlingua

DLT (Utrecht)

Rosetta (Philips)

PIVOT (NEC)

KBMT89 (Carnegie Mellon Univ.)

From 1989 to the present

Corpus-based methods

statistics-based: Candide (IBM)

example-based: ATR, SHALT

connectionist methods

Rule-based methods

Eurolang

CAT2, PaTrans

LMT

KANT (Carnegie Mellon Univ.)

CATALYST (CMU and Caterpillar)

ULTRA (New Mexico State Univ.)

UNITRAN

Pangloss

Speech Translation

British Telecom

ATR (Osaka)

C-STAR (JANUS)
Carnegie Mellon Univ.
ATR
Karlsruhe Univ.

Verbmobil

Further perspectives

global research

Western Europe

North America

Japan

China

Taiwan

Korea

India

Thailand

Malaysia

Indonesia

Eastern Europe

Russia

MT for translation services/agencies

MT for occasional non-professional translation

MT for information gathering

MT for monlingual users

MT for spoken language

MT on networks

Minitel, PC-VAN, Niftyserve, CompuServe

Systran, Logos

MT for translators

Translator workstations