[*International Conference on the State of Machine Translation in America, Asia and Europe*. Proceedings of IAI-MT86, 20-22 August 1986, Bürgerhaus, Dudweiler]

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# English-Japanese Machine Translation System LUTE - AID

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# System Summary of LUTE-AID

**Name of the system: LUTE-AID**

LUTE-AID is an interactive, machine-aided translation system in the LUTE (Language Understander, Translator & Editor) series, although its designing and operational principle is distinctly different from other systems in the series. Essentially, LUTE-AID is syntax-oriented, while the main LUTE systems are semantics-oriented.

**Status: Research**

The system is purely experimental, that is we have no plan to prototype nor develop any commercial system. It is simply a facility in the computer environment called RESOLUTE (Reciprocal Environment for the Study Of Language Understander, Translator & Editor), which is intended to support our research on computational linguistics.

**Type of system: Transfer-based and Bi-lingual System**

Although the system is transfer-based, almost all analysis and transfer processes are conducted simultaneously. Additionally, even though the system is bi-lingual, it can easily become multi-lingual between languages whose linguistic structures are very similar or which belong to the same language family.

**Translated language: English into Japanese**

Type of analysis and transfer and their outputs: Pattern-driven Analysis and Pattern-oriented Representation

Pattern-driven Analysis (PDA) produces source Syntactic Configuration Pattern representations (source SCP representations), and Configuration Concoction Transfer (CCT) produces target Syntactic Configuration Pattern representations (target SCP representations).

**Dictionaries: One bi-lingual lexicon and four computerized dictionaries**

The lexicon is commonly used for analysis, transfer and generation processes. The lexicon consists of several levels of entry complexity, which allows the user freely assign an appropriate system utilization lexicon level. The user is also allowed to assign the specific lexicon among lexicons which might cover different domains. The lexical items have as little information so that on-line maintenance is readily available. Four computerized dictionaries dedicated for the user use consist of Japanese, English, Japanese-English, and English-Japanese, each of which features more than sixty thousand entries.

**Data base: Syntactic Configuration Patterns and Configuration Concoction Patterns**

The number of SCPs and CCPs is about 840 in total.

**Implementation languages**: MacLisp (DEC2060) / CommonLisp (VAX11)

**Operating system**: Tops20 (Dec2060) / VMS (Vax11)

**Type of equipments**: Dec2060 / Vax11. Simi-graphic terminals which can display KANA and KANJI as well as alphabets and symbols. The terminals also have facilities for conducting multiple windows.