The Klingon Machine Translation Project:
The Klingon Language Analyzer

d'Armond Speers
Georgetown University
email: speersd@gusun.acc.georgetown.edu

The Klingon Machine Translation Project (KMTP) was established with the goal of producing an MT product for the constructed language of the fictional Klingons, of Star Trek fame. The Klingon Dictionary, by Marc Okrand, was published in 1985; this is the source for all vocabulary and grammar of *tlhIngan Hol* (the Klingon term for "Klingon Language"). Still in development, the Klingon Language Analyzer (KLA) is being presented as "work in progress." Aspects of Klingon MT will be discussed, particularly Klingon's complex, agglutinating morphology, as well as an overview of Klingon syntax and semantics, and how they relate to the development of a MT system for this rather alien language.

Klingon is an agglutinating language. Noun roots combine with ordered classes of suffixes to form complex words. Similarly, verb roots combine with ordered classes of suffixes, and in addition optionally combine with a prefix indicating the verb's subject and object. Nouns may also be combined to form compounds, each part of which may include its own set of affixes. As a complicating factor, verbs may take a suffix to become a noun, which may then also take its own noun affixes, combine with other nouns in compounds, etc.

The Klingon Language Analyzer, *tlhIngan Hol pojwI',* in its present form is restricted to a morphological analysis of Klingon words. The parsing engine follows a simple, stripping algorithm; the absence of phonological alternation in Klingon precludes the necessity for a two-level analysis. Words are treated in isolation; no attempt is made at this stage for a full, syntactic analysis.

The presentation will be comprised of three focal topics: a background in Klingon morphology for non-native speakers; a description of the parsing engine behind the *tlhIngan Hol pojwI',* and a discussion of syntactic and semantic considerations in Klingon translation. In the presentation, the *pojwI'* will be used to demonstrate the features of the Analyzer, while the parser's approach to specific word analysis is presented. In addition, attendees may learn a bit of the warrior tongue.

The presentation will conclude with a brief sketch of the future of the Klingon Language Analyzer. The Klingon Machine Translation Project (KMTP) is working towards a full-fledged linguistic analysis, using the morphological analysis available in the current version as a basis for syntactic and semantic analysis, currently being developed.

Okrand, Marc. 1985. *The Klingon Dictionary.* New York: Pocket Books.