Machine translation

- **Machine translation**, sometimes referred to by the abbreviation **MT** is a sub-field of computational linguistics that investigates the use of software to translate text or speech from one language to another.
- On a basic level, MT performs simple substitution of words in one language for words in another, but that alone usually cannot produce a good translation of a text because recognition of whole phrases and their closest counterparts in the target language is needed. Solving this problem with corpus statistical, and neural techniques is a rapidly growing field that is leading to better translations, handling differences in linguistic typology, translation of idioms, and the isolation of anomalies.
- Current machine translation software often allows for customization by domain or profession (such as weather reports), improving output by limiting the scope of allowable substitutions. This technique is particularly effective in domains where formal or formulaic language is used. It follows that machine translation of government and legal documents more readily produces usable output than conversation or less standardised text.
- Improved output quality can also be achieved by human intervention: for example, some systems are able to translate more accurately if the user has unambiguously identified which words in the text are proper names. With the assistance of these techniques, MT has proven useful as a tool to assist human translators and, in a very limited number of cases, can even produce output that can be used as is (e.g., weather reports).
- The progress and potential of machine translation have been debated much through its history. Since the 1950s, a number of scholars have questioned the possibility of achieving fully automatic machine translation of high quality. Some critics claim that there are in-principle obstacles to automating the translation process.