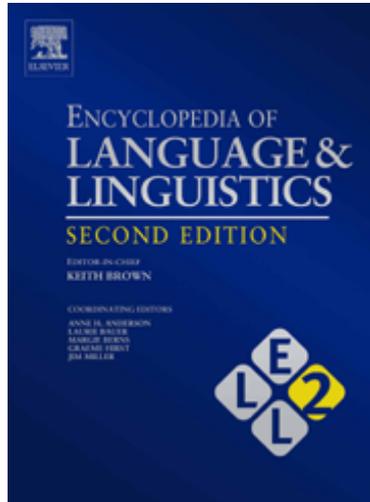


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Human Language Technology

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Human language technology, or *technologies*, or *HLT*, is the name given collectively to the various areas of technology, especially computer technology, that involve applications to tasks in which language is central. Traditionally, three subfields have been recognized: speech technology, information or document retrieval, and natural language processing. Each is described in detail in a separate article in this encyclopedia, as are many of the specific topics of research and areas of application within each subfield. The use of the name *human language technology*, however, is usually intended to emphasize the unity of the field, the integration of elements from different subfields, and an emphasis on application rather than theory. For example, all three subfields would be involved in creating a system that took as its input video or audio recordings of news broadcasts, and automatically transcribed the soundtrack (using speech recognition) to create a written summary of the broadcast (using methods from natural language processing) and to retrieve segments of the video or audio in response to topical requests from a user (using methods from information retrieval).

The three subfields arose as distinct enterprises in separate disciplines with differing research methods and traditions – natural language processing in computer science, speech technology in electrical engineering and digital signal processing, and document and information retrieval in library science – and they have only recently been seen as together forming an

integrated area of research with significant interests in common. Early moves in this direction were initiated by U.S. agencies that funded research in the subfields: the first Human Language Technology Conference was held in 1993 with the aim of bringing agency-funded researchers together to learn one another's methods, goals, and interests. In 2001, the conferences became an annual event and were opened to the general international research community; in 2003, their organization was turned over to the Association for Computational Linguistics (*see Association for Computational Linguistics*).

A related term, often used in Europe particularly since the early 1990s, is *language engineering* or *natural language engineering* (the latter being also the name of a research journal). While perhaps in practice natural language engineering is more centered on textual applications than on speech, this term, too, implies an orientation toward applications involving language with less regard for the discipline or subfield in which the work arises. Both terms are now commonly used in Europe.

See also: Association for Computational Linguistics; Document Retrieval, Automatic; Natural Language Processing: Overview; Symbolic Computational Linguistics: Overview.

Relevant Websites

www.aclweb.org. – Association for Computational Linguistics.
journals.cambridge.org. – *Natural Language Engineering*.