Psycholinguistics

Psycholinguistics

developmental psycholinguistics, as a branch of psycholinguistics, concerns itself with a child's ability to learn language. Psycholinguistics is an interdisciplinary

Psycholinguistics or psychology of language is the study of the interrelation between linguistic factors and psychological aspects. The discipline is mainly concerned with the mechanisms by which language is processed and represented in the mind and brain; that is, the psychological and neurobiological factors that enable humans to acquire, use, comprehend, and produce language.

Psycholinguistics is concerned with the cognitive faculties and processes that are necessary to produce the grammatical constructions of language. It is also concerned with the perception of these constructions by a listener.

Initial forays into psycholinguistics were in the philosophical and educational fields, mainly due to their location in departments other than applied sciences (e.g., cohesive data on how the human brain functioned). Modern research makes use of biology, neuroscience, cognitive science, linguistics, and information science to study how the mind-brain processes language, and less so the known processes of social sciences, human development, communication theories, and infant development, among others.

There are several subdisciplines with non-invasive techniques for studying the neurological workings of the brain. For example, neurolinguistics has become a field in its own right, and developmental psycholinguistics, as a branch of psycholinguistics, concerns itself with a child's ability to learn language.

Lemma (psycholinguistics)

model is the most widely supported theory of speech production in psycholinguistics, although it has been challenged. For example, there is some evidence

In psychology, a lemma (pl.: lemmas or lemmata) is an abstract conceptual form of a word that has been mentally selected prior to the early stages of speech production. This concept is used to explain how the process of generating speech occurs. In particular, lemmas are seen as the mental representations of words that are organised and retrieved from memory before they are eventually spoken. A lemma represents a specific meaning but does not have any specific sounds that are attached to it.

When a person produces a word, they are essentially turning their thoughts into sounds, a process known as lexicalisation. In many psycholinguistic models this is considered to be at least a two-stage process. The first stage deals with semantics and syntax; the result of the first stage is an abstract notion of a word that represents a meaning and contains information about how the word can be used in a sentence. It does not, however, contain information about how the word is pronounced. The second stage deals with the phonology of the word; it attaches information about the sounds that will have to be uttered. The result of the first stage is the lemma in this model; the result of the second stage is referred to as the lexeme.

This two-staged model is the most widely supported theory of speech production in psycholinguistics, although it has been challenged. For example, there is some evidence to indicate that the grammatical gender of a noun is retrieved from the word's phonological form (the lexeme) rather than from the lemma. This can be explained by models that do not assume a distinct level between the semantic and the phonological stages (and so lack a lemma representation).

During the process of language activation, lemma retrieval is the first step in lexical access. In this step, meaning and the syntactic elements of a lexical item are realized as the lemma. Lemma retrieval, as explained through a spreading-activation theory, is part of a network of separate elements consisting of the abstract concept, the lemma and the lexeme. Lemma retrieval is aided by the activation level of the concept that has yet to be verbalized. When activation takes place on the lemma level, the highest activated lemma element is selected.

Lexical selection experiments have provided evidence that lemma retrieval is affected by the frequency of the word. This indicates that word frequency is not only significant for retrieving the lexical elements, but also in accessing semantic and syntactic elements for encoding lemmas into a phrase.

Experiments that have studied the Tip-of-the tongue (TOT) phenomenon have provided evidence that less strong connections of phonological elements (lexemes) and lexical and syntactic representation (lemmas) lead to an inability to retrieve a lexical item. TOT utterances provide evidence that the lemmas and lexemes are separate processes in language activation.

TRACE (psycholinguistics)

similar to how people process speech. It is generally accepted in psycholinguistics that (1) when the beginning of a word is heard, a set of words that

TRACE is a connectionist model of speech perception, proposed by James McClelland and Jeffrey Elman in 1986. It is based on a structure called "the TRACE", a dynamic processing structure made up of a network of units, which performs as the system's working memory as well as the perceptual processing mechanism. TRACE was made into a working computer program for running perceptual simulations. These simulations are predictions about how a human mind/brain processes speech sounds and words as they are heard in real time.

Jean Berko Gleason

Psycholinguistics. Harcourt, Brace. ISBN 978-0030559648.Latest edition: Gleason, Jean Berko; Ratner, Nan Bernstein, eds. (1998). Psycholinguistics (2nd ed

Jean Berko Gleason (born 1931) is an American psycholinguist and professor emerita in the Department of Psychological and Brain Sciences at Boston University who has made fundamental contributions to the understanding of language acquisition in children, aphasia, gender differences in language development, and parent–child interactions.

Gleason created the Wug Test, in which a child is shown pictures with nonsense names and then prompted to complete statements about them, and used it to demonstrate that even young children possess implicit knowledge of linguistic morphology. Menn and Ratner have written that "Perhaps no innovation other than the invention of the tape recorder has had such an indelible effect on the field of child language research", the "wug" (one of the imaginary creatures Gleason drew in creating the Wug Test) being "so basic to what [psycholinguists] know and do that increasingly it appears in the popular literature without attribution to its origins."

Neurolinguistics

perspectives. Much work in neurolinguistics is informed by models in psycholinguistics and theoretical linguistics, and is focused on investigating how the

Neurolinguistics is the study of neural mechanisms in the human brain that control the comprehension, production, and acquisition of language. As an interdisciplinary field, neurolinguistics draws methods and theories from fields such as neuroscience, linguistics, cognitive science, communication disorders and

neuropsychology. Researchers are drawn to the field from a variety of backgrounds, bringing along a variety of experimental techniques as well as widely varying theoretical perspectives. Much work in neurolinguistics is informed by models in psycholinguistics and theoretical linguistics, and is focused on investigating how the brain can implement the processes that theoretical and psycholinguistics propose are necessary in producing and comprehending language. Neurolinguists study the physiological mechanisms by which the brain processes information related to language, and evaluate linguistic and psycholinguistic theories, using aphasiology, brain imaging, electrophysiology, and computer modeling.

Max Planck Institute for Psycholinguistics

The Max Planck Institute for Psycholinguistics (German: Max-Planck-Institut für Psycholinguistik; Dutch: Max Planck Instituut voor Psycholinguïstiek)

The Max Planck Institute for Psycholinguistics (German: Max-Planck-Institut für Psycholinguistik; Dutch: Max Planck Instituut voor Psycholinguïstiek) is a research institute located on the campus of Radboud University Nijmegen in Nijmegen, Gelderland, the Netherlands. The institute was founded in 1980 by Dutch psycholinguist Pim Levelt and is dedicated exclusively to psycholinguistics. It is one of the few institutes of the Max Planck Society situated outside Germany. According to the ranking of Web of World Research Centers, the institute ranks second amongst all Max Planck Institutes (MPI) in terms of visibility and eighth in terms of size.

András Toma

years, a situation of great interest for the fields of psychiatry and psycholinguistics. Toma was born on 5 December 1925, in the village of Újfehértó, eastern

András Toma (5 December 1925 – 30 March 2004) was a Hungarian soldier taken prisoner by the Red Army in 1944, then discovered living in a Russian psychiatric hospital in 2000. He was most likely the last prisoner of war from the Second World War to be repatriated.

Because Toma never learned Russian and nobody at the hospital spoke Hungarian, he had apparently not had a single conversation in over 50 years, a situation of great interest for the fields of psychiatry and psycholinguistics.

Developmental linguistics

Developmental linguistics is the study of the development of linguistic ability in an individual, particularly the acquisition of language in childhood

Developmental linguistics is the study of the development of linguistic ability in an individual, particularly the acquisition of language in childhood. It involves research into the different stages in language acquisition, language retention, and language loss in both first and second languages, in addition to the area of bilingualism. Before infants can speak, the neural circuits in their brains are constantly being influenced by exposure to language. Developmental linguistics supports the idea that linguistic analysis is not timeless, as claimed in other approaches, but time-sensitive, and is not autonomous – social-communicative as well as bio-neurological aspects have to be taken into account in determining the causes of linguistic developments.

Applied Psycholinguistics

Applied Psycholinguistics is a peer-reviewed academic journal in the field of psycholinguistics. It covers research on all aspects of this field, including

Applied Psycholinguistics is a peer-reviewed academic journal in the field of psycholinguistics. It covers research on all aspects of this field, including language development and language disorders, especially

studies made from a cross-language perspective. The journal was established in 1980 and is published quarterly by Cambridge University Press. The current editor-in-chief is Martha Crago (Dalhousie University).

Parsing

string that is syntactically ambiguous. The term is also used in psycholinguistics when describing language comprehension. In this context, parsing refers

Parsing, syntax analysis, or syntactic analysis is a process of analyzing a string of symbols, either in natural language, computer languages or data structures, conforming to the rules of a formal grammar by breaking it into parts. The term parsing comes from Latin pars (orationis), meaning part (of speech).

The term has slightly different meanings in different branches of linguistics and computer science. Traditional sentence parsing is often performed as a method of understanding the exact meaning of a sentence or word, sometimes with the aid of devices such as sentence diagrams. It usually emphasizes the importance of grammatical divisions such as subject and predicate.

Within computational linguistics the term is used to refer to the formal analysis by a computer of a sentence or other string of words into its constituents, resulting in a parse tree showing their syntactic relation to each other, which may also contain semantic information. Some parsing algorithms generate a parse forest or list of parse trees from a string that is syntactically ambiguous.

The term is also used in psycholinguistics when describing language comprehension. In this context, parsing refers to the way that human beings analyze a sentence or phrase (in spoken language or text) "in terms of grammatical constituents, identifying the parts of speech, syntactic relations, etc." This term is especially common when discussing which linguistic cues help speakers interpret garden-path sentences.

Within computer science, the term is used in the analysis of computer languages, referring to the syntactic analysis of the input code into its component parts in order to facilitate the writing of compilers and interpreters. The term may also be used to describe a split or separation.

In data analysis, the term is often used to refer to a process extracting desired information from data, e.g., creating a time series signal from a XML document.