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SOCIOLINGUISTICS AND COMPUTATIONAL LINGUISTICS

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Abstract: In this article, you will gain a general understanding of sociolinguistics, computational linguistics and its types, artificial intelligence, and theoretical linguistics. Additionally, you will learn about the role and significance of computational linguistics in society, as well as some information about the role of artificial intelligence.
Key words: Sociolinguistics, social context, social network, language, computational linguistics, dialect, Eskimos, artificial intelligence, machine translation, Turing award, multiplex community, logic, philosophy.

Sociolinguistics study the relationship between language and society. They are interested in explaining why we speak differently in different social contexts, and they are concerned with identifying the social functions of language and the ways it is used to convey social meaning. Examining the way people use language in different social contexts provides a wealth of information about the language works, as well as about the social relationships in a community, and the way people convey and construct aspects of their social identify through their language. [3:1p];
The social aspects of language were in the modern sense first studied by Indian and Japanese linguists in the 1930s, and also by Gauchat in Switzerland in the early 1900s, but none received much attention in the West until much later. The study of the social motivation of language change, on the other hand, has its foundation in the wave model of the late 19th century. The first attested use of the term sociolinguistics was by Thomas Callan Hodson in the title of a 1939 paper. Sociolinguistics in the West first appeared in the 1960s and was pioneered by linguists such as William Labov[i] in the US and Basil Bernstein[ii] in the UK.
For example, a sociolinguist might determine through study of social attitudes that a particular vernacular would not be considered appropriate language use in a business or professional setting. Sociolinguists might also study the grammar, phonetics, vocabulary, and other aspects of this sociolect much as dialectologists would study the same for a regional dialect.
William Labov is often regarded as the founder of the study of sociolinguistics. He is especially noted for introducing the quantitative study of language variation and change, making the sociology of language into a scientific discipline. [2:2p];

LANGUAGE IN SOCIAL CONTEXT

A discussion of language in social context is focused on a language acquisition and language learning, significance of language in a community, and relation of language and society. The language acquisition is differentiated from the language learning. The former is unconsciously conducted by a language user, whereas the latter is consciously conducted by a language user. The significance of language in a community is viewed from the viewpoint of its importance in a community; and it is discussed in relation to the three inseparable elements in a community: human being, community, and language.

LANGUAGE AND SOCIETY

A society can be seen from its physical environment. Our view of physical environment may be conditioned by our language. In this relation, it can be explained that the physical environment in which a society lives can be reflected in its language, normally in the structure of its lexicon (the way in which distinctions are made by means of single words). For instance, English has only one word for snow but Eskimo has several. For English people, it is not necessary to make distinction of snow because their physical environment of society does not enable it; there is only kind of snow in the society. For Eskimos[iii], it is essential to distinguish one kind of snow from another individual words.

SOCIAL NETWORK

Understanding language in society means that one also has to understand the social networks in which language is embedded. A social network is another way of describing a particular speech community in terms of relations between individual members in a community. A network could be loose or tight depending on how members interact with each other. For instance, an office or factory may be considered a tight community because all members interact with each other. A large course with 100+ students would be a looser community because students may only interact with the instructor and maybe 1-2 other students. A multiplex community is one in which members have multiple relationships with each other. For instance, in some neighborhoods, members may live on the same street, work for the same employer and even intermarry. [2:16p];

COMPUTATIONAL LINGUISTICS

Computational linguistics focuses on the system or concept that machines can be computed to understand, learn, teach, output languages, while natural language processing is the application of processing language that enables a computer program to understand human language as it is written or spoken. It also connected with artificial intelligence, mathematics, logic, philosophy, cognitive science, cognitive psychology, psycholinguistics, anthropology and neuroscience.

GOALS OF COMPUTATIONAL LINGUISTICS

The theoretical goals of computational linguistics include the formulation of grammatical and semantic frameworks for characterizing languages in ways enabling computationally tractable implementations of syntactic and semantic analysis: the discovery of processing techniques and learning principles that exploit both the structural and distributional (statistical) properties of language and the development of cognitively and neuro scientifically plausible computational models of how language processing and learning might occur in the brain. The practical goals of the field are broad and varied. Some of the most prominent are: efficient text retrieval on some desired topic; effective machine translation (MT); question answering (QA), ranging from simple factual questions to ones requiring inference and descriptive or discursive answers; text summarizations; analysis of texts or spoken language for topic, sentiment, or other psychological attributes; dialogue agents for accomplishing particular tasks (purchases, technical trouble shooting, trip planning, schedule maintenance, medical advising) and ultimately, creation of computational systems with human-like competency in dialogue, in acquiring language, and in gaining knowledge from text.

The methods employed in theoretical and practical research in computational linguistics have often drawn upon theories and findings in theoretical linguistics, philosophical logic, cognitive science (especially psycholinguistics), and of course computer science. However, early work from the mid-1950s to around 1970 tended to be rather theory-neutral, the primary concern being the development of practical techniques for such applications as MT and simple QA. In MT, central issues were lexical structure and content, the characterization of “sublanguages” for particular domains (for example, weather reports), and the transduction from one language to another (for example, using rather ad hoc graph transformation grammars or transfer grammars). In QA, the concern was with characterizing the question patterns encountered in a specific domain, and the relationship of these question patterns to the forms in which answers might store, for instance in a relational database.

Now we speak about the artificial intelligence. One quick way to summarize the milestones in AI history is to list the Turing Award[iv] winners: Marvin Minsky (1969) and John McCarthy (1971) for defining the foundations of the field based on representation and reasoning; Ed Feigenbaum and Raj Reddy (1994) for developing expert systems that encode human knowledge to solve real-world problems; Judea Pearl (2011) for developing probabilistic reasoning techniques that deal with uncertainty in a principled

manner; and finally Yoshua Bengio, Geoffrey Hinton, and Yann LeCun (2019) for making “deep learning” (multilayer neural networks) a critical part of modern computing.

The first work that is now generally recognized as AI was done by Warren McCulloch and Nicolas Rashevsky (1936, 1938), they drew on three sources: knowledge of the basic physiology and function of neurons in the brain; a formal analysis of propositional logic due to Russell and Whitehead; and Turing’s theory of computation. They proposed a model of artificial neurons in which each neuron is characterized as being “on” or “off,” with a switch to “on” occurring in response to stimulation by a sufficient number of neighboring neurons. The state of a neuron was conceived of as “factually equivalent to a proposition which proposed its adequate stimulus.” They showed, for example, that any computable function could be computed by some network of connected neurons, and that all the logical connectives (AND, OR, NOT, etc.) could be implemented by simple network structures. McCulloch and Pitts also suggested that suitably defined networks could learn. Donald Hebb (1949) demonstrated a simple updating rule for modifying the connection strengths between neurons. His rule, now called Hebbian learning, remains an influential model to this day. Hebbian learning Two undergraduate students at Harvard, Marvin Minsky (1927–2016) and Dean Edmonds, built the first neural network computer in 1950. [5:10p];

Linguistic theory is concerned primarily with an ideal speaker–listener, in a completely homogeneous speech-community, who knows its language perfectly and is unaffected by such grammatically irrelevant conditions as memory limitations, distractions, shifts of attention and interest, and errors (random or characteristic) in applying his knowledge of the language in actual performance. This seems to me to have been the position of the founders of modern general linguistics, and no cogent reason for modifying it has been offered. To study actual linguistic performance, we must consider the interaction of a variety of factors, of which the underlying competence of the speaker–hearer is only one. In this respect, study of language is no different from empirical investigation of other complex phenomena. [4:4p];

Sociolinguistics and computational linguistics are major branches of linguistics that are gaining popularity nowadays. Especially with the current widespread use of artificial intelligence globally, including in Uzbekistan, these areas have reached a significantly high level of application

References:

1. A QUICK AND EASY METHOD OF TEACHING ENGLISH FOR PRIMARY SCHOOL
2. CS Asadova, NV qizi Timirxanova - INTERNATIONAL CONFERENCE ON LEARNING AND …, 2022
3. Асадова Ч. АБСТРАКТНЫЕ СУЩЕСТВИТЕЛЬНЫЕ В АНГЛИЙСКОМ И РУССКОМ ЯЗЫКАХ //Язык и культура. – 2018. – С. 26-29.
4. Dr. Buhari, S.Pd., M. Pd “Introduction to sociolinguistics” Tahun 2021. 137p
5. Janet Holmes “An introduction to sociolinguistics” London and New York 2013. 489p
6. Ronald Wardhaugh and Janet M. Fuller “An introduction to sociolinguistics” England 2015. 427p
7. THE GOALS AND OBJECTIVES OF USING GAME ACTIVITIES IN EDUCATION J Makhmudova, C Asadova - Conference Proceedings: Fostering Your Research …, 2024
8. https://plato.stanford.edu/entries/computational-linguistics/.

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