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INTRODUCTION TO
GENERAL LINGUISTICS

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TABLE OF CONTENTS

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WHAT'S LINGUISTICS ?

1.1 Definition of Linguistics

Linguistics is the scientific study of natural language. Linguistics encompasses a number of sub-fields. An important topical division is between the study of language structure (grammar) and the study of meaning (semantics). Grammar encompasses morphology (the formation and composition of words), syntax (the rules that determine how words combine into phrases and sentences) and phonology (the study of sound systems and abstract sound units). Phonetics is a related branch of linguistics concerned with the actual properties of speech sounds (phones), non-speech sounds, and how they are produced and perceived.

Linguistics is the scientific study of human's language. According to Lim Kiat Boey in Jendra (2010:5), the word linguistics was used for the first time in England in 1837, and has been derived from the Latin lingua that means 'language'. For the concern of past people to the 'God's power' on language, linguistics was once considered as a physical science, which means that it shares similarities with the fields such as biology, botany, geology, etc.

Other sub-disciplines of linguistics include the following: evolutionary linguistics, which considers the origins of language; historical linguistics, which explores language change; sociolinguistics, which looks at the relation between linguistic variation and social structures; psycholinguistics, which explores the representation and functioning of language in the mind; neurolinguistics, which looks at the representation of language in the brain; language acquisition, which considers how children acquire their first language and how children and adults acquire and learn their second and subsequent languages; and discourse analysis, which is concerned with the structure of texts and conversations, and pragmatics with how meaning is transmitted based on a combination of linguistic competence, non-linguistic knowledge, and the context of the speech act.

Linguistics is narrowly defined as the scientific approach to the study of language, but language can, of course, be approached from a variety of directions, and a number of other intellectual disciplines are relevant to it and influence its study.

Semiotics, for example, is a related field concerned with the general study of signs and symbols both in language and outside of it. Literary theorists study the use of language in artistic literature. Linguistics additionally draws on work from such diverse fields as psychology, speech-language pathology, informatics, computer science, philosophy, biology, human anatomy, neuroscience, sociology, anthropology, and acoustics.

Within the field, linguist is used to describe someone who either studies the field or uses linguistic methodologies to study groups of languages or particular languages. Outside the field, this term is commonly used to refer to people who speak many languages or have a great vocabulary.

Linguistics concerns itself with describing and explaining the nature of human language. Relevant to this are the questions of what is universal to language, how language can vary, and how human beings come to know languages. All humans (setting aside extremely pathological cases) achieve competence in

whatever language is spoken (or signed, in the case of signed languages) around them when growing up, with apparently little need for explicit conscious instruction. While non-humans acquire their own communication systems, they do not acquire human language in this way (although many non-human animals can learn to respond to language, or can even be trained to use it to a degree).

Therefore, linguists assume, the ability to acquire and use language is an innate, biologically-based potential of modern human beings, similar to the ability to walk. There is no consensus, however, as to the extent of this innate potential, or its domain-specificity (the degree to which such innate abilities are specific to language), with some theorists claiming that there is a very large set of highly abstract and specific binary settings coded into the human brain, while others claim that the ability to learn language is a product of general human cognition. It is, however, generally agreed that there are no strong *genetic* differences underlying the differences between languages: an individual will acquire whatever language(s) he or she is exposed to as a child, regardless of parentage or ethnic origin.

Linguistic structures are pairings of meaning and form; such pairings are known as Saussurean signs. In this sense, form may consist of sound patterns, movements of the hands, written symbols, and so on. There are many sub-fields concerned with particular aspects of linguistic structure, ranging from those focused primarily on form to those focused primarily on meaning:

- **Phonetics**, the study of the physical properties of speech (or signed) production and perception
- **Phonology**, the study of sounds (or signs) as discrete, abstract elements in the speaker's mind that distinguish meaning
- **Morphology**, the study of internal structures of words and how they can be modified
- **Syntax**, the study of how words combine to form grammatical sentences
- **Semantics**, the study of the meaning of words (lexical semantics) and fixed word combinations (phraseology), and how these combine to form the meanings of sentences
- **Pragmatics**, the study of how utterances are used in communicative acts, and the role played by context and non-linguistic knowledge in the transmission of meaning

5

- **Discourse analysis**, the analysis of language use in texts (spoken, written, or signed)

Many linguists would agree that these divisions overlap considerably, and the independent significance of each of these areas is not universally acknowledged. Regardless of any particular linguist's position, each area has core concepts that foster significant scholarly inquiry and research.

Alongside these structurally-motivated domains of study are other fields of linguistics, distinguished by the kinds of non-linguistic factors that they consider:

- Applied linguistics, the study of language-related issues applied in everyday life, notably language policies, planning, and education. (Constructed language fits under Applied linguistics.)
- Biolinguistics, the study of natural as well as human-taught communication systems in animals, compared to human language.
- Clinical linguistics, the application of linguistic theory to the field of Speech-Language Pathology.

- Computational linguistics, the study of computational implementations of linguistic structures.
- Developmental linguistics, the study of the development of linguistic ability in individuals, particularly the acquisition of language in childhood.
- Evolutionary linguistics, the study of the origin and subsequent development of language by the human species.
- Historical linguistics or diachronic linguistics, the study of language change over time.
- Language geography, the study of the geographical distribution of languages and linguistic features.
- Linguistic typology, the study of the common properties of diverse unrelated languages, properties that may, given sufficient attestation, be assumed to be innate to human language capacity.
- Neurolinguistics, the study of the structures in the human brain that underlie grammar and communication.
- Psycholinguistics, the study of the cognitive processes and representations underlying language use.

- Sociolinguistics, the study of variation in language and its relationship with social factors.
- Stylistics, the study of linguistic factors that place a discourse in context.

The related discipline of semiotics investigates the relationship between signs and what they signify. From the perspective of semiotics, language can be seen as a sign or symbol, with the world as its representation

2.2 Kinds of Linguistics

To factor out circumstances that may obscure fundamental insights, many linguists may choose to focus on language as presumed to occur in an idealised, adult, monolingual native speaker-prerequisites often found in mainstream generative linguistics. In contrast; linguists whose research moves away from any of these four criteria may concentrate on fields arranged around the study of language use and learning:

- Language acquisition, theoretical or applied study of how linguistic knowledge emerges in children and adults as first or subsequent languages, whether naturalistically (without instruction) or in the classroom;
- Cognitive linguistics, the study of language as part of general cognition;

- Psycholinguistics, the study of language to find out about how the mind works;
- Sociolinguistics, the study of how language varies according to cultural context, the speaker's background, and the situation in which it is used;
- Stylistics, the study of how language differs according to use and context, e.g. advertising versus speechmaking;
- Linguistic variation, the study of the differences among the languages of the world. This has implications for linguistics in general: if human linguistic ability is narrowly constrained, then languages must be very similar. If human linguistic ability is unconstrained, then languages might vary greatly.
- Historical linguistics (or diachronic linguistics), the study of how languages are historically related (e.g. English, French and German are thought to be descended from a single Indo-European tongue). This involves finding universal properties of language and accounting for a language's development and origins (see also below and comparative linguistics).

- Contextual linguistics may include the study of linguistics in interaction with other academic disciplines.
- Anthropological linguistics considers the interactions between linguistics and culture.
- Critical discourse analysis is where rhetoric and philosophy interact with linguistics.
- Computational linguistics has had a great influence on theories of syntax and semantics, as modelling syntactic and semantic theories on computers constrains the theories to computable operations and provides a more rigorous mathematical basis.

Other cross-disciplinary areas of linguistics include neurolinguistics, evolutionary linguistics and cognitive science.

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LANGUAGE

2.1 Defenition of Language

Many definitions of language have been proposed. Henry Sweet, an English phonetician and language scholar, stated that "Language is the expression of ideas by means of speech-sounds combined into words. Words are combined into sentences, this combination answering to that of ideas into thoughts."

The American linguists Bernard Bloch and George L. Trager formulated the following definition: "A language is a system of arbitrary vocal symbols by means of which a social group cooperates." Any

definition of language makes a number of presuppositions and begs a number of questions.

Language is succinctly defined in our Glossary as a "human system of communication that uses arbitrary signals, such as voice sounds, gestures, or written symbols." But frankly, language is far too complicated, intriguing, and mysterious to be adequately explained by a brief definition. According to Edward Sapir "Language is an anonymous, collective and unconscious art; the result of the creativity of thousands of generations." According to Noam Chomsky "language is a process of free creation; its laws and principles are fixed, but the manner in which the principles of generation are used is free and infinitely varied. Even the interpretation and use of words involves a process of free creation."

The definition of language that is language cans be defined as a socially shared symbols and combinations of those rules governed combinations of those symbols (language code can be defined as socially acceptable or conventional systems to deliver concept through the use of symbols and the desired combination of symbols is governed by the provisions).

The word "language" has two meanings: language as a general concept and "a language" (a specific linguistic system, e.g. "French." Languages other than English often have two separate words for these distinct concepts. French for example uses the word language for language as a concept and langue as the specific instance of language. When speaking of language as a general concept, several different definitions can be used that stress different aspects of the phenomenon.

Other theories called theory Bow-bow or Echoic Theory explains that human language is an imitation of natural language, such as a voice of thunder, birds singing, the sound of rain, the sound of leaf friction, and other sounds will be the source language. Presented by the theories of Socrates, Max Mueller, and Bow-bow theory has received much criticism, because these theories can not prove all the 'words' can be connected with natural sounds.

The same sound is often interpreted differently by different people, e.g. in voice imitating the cock crowing, the Javanese call it "Kukuruyuk", the Sundanese call kongkorongok ', the French and Spanish call "cocorico", the Chinese call " wang-wang ", while the English call" cock a doodle do ".

Another theory is a theory interjection (Interjection Theory) or Pooh-Pooh theory which holds that human language derived from the encouragement and expression of emotion, such as pain, scared, happy, angry, or sad. According to this theory, a "ha ... ha ... "arising from a sense of cheerful encouragement, a" uuh. . 'Arises because of the pain, the sound of "wow ..." occurs because the shock.

2.2 Principle Of Language

According to Kadambari Sharma (2005 : 1), the principle of language are :

2.2.1 Language is a system

Language is a system. A system is a whole complex whole. It is set of connected the parts of things; language is a complex whole like the human body. The system of the body functions through different organs such as heart, lungs, brain, ears and eyes. Similarly, the system of a language functions through sound, words and structure. These are integrated with one another and constitute the complex organic whole which is language.

2.2.2 *Language is a system of system*

Language is a system of phonetics, grammar and vocabularies, which in themselves are system:

a. Phonology: Every language has a set of sounds peculiar to it. The sound stand for words, the word stand for object ideas, process etc. for the example, pen, advise, relative, selling and singing etc. Each word has a meaning. The system of a language is called 'phonology'.

b. Morphology: Words, what they are information and the various change in their forms, is called 'morphology'.

c. Semantics: Words, what they are formation giving the meaning in a systematic way is called 'semantics'.

d. Syntax: Contractions, arrangements of words into definite meaning conveyed, phrase, formulas and sentences is formed is called 'syntax'.

Since language is system of systems, the whole system of language can not be thought all at one. Hence the need for selection and gradation.

2.2.3 Language is a system of symbols

Based on Gleason (1955:440) stated that Language is a system of symbols. The example is: railway guard uses certain symbols the green lamp, the green lamp does not start till the driver sees the guard showing the green lamp, for they are symbols of "All clear, Go". The train, however, stop or does not start if the guard shows the red lamp, for they denote "Danger, stop". This system works effectively because the symbols used are known to both the guard and the driver. The system of language, similarly, works through symbols, the symbols being words. Language functions effectively when the symbols used are known to the speakers and the listener, the writer and the reader.

2.2.4 Language is for communication

Language is powerful sources of communication. All language is used for the purpose of communication. A language is a means by which a person expressed he thoughts and feelings to others. Communicating aspect of a language is very important. Without it a language cannot be called a language.

The function of language is communicating thought from in person to another. Language as a particular kind of system for encoding and decoding

information. Since language and languages became an object of study, by the ancient grammarians.

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THE CHARACTERISTICS OF LINGUISTICS

It is easy to explain why some knowledge of language should be useful in literary studies. Knowing what a preposition is, or a gerund, or a partitive, makes the analyst more sensitive to the medium from which literary texts are made, and provides a vocabulary for talking about them. Being able to isolate elements of language enables you to see things which otherwise are below the threshold of attention: the first two lines of Milton's Paradise Lost begin with 'of', and there after a higher than chance proportion of lines in the poem begin with 'of'. When we now look at Tintern Abbey we find that 23 of the 60 instances of 'of' in the poem are line-initial, and we have something previously unexpected to say about the 'Miltonic style' of this

poem. None of this requires linguistics; just standard descriptive English grammar will do, perhaps supplemented with some newer terminology, and certainly stripped of its more oppressive prescriptive characteristics. In contrast, theoretical linguistics is the scientific study of language, which seeks to establish what forms language takes and why it takes these forms. What can a theoretical linguist do for literature which cannot be accomplished by an a theoretical grammarian? To answer this question we must acknowledge two of the major discoveries made by linguists in the past fifty years.

The first major discovery is that a single utterance or inscription (e.g. a sentence, part of a text) is always mentally represented in several distinct ways. In their mental representations, a surface representation of the text may be quite different from an underlying representation of the same text; this is the distinction known to many by Chomsky's terms 'deep structure' and 'surface structure' and while the theory has moved on, the discovery that there are different representations of the same sentence remains valid: Chomsky's current 'minimalist investigations' are centred on the problem of why this distinction exists – why for example the phonetic form and the logical form of a sentence should differ. One example of the

relevance of this for literary studies is poetic metre: the underlying metrical form and the surface rhythm of a text can be very different. Not only does the metre underdetermine the rhythm (hence allowing great rhythmic variety within a single metre) but it is also possible for rhythm to communicate a surface metre which differs from the underlying metre: hence English iambic pentameter can rhythmically mimic a Sapphic, or Christina Rossetti can write a strict metrical poem which mimics a ballad (1), or Auden a loose metrical poem which mimics various strict metres. The fact that an instance of text can have multiple representations demonstrates the systemic complexity of language as a source of formal and interpretive richness, and linguistics offers a way of understanding how this richness comes about.

The second major discovery is that there are different kinds of meaning: there is no unified 'semantics', but rather a collection of different kinds of semantics. This has been suspected and reported throughout the twentieth century, but the explanatory breakthrough was in the work of the linguistic philosophers, Austen, Grice and Searle, and in linguistics particularly in the 'relevance theory' of Sperber and Wilson (2). Most importantly, we now have an ontologically parsimonious and psychologically

realistic theory of metaphor and of irony (and other forms of metarepresentation), which are explanatory not just for everyday language but also for literature. I have argued elsewhere that many elements of literary form (most obviously genre) can be explained under a theory of pragmatics, and that in fact these 'forms' are actually meanings communicated by the text, things the text tells us about itself (3). In these ways, formalism finds a new way to return to literary studies, via contemporary pragmatics.

Both of these major discoveries offer ways in which literary studies can understand how language makes possible the richness of literary texts. Neither of these discoveries has been as influential as it deserves to be in literary studies. Perhaps linguistics feels too grounded, while in contrast literary studies is free to roam, and thus appears to liberate students in ways not possible for linguistics. I will shortly suggest that linguistics has its liberatory side as well. In the next section of this article I will look at two of the major differences between linguistics and literary studies and show how they are practically resolved in a class at Strathclyde University.

In the late 1980s my colleagues and I created a class called 'Ways of Reading' (its title a homage to John Berger's influential book Ways of Seeing). At

Strathclyde it is the only class from that period still taught, and its organizatory principles have come to influence our whole undergraduate English curriculum; it was also the basis of a Routledge textbook which has . sold 28,000 copies and is about to go into third edition (4). I think the class and book are successful in part because they temporarily overcome two of the major differences between linguistics and literary studies. The first major difference is that linguistics is concerned with generalization, and literary studies with specificity. Linguists do not care about any instance of language in itself, but only in how that instance is evidence of underlying regularities, while in contrast literary scholars value specific texts. The second major difference is that linguistics proceeds by problem-finding and problem-solving, notions which are somewhat alien to many ways of teaching literature.

The 'Ways of Reading' class is organized around topics, and thus around generalizations: a class on metaphor, a class on parallelism, for example. Each week we have one lecture and one workshop, with the students following detailed instructions on a worksheet. We begin with a class about how to ask questions about a literary text, and this sets the tone for the class. I'll give an example of an actual class

which has been used to illustrate how it works; this is a class on narrative where our goal is to teach the students about Propp's notion that narratives might be segmented into types of event (drawn as an ordered subset from an ordered set). The workshop broke into about 25 parts a summary of the film Salmonberries by Percy Adlon, and presented them in randomized order. The task was first to find the most 'realist' or conventional way of ordering the events; and then to produce an antirealist or post modern narrative from the same sequence of events. The point here is not the text itself, which is derivative from a film which the students haven't actually seen, but the way in which this text can provide material through which students can learn about our expectations about event order, and how these expectations can be manipulated. The linguistics here comes partly via the explicitly formalist thinking behind the class, but more through the idea that by inventing and manipulating verbal material we can make discoveries about underlying principles. Some classes are a long way from linguistics in their content. In one session we look at the book as a physical object and the artist's book, and in the workshop give (cheap, used) books to students and ask them to alter them to produce a new object/text from them by any means except fire. Here again the point is

experimentation, a procedure derived from the teaching of linguistics. There will be a new session in autumn 2005 on the aesthetics of 'going for a walk': the flâneur and the Arcades, the dérive and Debord's 'walk home', the Artist's Walk, skateboarding, and so on. There is no actual linguistics here, but even though linguistics is not the subject matter of the class, it is always a linguistics influenced class in the sense that it is always about generalization and the finding and solving of problems. Our choice of texts for each session is left to some extent to chance; this has to be the case, because our underlying assumption is that no textual practice is unique. Salmonberries works nicely for the 'narrative/Propp' workshop because its narrative presents some surprises as regards family relations (the bedrock of Propp's theory), but there are thousands of other narratives which would also have been good. The educational roots of the class come in part from Richard Kohl's 'open classroom' with its radical pedagogy (5), and in part from the problem solving methodology used in linguistics departments. (6) While theoretical linguistics might be committed to idealization and the discovery of universals, and hence operates in some ways by excluding, closing down, focusing, and regulating, it nevertheless has paradoxically been taught in ways which can be

liberatory for students, and can be adapted to literary studies.

In the final section of this article I will suggest some ways of putting linguistics into the literature curriculum. Sometimes at Strathclyde we do this by having an option class whose subject matter is linguistics or English language, but because our curriculum is so heavily option-based, we run the risk of having a class which few students will choose to do. Some students originally chose to do literature precisely in order to get away from the technical kind of thinking required for linguistics; others seek instead the fun they will get from reading literary texts; and others, driven by considerations of relevance, find linguistics too far from their everyday concerns. The traditional way in which linguists have nevertheless sought to satisfy literature students is to make the linguistics as relevant as possible. The traditional British 'stylistics' way of doing this, promoted for example by Simpson (7), is to seek always to show how linguistics gets you somewhere with a literary text. Thus I have taught journalism students Searle on speech acts by showing how newspaper headlines 'fake' speech acts for specific purposes; and have asked students studying creative writing to write and then comment on their own fiction exemplifying

Goffman's notion of facework. There is no question that these exercises engage the students, though I think there is an intellectual cost incurred by too intensively seeking to make theory relevant for practice. There is however another way of making linguistics relevant. New media, which students might know better than we do, can raise interesting linguistic problems; one of our students is about to write a dissertation on the syntax of text-messaging, and another who will be working on the sociolinguistics of blogging. And at Strathclyde we have discovered a characteristic interest in the linguistic analysis of non-standard dialect. Perhaps Scotland may have a special status here; strong dialect loyalty struggles with rigid proscription of dialect, such that multi-dialectalism is very widespread, and language is very visibly tied to issues of nation and social class. Thus we find that dissertations on topics relating to Scottish English are quite common, even on the basis of small amounts of class-based instruction, and that students are willing to learn substantial amounts of linguistic theory in pursuit of topics such as 'The difference between aye and yes' or 'The language of (the soap) River City'.

Though it is always possible to find some students who want to study linguistics as such, it is not resource-effective always to offer a linguistics or

English language option. Because of this, we are open to letting linguistics appear in any class. The possibility of using theoretical linguistics in this way exploits two characteristics of the discipline as originally formulated by Chomsky: it is modular, and it is rationalist rather than empiricist.

The modularity is manifested by a willingness to separate out a problem and deal with it independently of some other problem. One of my favourite tasks with students at any level is to get them to see how far they can get in asking questions and formulating hypotheses by looking just at the first and the last sentence of a text, and for the moment to ignore the rest. Chomsky's rationalism tells us that there is no pre-theoretical arrangement of the data, and that we never know in advance what a theory will be able to explain, or that any particular theoretical model is guaranteed to be right.

Instead, the theory must take a risk and work out for itself what data it is seeking to explain. Both of these characteristics make linguistics opportunistic and thus available for intervention at any point in a literature class. In one of the first lectures of our first year literature class, the issue of 'embedded' narratives arises when we discuss Margaret Elphinstone's complexly folded novel The Sea Road; this is the right

moment to explain 'recursion' as a characteristic of linguistic systems, and to point the students to Chomsky's argument about recursion and the evolution of language. Chomsky created generative linguistics in opposition to earlier linguists' adherence to a methodology or pre-theoretical assumption about what a theory should be; while we are hardly Feyerabendians, this opposition to method is another of the liberatory aspects of linguistics. Opportunistic and 'modular' uses of linguistics carry over to the use of any language in the class. Linguists are used to working on any language, whether they know it or not, and focusing just on the problem at hand. In our first year class we use New Penguin Book of Scottish Verse (8) because it is so multilingual, with its Latin, French, Old English, Icelandic, Gaelic, Scots, English and even Welsh (the Gododdin) texts. In one session we expect our students – few of whom know the language – to discover the metres of the early modern Gaelic poems.

This is an easy task even for those who cannot pronounce the words (just looking at the written vowels will do the job), but it does require the willingness to be non holistic, to separate off a problem of form from every other aspect of the poem.

I have written about ways in which linguistics can influence literary studies, but I want to end by

acknowledging that the linguistics is being undertaken as part of a literature degree. A popular research topic for our students is 'The language of Irving Welsh' (or Jim Kelman, or some other Scottish writer who represents non-standard dialect in an interesting way). I remind the students who do this work that though they are working as linguists, the novel's author is not; Trainspotting is not a work of sociolinguistics. The language of the novel has an indirect relation to the Edinburgh dialect it represents; Welsh is undertaking linguistics as fiction, rather than linguistics as a scientific enterprise, and the student's linguistic work on Welsh's language achieves complexity and richness when it can combine the opposing demands of linguistics with the literary. Linguistics is the search for simplicity, literary studies is the search for complexity, and in a literature degree the opposition between these is true friendship. In this article, I have suggested that linguistics can open up new kinds of complexity in the teaching of literature.

3.1 Characteristics of Linguists

Linguists can be found in very small numbers at institutions throughout the world. A considerable amount of research has been performed on these creatures, with the following conclusions.

- Social Habits: Linguists are known to congregate over beer and ketchup. After the consumption of enough beer (and perhaps cheap wine from jugs), they begin a ritual called the "intellectual orgy". If they are particularly bold, they will try to pass this ritual off as a homework assignment.

- Languages Studied: All linguists have studied at least ten languages and are fluent in at least seven. These often include Latin and Ancient Greek, accompanied by two Romance languages, Japanese, Russian, and four dying languages (with minimal variation from linguist to linguist). Linguists refuse to study any signed language, because everyone knows that signed languages are not real languages. When you meet linguists for the first time, you should ask them which languages they can speak. If they name less than five or give you a speech about how "Linguists aren't necessarily polyglots", you will know that they are not true linguists. You should avoid these people, or it may cost you your life.

- Careers: As you might expect, linguists never have careers. Seriously, what can you do with a degree in linguistics?

- Linguists and Homosexuality: Studies have shown that 92% of male linguists are gay.

3.2 Characteristics Of Language

According to Liliana Muliastuti Krisanjaya said that there are many definitions of the concept of language that stated the linguist. In general, this definition argues that language is a tool of communication which are arbitrary and conventional, is a symbol of sound. It is then referred to as the characteristics of language, namely that (1) language is a system, (2) tangible symbol of language, (3) language is sound, (4) language is arbitrary, (5) language is meaningful, (6) language is conventional, (7) language is unique, (8) language is universal, (9) language is productive, (10) language is varied, (11) language is dynamic, (12) language is human.

Based on Yahoo Answers, in the majority opinion, Characteristic of language are language is a system, it has different linguistic levels (phonological, related to phonemes, intonation and rhythm, lexical semantics, the which have to do with lexis, that is, the words, and their meaning (semantics); syntactical, that is, the rules of grammar, discourse, written language, conversation, that is, characteristics of spoken discourse the (turn-taking by, use of words, etc.);

31

sociolinguistic (social factors, Such as educational level, age, ethnic, sex, etc.); language is a system: it has different levels of language (phonology, associated with the phoneme, intonation and rhythm, lexical semantics, which must be done with lexis, ie, words, and meaning (semantics), syntax, the rules of procedure languages, discourses, written language, conversation, that is, oral discourse characteristics (turn-taking, the use of words, etc.); sociolinguistic (social factors such as education level, age, ethnicity, gender, etc.); Language is dynamic: it changes constantly; words and meanings may vary from one generation event to the other ('cool' and 'hot')

Dialect (regional variations in language): varieties of the same language (like English) are spoken in the same country (North vs. South England UK), there are also differences between countries (USA, UK , New Zealand, Australia, etc.) and different dialects as well (India, etc.); Sociolect (variations social language): language may vary depending on the speaker's social class.

Idiolect as (individual language characteristics) : DNA is like a language, that is, there is no two people speak exactly the same way, there are variations such as voice, pitch and rhythm of speech quality, there are

also variations such as word choice, grammar usage, etc.

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THE PIONEERS OF LINGUISTICS

4.1 Ferdinand Mongin de Saussure

He was born in Geneva in 1857. His father was Henri Louis Frédéric de Saussure, a mineralogist, entomologist and taxonomist. Saussure showed signs of considerable talent and intellectual ability as early as the age of 14. After a year of studying Latin, Greek, Sanskrit, and a variety of courses at the University of Geneva, he commenced graduate work at the University of Leipzig in 1876. Two years later at 21 Saussure published a book entitled *Mémoire sur le système primitif des voyelles dans les langues indo-européennes* (Dissertation on the Primitive Vowel System in Indo-European Languages).

After this, he studied for a year at Berlin, where he wrote a doctoral thesis on the genitive absolute in Sanskrit. He returned to Leipzig and was awarded his doctorate in 1880. Soon afterwards he relocated to Paris, where he would lecture on Gothic and Old High German, and occasionally on other subjects. He taught in Paris for 11 years before returning to Geneva in 1891. Saussure lectured on Sanskrit and Indo-European at the University of Geneva for the remainder of his life. It was not until 1907 that Saussure began teaching the Course of General Linguistics, which he would offer three times, ending in the summer of 1911. He died in 1913 in Vufflens-le-Château, VD Switzerland.

Saussure's ideas had a major impact on the development of linguistic theory in the first half of the 20th century. Two currents of thought emerged independently of each other, one in Europe, the other in America. The results of each incorporated the basic notions of Saussure an thought in forming the central tenets of structural linguistics.

Saussure posited that linguistic form is arbitrary, and therefore all languages function in a similar fashion. According to Saussure, a language is arbitrary because it is systematic in that the whole is greater than the sum of its parts. Also, all languages

have their own concepts and sound images (or signified and signifiers). Therefore, Saussure argues that languages have a relational conception of their elements: words and their meanings are defined by comparing and contrasting their meanings to one another. For instance, the sound images for and the conception of a book differ from the sound images for and the conception of a table. Languages are also arbitrary because of the nature of their linguistic elements; they are defined in terms of their function rather than in terms of their inherent qualities. Finally, language has a social nature in that it provides a larger context for analysis, determination, and realization of its structure.

4.2 Leonard Bloomfield

Leonard Bloomfield was born in Chicago, Illinois on April 1, (1887-1949). The son of Juden Sigmund and Carola Buber Bloomfield. His father Sigmund Bloomfield emigrated to the United States as a child in 1868; the original family name *Blumenfeld* was changed to Bloomfield after their arrival in the United States. In 1896 his family moved to Elkhart Lake, Wisconsin, where he attended elementary school, but returned to Chicago for secondary school. His uncle Maurice Bloomfield was a prominent linguist at Johns

Hopkins University, and his aunt Fannie Bloomfield Zeisler was a well-known concert pianist.

He entered Harvard in 1903, finishing his degree in 3 years. At 19, with his Harvard A.B. in hand, he began graduate work in German studies at the University of Wisconsin in Madison, where he served as a teaching assistant. Here he met the linguist Eduard Prokosch, then a young instructor, and almost immediately determined to become a linguist. After two years of work at Wisconsin, he went to the University of Chicago to continue his studies in comparative-historical linguistics and Germanics. He also studied Sanskrit; his uncle was Maurice Bloomfield, a well-known professor of Sanskrit and comparative linguistics, from whom he possibly derived some of his interest.

After obtaining his Ph.D. in 1909 at the age of 22, Bloomfield taught German at the University of Cincinnati and then the University of Illinois. In 1913 he was appointed Assistant Professor of Comparative Philology and German at the University of Illinois, and taught there until 1921. At that point he accepted a professorship at Ohio State, where he taught until 1927. In the summer of 1925, he became an Assistant Ethnologist in the Canadian Department of Mines in Ottawa, a position that allowed him to carry out

fieldwork on native American languages. In 1927 he took a prestigious position as Professor of Germanic Philology at the University of Chicago. In summers 1938-40 he taught budding linguists at the Linguistic Society of America Linguistic Institute at the University of Michigan in Ann Arbor. In 1940 he accepted an endowed Sterling Professorship of Linguistics at Yale University, where he remained until his death in 1949.

In 1914, while a young instructor in Urbana-Champaign, Bloomfield published An Introduction to the Study of Language, a scholarly yet popular book that went through many reprints. This book laid out his basic ideas about the nature of language, following on basic Boasian lines, which were becoming characteristic of Linguistics in the U.S.: a focus on spoken language as primary, written language as secondary; observation of language as a present-day reality to speakers, rather than from an external, historical point of view; and an interest in the variety of linguistic systems in the world and in drawing generalizations about human language in the process of observing them. In addition he included two chapters on language change, illustrated with examples from many languages. The book ended with a chapter on the relation of Linguistics to other sciences, a topic that would increasingly concern him.

His next major publication was Tagalog Texts with Grammatical Analysis in 1917, which showed how much he was extending his interests beyond the traditional Indo-European orbit. In 1922 he reviewed Sapir's book Language approvingly, finding it to be in accord with the theoretical principles of Ferdinand de Saussure, whose posthumous book he referred to in the review (and finally reviewed himself a few years later). It is clear that Bloomfield saw a new kind of Linguistics emerging, distinct from the comparative-historical tradition in which he was trained; a Linguistics which had a strong empirical focus, particularly on hitherto undescribed languages. We think of this field now as the field of modern descriptive Linguistics, which would come into its heyday under Bloomfield and his disciples.

Bloomfield worked to develop the new field in various ways. He was instrumental in the founding of the Linguistic Society of America, writing the "Call for the Organization Meeting" for the organizing committee which called the LSA into being, which was published in revised form as "Why a Linguistic Society?" in the first issue of the LSA's new journal, Language (Bloomfield 1925). Second, he began systematizing axioms or postulates for Linguistics as a science, publishing "A Set of Postulates for the Science

of Language" (in Language 2, 153-164, 1926). In this work he sought to place Linguistics on a scientific footing as firm as those of the natural sciences.

In his years at Ohio State in particular, Bloomfield came more and more under the influence of logical positivism and of its allied psychological movement, behaviorism, both directly in the main current of 20th century materialism. In the process, he cast off the earlier influence of the 19th century pioneer of psychology Wilhelm Wundt which was prominent in his 1914 book, because of its incompatibility with the new paradigm. In the early 1930s he decided to completely revamp his book and to incorporate behaviorist ideas centrally into it, particularly in the chapters on language use and meaning. The result, appearing in 1933 under the simplified title Language, became a classic in its own right and was used for a generation as a textbook in Linguistics.

Bloomfield was deeply concerned with the advancement of Linguistics as a science. He further developed in his fieldwork the methodologies of linguistic data collection and analysis pioneered by Boas. He used each of the language families he studied as a source of material for the development of linguistic theory, taking it in a rather different

direction from Sapir, who assumed the possibility of analyzing semantics and conceptual structure generally. It was Bloomfield who took the new generation of linguists with him, becoming in effect the leader of the field.

In the course of his career, Bloomfield made important empirical contributions to three major subfields of Linguistics: Indo-European comparative-historical linguistics (including work on Sanskrit as well as Germanic); the study of the Malayo-Polynesian languages, principally Tagalog; and descriptive and comparative Algonquian linguistics. His monumental body of work on Algonquian languages forms the largest portion of the descriptive work that he produced, and is considered the starting point for any modern work on the Algonquian language family.

But Bloomfield's most significant influence in the field came from his ideas on the theory of Linguistics, which were carried on in basic respects by a new generation of American structuralists in the 1950s.

4.3 Roman Osipovich Jacobson

Roman Jacobson (October 11,1896– July 18,1982) was a Russian linguist and literary theorist. As a pioneer of the structural analysis of language,

which became the dominant trend of twentieth-century linguistics, Jacobson was among the most influential linguists of the century. Influenced by the work of Ferdinand de Saussure, Jacobson developed, with Nikolai Trubetzkoy, techniques for the analysis of sound systems in languages, inaugurating the discipline of phonology. He went on to apply the same techniques of analysis to syntax and morphology, and controversially proposed that they be extended to semantics (the study of meaning in language).

Jacobson, on the other hand, had come into contact with the work of Ferdinand de Saussure, and developed an approach focused on the way in which language's structure served its basic function (synchronic approach) – to communicate information between speakers. Jakobson was also well known for his critique of the emergence of sound in film.

In 1920 was a year of political upheaval in Russia, and Jacobson relocated to Prague as a member of the Soviet diplomatic mission to continue his doctoral studies. He immersed himself both into the academic and cultural life of pre-war Czechoslovakia and established close relationships with a number of Czech poets and literary figures. He also made an impression on Czech academics with his studies of

Czech verse. In 1926, together with Vilém Mathesius and others he became one of the founders of the "Prague school" of linguistic theory (other members included Nikolai Trubetzkoi, René Wellek, Jan Mukařovský). There his numerous works on phonetics helped continue to develop his concerns with the structure and function of language.

Jacobson's universalizing structural-functional theory of phonology, based on a markedness hierarchy of distinctive features, was the first successful solution of a plane of linguistic analysis according to the Saussure an hypotheses. This theory achieved its most canonical exposition in a book co-authored with Morris Halle. This mode of analysis has been since applied to the plane of Saussure an sense by his protégé Michael Silverstein in a series of foundational articles in functionalist linguistic typology.

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LINGUISTICS THEORIES

The science, that is, the general and universal properties, of language. The middle of the twentieth century saw a shift in the principal direction of linguistic inquiry from one of data collection and classification to the formulation of a theory of generative grammar, which focuses on the biological basis for the acquisition and use of human language and the universal principles that constrain the class of all languages. Generative grammar distinguishes between the knowledge of language (linguistic competence), which is represented by mental grammar, and the production and comprehension of speech (linguistic performance).

If grammar is defined as the mental representation of linguistic knowledge, then a general

theory of language is a theory of grammar. A grammar includes everything one knows about a language; its phonetics and phonology (the sounds and the sound system), its morphology (the structure of words), its lexicon (the words or vocabulary), its syntax (the structure of sentences and the constraints on well-formed sentences), and its semantics (the meaning of words and sentences).

Linguistics is not limited to grammatical theory. Descriptive linguistics analyzes the grammars of individual languages; anthropological linguistics, or ethnolinguistics, and sociolinguistics focus on languages in relation to culture, social class, race, and gender; dialectologists investigate how these factors fragment one language into many. In addition, sociolinguists and applied linguists examine language planning, literacy, bilingualism, and second-language acquisition. Computational linguistics encompasses automatic parsing, machine processing, and computer simulation of grammatical models for the generation and parsing of sentences. If viewed as a branch of artificial intelligence, computational linguistics has as its goal the modelling of human language as a cognitive system.

A branch of linguistics concerned with the biological basis of language development is

neurolinguistics. The form of language representation in the mind, that is, linguistic competence and the structure and components of the mental grammar, is the concern of theoretical linguistics. The branch of linguistics concerned with linguistic performance, which is, the production and comprehension of speech (or of sign language by the deaf), is called psycholinguistics. Psycholinguists also investigate how children acquire the complex grammar that underlies language use.

L. Hjelmslev in *The Aim of Linguistic Theory* have two factors in 2 forms theories. They are: **(1) arbitariness** and **(2) appropriateness.**

1. *"A theory, in our sense, is in itself independent of any experience. In itself, it says nothing at all abut the possibility of its application and relation to empirical data. It includes existence postulate, it constitutes what has been called a purely deductive system, in the sense that it may be used alone to compute the possibilities that follow from its premisses".*

2. *"A theory introduces certain premises concerning which the theoretician knows from preceding experience that they fulfil the conditions for application to certain empirical data. The premises are of the greatest possible generality and may*

therefore be able to satisfy the conditions for application to a large number of empirical data".

5.1 Kinds of Linguistic Theory
5.1.1 Traditional Theory

In linguistics, **traditional grammar** is a theory of the structure of language based on ideas Western societies inherited from ancient Greek and Roman sources. The term is mainly used to distinguish these ideas from those of contemporary linguistics. In the English-speaking world at least, traditional grammar is still widely taught in elementary schools. The main character of Traditional Theory are:

a) Philosophy thinking, because philosophy is mother of science.
b) There are no different between reading and writing.
c) People in old era learn with definition first.
d) People in old era learn with the formula.
e) They always make procedures because they like definition and step by step.
f) Grammatical level isn't good for them.
g) Part of speech dominates.

Traditional grammar is not a unified theory that attempts to explain the structure of all languages with a unique set of concepts (as is the aim of linguistics). It is fragmented into different traditions for different languages, each of them with its own traditional vocabulary and analysis. Each of them represents an adaptation of Latin grammar to a particular European language. Broadly conceived, linguistics is the scientific study of human language, and a linguist is someone who engages in this study.

For example, what English traditional grammar calls a direct object , in Spanish traditional grammar is called *complemento directo* ; English traditional grammar doesn't call the notion "direct complement," nor does Spanish call it "objeto directo." The accusative case of a noun is, generally, the case used to mark the direct object of a verb.

Traditional grammar distinguishes between the grammar of the elements that constitute a sentence (ie inter-elemental) and the grammar within sentence elements (ie intra-elemental).

Concepts of inter-elemental grammar for the English language :

1. subject
2. predicate
3. object
4. predicative
5. adverbial and adjunct adverbial
6. sentence
7. clause
8. phrase

Concepts of intra-elemental grammar for the English language :

1. noun
2. adjective
3. determiner
4. verb
5. adverb
6. preposition
7. conjunction
8. pronoun

5.1.2 Structural Theory

Structural linguistics is an approach to linguistics originating from the work of Swiss linguist Ferdinand de Saussure . De Saussure's *Course in General Linguistics*, published posthumously in 1916,

stressed examining language as a static system of interconnected units. He is thus known as the father of modern linguistics for bringing about the shift from diachronic to synchronic analysis. The main character of Structural Theory are:

a) Based on behaviorism.
b) Language as utterance.
c) Language as a signifier or signifiant.
d) Language is a habit factor.
e) Grammatical standard based on general.
f) Grammatical level is good.
g) Focus on morphology.
h) Language analysis descriptively.

After Saussure, the history of structural linguistics branches off in two directions. First, in America, linguist Leonard Bloomfield's reading of Saussure's course proved influential, bringing about the Bloomfieldean phase in American linguistics that lasted from the mid 1930s to the mid 1950s. Bloomfield bracketed all questions of semantics and meaning as largely unanswerable, and encouraged a mechanistic approach to linguistics. The paradigm of Bloomfieldean linguistics in American linguistics was replaced by the paradigm of generative grammar with

the publication of Noam Chomsky's *Syntactic Structures* in 1957.

Second, in Europe, Saussure influenced the Prague School of Roman Jakobson and Nikolai Trubetzkoy , whose work would prove hugely influential, particularly concerning phonology , and the School of Louis Hjelmslev Structural linguistics also had an influence on other disciplines in Europe, including anthropology, psychoanalysis and Marxism , bringing about the movement known as structuralism.

The foundation of structural linguistics is the idea that the identity of a sign is determined by its existence in a state of contrast with other signs that is either syntagmatic or paradigmatic.

Syntagmatic and paradigmatic relations provide the structural linguist with a simple method of categorization for phonology, morphology and syntax. Take morphology, for example. The signs *cat* and *cats* are associated in the mind, producing an abstract paradigm of the word forms of *cat.* Comparing this with other paradigms of word forms, we can note that in the English language the plural often consists of little more than adding a *S* to the end of the word. Likewise, through paradigmatic and syntagmatic

analysis, we can discover the syntax of sentences. For instance, contrasting the syntagma *je dois* ("I should") and *dois je?* ("Should I?") allows us to realize that in French we only have to invert the units to turn a sentence into a question.

5.1.3 Tagmemic Theory

One linguist in particular, Kenneth L. Pike, developed a detailed theory of tagmemic analysis and came to believe that all of human behavior could be analyzed according to the principles of his grammatical analysis (Pike, Kenneth L. 1967. *Language in Relation to a Unified Theory of the Structure of Human Behavior*, The Hague: Mouton). Pike's analyses identified linear or syntactical sequences (the "syntagmatics" or horizontal dimension) and categories of events (the "paradigmatics" vertical dimension). The analysis of ordered communication (which includes just about everything people do) would involve identifying two dimensions of a grid: the syntagmatic sequence of *slots* or types of events in the sequence and how they might be positioned in relation to one another; and the paradigmatic (as in paradigms) array of *classes* (or objects, subjects, actions or other entities) that could occur in any given syntagmatic slot. This was sometimes known as "slot-class" analysis.

The basic principle is: identify the relevant categories for sequences of events and the orders in which these may occur; and identify the categories of events that can occupy any given place within the identified sequence. this idea should make sense to people who have learned programming languages, since it is a large part of one's task at the outset.

Pike's work is not unrelated to the semiotics of C.S. Pierce, among whose contributions was his discussion of semiotic units known as *indexes* (or *indices*), involving the observation that units of meaning, including *semantic* forms are actually understood only because they are embedded in particular contextual sequences. in order to understand the meaning of words, one must also grasp the (unspoken) contextual objects or events to which they point (or which they "index" or indicate). this is among the difficult tasks for beginning programmers — to understand how to put syntax and objects together so that they make sense (function). it is also among the most difficult tasks of learning a new natural language.

Pike was also among the linguists whose distinction between *etic* (roughly universal analytical categories) and *emic* (roughly indigenous categories)

analyses became widely popular in the methods of social anthropology for a time. Like most dichotomies, its distinctions began to be questioned and its excesses became an object of parody. However, the *etic* versus *emic* distinction did make its lasting contribution to the insights of ethnography and linguistics.

In this tagmemic we need to know the difference between etic and emic. Emic is a formal unit within a closed system was Etic is a Manifestation of materials that can be identified by any characteristic that strikes the era. Meanwhile, Watercook argues that "The nonessential unit is called an essential etic unit and the unit is called emic units and it is the unit of language from the point of view of a native speaker of the language". In the Indonesian system called tagma and functional groups tagma called tagmeme. In tagmemic theory, is the smallest unit of meaning tagmeme arrangement or arrangement. Each tagmeme can fill the slot in a construction.

Tagmeme is the correlation of a grammatical function or slot with the class of mutually substitutable items that fill the slot. While the slot is a position in a construction frame which can be named S. V. O. and K.

For example in a sentence:

I   played   the football
S   V   O

From the above sentence can be seen that S (I) is filled by a noun or N, V (play) filled by a verb or V and O (football) filled by a noun as well or N, so that patterns can be formed:

$$S: N + P: V + O: N$$

Thus, S can be filled with N, P to V and O with N, N and P can we replace the record must serve the sentence. Thus, the sentence I was playing a football can be replaced with N tagmeme me another example of you, they are, you are he and so on, but can not be replaced by a cow, tables, cats and so on. This happens if we replace N tagmeme me with other like tables. Table playing a football. The word table is not functioning in the sentence, is not possible according to the grammatical meaning.

The explanation above is the theory of sentence-level tagmemic, phrasal level, word level and morpheme levels.

5.1.4 Firthian Theory

Firthian linguistics, or the London School, was founded in England, a country in which certain aspects of linguistics have an unusually long history, by John Rupert Firth (1890-1960), the first general linguistics anthropologist and father of the London School.

Firth, a Yorkshireman, read history as an undergraduate. He was professor of English at the University of the Punjab from 1919 to 1928, and returned in the latter year to a post in the phonetics department of University College, London. In 1938 Firth moved to the linguistic department of the School of Oriental and African Studies, where in 1944 he became the first professor of General Linguistics in Great Britain. Until very recently, the majority of university teachers of linguistics in Britain were people who had trained under Firth's aegis and whose work reflected his ideas. There are many other British linguists in this school, such as F. Palmer, John Lyons, RH Robins and MAK Halliday.

Firth's theories are:

1) Analysis of language: structure / system;

2) He argues not only social process but also individual human beings are involved in the development of language. He emphasis the personal side of human

being. He did not agree Saussuran dictum, langue and parole, language is a set of commensions, and mode of action.

3) Speech is the essence of language.

4) Language is developed as a result of inter-nature and nurture.

5.1.5 Neo - Firthian Theory

It was developed at the University of London by Michael Halliday, as a continuation of the work of his predecessors there, in particular that of JR Firth. This approach is therefore sometimes called **"Neo-Firthian linguistics"**, or the `London school of linguistics'.

The four crucial concepts in systemics are structure, unit, class, and system.

Structure: a linear or horizontal relation as implied in statements about the structure of an NP, sentence, syllable, etc.

Units : used in systemic grammar are sentence, clause, phrase, word, and morpheme. The units of phonology are tone group, foot, syllable and phoneme. There is a hierarchical relation or rank existing amongst different units. The sentence, for example, belongs to the highest rank, the clause right below it, the phrase next to it and so on.

The term 'class' : refers to a group of items corresponding roughly to parts of speech. In order to explicate class it may be useful to use Halliday's notion of choice. At every point in a structure, a speaker is faced with a number of choices. Thus, once a speaker has said:

I saw a ... ...

He is free to say table, cat, man, tree, etc. He has a fairly open set of words to choose from, and this open set constitutes a class. Table, cat, man, tree, etc., belong to the class of nouns.

The kind of choice that a class offers has a wide range. As opposed to this, the choice offered by a system has a restricted range. The system of tense in English, for example, offers a choice between two items only: present and past. The system of number in English offers only two choices (singular and plural) and the system of gender three (masculine, feminine, neuter). Systemic analysis is popular with British socio-linguists.

5.1.6 Taxonomy Theory

Taxonomy is the practice and science of classification. The word finds its roots in the Greek τάξις , *taxis* (meaning 'order', 'arrangement') and νόμος ,

nomos ('law' or 'science'). Taxonomy uses taxonomic units, known as **taxa** (singular taxon).

In addition, the word is also used as a count noun : **a taxonomy**, or taxonomic scheme, is a particular classification ("the taxonomy of ..."), arranged in a hierarchical structure. Typically this is organized by subtype-subtype relationships, also called generalization-specialization relationships, or less formally, parent-child relationships. In such an inheritance relationship, the subtype by definition has the same properties, behaviors, and constraints as the supertype plus one or more additional properties, behaviors, or constraints. For example, car is a subtype of vehicle . So any car is also a vehicle, but not every vehicle is a car. Therefore, a type needs to satisfy more constraints to be a car than to be a vehicle.

Originally *taxonomy* referred only to the classifying of organisms (now sometimes known as alpha taxonomy) or a particular classification of organisms. However, it has become fashionable in certain circles to apply the term in a wider, more general sense, where it may refer to a classification of **things** or **concepts**, as well as to the *principles* underlying such a classification.

Almost anything—animate objects, inanimate objects, places, concepts, events, properties, and relationships—may then be classified according to some taxonomic scheme. In an even wider sense, the term taxonomy could also be applied to relationship schemes other than parent-child hierarchies, such as network structures with other types of relationships.

Taxonomies may then include single children with multi-parents, for example, "Car" might appear with both parents "Vehicle" and "Steel Mechanisms"; to some however, this merely means that 'car' is a part of several different taxonomies. A taxonomy might also be a simple organization of kinds of things into groups, or even an alphabetical list. However, the term vocabulary is more appropriate for such a list In current usage within Knowledge Management, taxonomies are considered narrower than ontologies since ontologies apply a larger variety of relation types.

5.2 Study of the nature and structure of language.

It traditionally encompasses semantics, syntax, and phonology. Synchronic linguistic studies aim to describe a language as it exists at a given time; diachronic studies trace a language's historical development. Greek philosophers in the 5th century BC

who debated the origins of human language were the first in the West to be concerned with linguistic theory. The first complete Greek grammar, written by Dionysus Thrax in the 1st century BC, was a model for Roman grammarians, whose work led to the medieval and Renaissance vernacular grammars.

With the rise of historical linguistics in the 19th century, linguistics became a science. In the late 19th and early 20th centuries Ferdinand de Saussure established the structuralist school of linguistics (see structuralism), which analyzed actual speech to learn about the underlying structure of language. In the 1950s Noam Chomsky challenged the structuralist program, arguing that linguistics should study native speakers' unconscious knowledge of their language (competence), not the language they actually produce (performance). His general approach, known as transformational generative grammar, was extensively revised in subsequent decades as the extended standard theory, the principles and parameters (government-binding) approach, and the minimalist program.

Other grammatical theories developed from the 1960s were generalized phrase structure grammar, lexical-functional grammar, relational grammar, and cognitive grammar. Chomsky's emphasis on linguistic

competence greatly stimulated the development of the related disciplines of psycholinguistics and neurolinguistics. Other related fields are anthropological linguistics, computational linguistics, mathematical linguistics, sociolinguistics, and the philosophy of language.

5.3 What is basic linguistic theory?

The expression "basic linguistic theory" (following R.M.W. Dixon) refers to the theoretical framework that is most widely employed in language description, particularly grammatical descriptions of entire languages. It is also the framework assumed by most work in linguistic typology. The status of basic linguistic theory as a theoretical framework is not often recognized. People using basic linguistic theory often characterize their work as a theoretical or theory-neutral or theoretically eclectic.

However, there is really no such thing as a theoretical or theory-neutral description, since one cannot describe anything without making some theoretical assumptions. The extent to which most descriptive work shares the same theoretical assumptions is actually rather striking, especially when one considers how much such work has in common in its assumptions compared to other theoretical

frameworks. It is probably the most widely used and best known theoretical framework in the field, especially outside the United States. It is particularly popular among linguists who are more interested in languages than in language. Many linguists who are adherents of other theoretical frameworks assume it as a point of departure, as a framework they wish to improve on.

Unlike many theoretical frameworks in linguistics, which are often ephemeral and pass quickly into obsolescence, basic linguistic theory is a cumulative framework that has slowly developed over the past century as linguists have learned how to describe languages better. It is grounded in traditional grammar and can be seen as having evolved out of traditional grammar.

It has also been heavily influenced by pre-generative structuralist traditions, particularly in emphasizing the need to describe each language in its own terms, rather than imposing on individual languages concepts whose primary motivation comes from other languages, in contrast to traditional grammar and many recent theoretical frameworks. It has taken analytic techniques from structuralist traditions, particularly in the areas of phonology and morphology. But it also contrasts with work that is

more purely structuralist in attempting to describe languages in a more user-friendly fashion, in including semantic considerations in its analyses, and in employing terminology that has been used for similar phenomena in other languages.

Basic linguistic theory has also been influenced to a certain extent by generative grammar, though the influence has primarily been from early generative grammar (before 1970) and is often indirect. The influence largely reflects the fact that early generative grammar examined many aspects of the syntax of English in great detail, and the insights of that research have influenced how basic linguistic theory looks at the syntax of other languages, especially in terms of how one can argue for particular analyses. The influence of generative grammar can be seen in the way that certain constructions in other languages are identified and characterized in ways reminiscent of constructions in English, from cleft constructions to "topicalizations" to reflexive constructions. More recent work in generative grammar, especially Government-Binding Theory, has had essentially no impact on basic linguistic theory.

In the past 30 years, the primary influence on basic linguistic theory has come from work in linguistic typology. This influence has come primarily from the recognition of recurrent sorts of phenomena cross

linguistically and basic linguistic theory has incorporated many substantive concepts discussed in the typological literature. This includes such notions as split intransitivity, anti passive constructions, internally-headed relative clauses, switch reference, and head-marking. Work in typology has also influenced the way linguists describing languages think about such things as ergativity and relative clauses.

Basic linguistic theory differs from many other theoretical frameworks in that it is not a formal theory but an informal theory. That is, many grammatical phenomena can generally be characterized with sufficient precision in English (or some other natural language), without the use of formalism.

The above discussion focuses on X the morphosyntactic side of basic linguistic theory (or what one might call "basic syntactic theory"), but one can also trace the historical influences on phonology in basic linguistic theory. The concept of the phoneme is probably the most central phonological concept in basic linguistic theory: identifying the phonemes in a language remains the most fundamental task in describing the phonology of a language. But generative phonology has also influenced basic linguistic theory: language descriptions often find the generative notion of phonological rule useful, and the descriptive tools of

more recent phonological theories, especially auto segmental phonology, have proven useful for descriptive linguists.

5.4 Linguistic Theory as Discourse

'Surveys' of 'linguistic theory' have become so numerous that a new one calls for some justification. It seems to me that even though linguistics is about language, the major works in linguistic theory have seldom been analysed and synthesized as language, specifically: as a mode of discourse seeking to circumscribe language by means of language.

Perhaps this lack is due in part to the limitations imposed by theorists who did not address discourse as a linguistic phenomenon, or only marginally so. Perhaps too, it was tacitly assumed that theories do not critically depend on the language in which they happen to be expounded. Today, however, discourse has become a major area of concern; and the dependence of concepts and arguments on the discourse that constitutes them is widely acknowledged.

Therefore, to examine linguistic theories as discourse constructions is by no means to discount their conceptual importance, but to insist on attending very carefully to the emergence of those conceptions

within the original discourse before proceeding on to the more usual stages of abstraction and paraphrase. This insistence can be particularly instrumental in tracing the development of terminology, and the continuity, evolution, or change in the major lines of argument not merely between theorists, but within the work of an individual theorist.

On the whole, the history of the 'science of language' has not been unmanageably diffuse. Major theoretical works and frameworks have not been overly numerous. And on the whole, the discipline has been fairly parsimonious in its theorizing, indeed resolutely so in the face of the complexity of language. Yet we can certainly not claim that the problems addressed by our predecessors have by now vanished or been completely resolved. Instead, we frequently sense a need to return to those problems and re-examine the principles set forth decades ago to approach them.

In that situation, surveys of linguistic theory should be cautious about imposing an artificial, retrospective sense of order and direction on the discipline by distilling out a few main 'ideas', 'schools', 'trends', or 'paradigms'. That method can abbreviate or conceal the complexity and diversity of scientific interaction and discourse. A counterbalance could be attained by surveying linguistics as a 'model science'

perpetually in the process of situating itself in respect to language.

Such a survey is a problematic and arduous project, but I hold it to be urgent for several reasons. First, many of the issues in linguistics that preoccupy linguistic theorists today were recognized and deliberated by our predecessors. We cannot get a full sense of our domain by reducing the works of the founders to a handful of precepts and slogans, without due regard for the overall argument and context, including important qualifications and reservations. That strategy tends to covert complicated, energizing research programmes too eagerly into inhibiting new orthodoxies. And in hindsight, we may get the utterly mistaken impression that linguistics did not properly appreciate the depth and difficulty of the issues.

Second, linguistic theory is essentially a domain of work in progress, a discipline always in search of itself. Leading theorists often voiced their dissatisfaction with the state of linguistics as they saw it. But if we construe their discontent as a pretext for writing off the past, we incur the risk of repeating the same shortcomings they perceived and strove to alleviate.

Third, certain signs indicate that linguistic theory has for some years been moving into a phase of

stagnation and diminishing returns. Despite decades of effort, the relations between theory and practice, between model and domain, or between method and evidence, have not been definitively established, and seem to be shifted once again by every new school or trend. In consequence, the history of the discipline may appear discontinuous and non-cumulative, with research projects typically clustered around sporadic bursts of theorizing. The status of theoretical entities, even such central ones as 'word' and 'sentence', remains in dispute. No consensus obtains about the future trends and modifications that linguistics should undergo. In such a state of affairs, we cannot merely wait to see what develops in day-to-day research and discussion.

We need to draw up the theoretical balance sheets of past investigations. Surveying the major issues and problems of the discipline through their treatment in the discourse foundational works can be an inaugural step in planning for future research on a truly comprehensive and organized scale.

All linguists share at least one special predicament: they can get evidence only from their own encounters with language, with and within some mode of discourse. The system never steps forward to be 'observed' in some concrete selfhood; and data are

69

not data until they have been understood as language. In consequence, linguists deal with data in whose constitution and interpretation they are always to some degree involved, at least behind the scenes. Since language is so extraordinarily sensitive to how it is used, it may assume different appearances depending on how it is grasped. We therefore need to expand our scope from 'looking at language' to 'looking at linguists looking at language' and in particular talking or writing about it. We cannot eliminate the linguist's perspective, but we can scrutinize it by asking how human beings, whether linguists or ordinary speakers, abstract systematic knowledge from language experience and at the same time apply systematic knowledge in order to relate experience to language.

That you must 'know language' to 'understand language' and vice versa is a truism, but by no means an insignificant one. We seem to confront a peculiarly vicious circularity enshrouding the question of how we might approach language from the 'outside': how children or linguists or anybody else can reach the 'critical mass', the stage of 'knowing' the system behind or beyond the individual uses of language. Much of that knowledge is concealed from conscious awareness during everyday discourse, and the prospects for making it conscious and explicit are by

nature precarious. To observe yourself observing language, to watch or hear yourself thinking, to grasp your own understanding -- all these acts are easily beset by paradox or infinite regress. We can, however, subject the discourse of those engaged in such acts to steadily more circumspect and integrative scrutiny, thereby adding fresh emphasis to our perennial insistence on the centrality of language.

Accordingly proceeds by arranging and presenting the discourse, the statements and arguments, of representative theorists in linguistics of this century, sticking as close as is feasible to their actual wordings, especially where major points are expressed. By this expedient, I hoped to restrict my own role in increasing or complicating the mediation between linguistics and language, as I would have had to do had I paraphrased and summarized the sources in my own words. Though admittedly laborious, this method may help to reanimate the complex flow of the discourse in the gradually emerging discipline, to focus on characteristic moves, and to retrace the key terms as they gain or lose currency. Proceeding by author rather than by 'school' may help to accentuate individual views, voices, and personalities, and thus to re-experience some of the momentum and perplexity

of repeated confrontations with the recalcitrant problems that the study of language necessarily raises.

It was rather agonizing to decide which 'fundamental works' should be used, given the unmanageably large number worthy of inquiry. My selection was guided by two major criteria. First, these works were influential in the general development of theories or models, as attested for instance by frequent citation. Second, these works propound such a wide range of positions and issues that we can profit by bringing them into explicit interaction with each other.

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MICRO LINGUISTICS
AND MACRO LINGUISTICS

In many general dictionaries, linguistics is defined as 'the science of language' or 'scientific study of language' (Matthews 1997). In The New Oxford Dictionary of Indonesia (2003), linguistics is defined as follows: "The scientific study of language and its structure, including the study of grammar, syntax, and phonetics. Specific branches of linguistics include sociolinguistics, dialectology, psycholinguistics, computational linguistics, comparative linguistics, and structural linguistics".

6.1 MICRO LINGUISTICS

Micro linguistics is a branch of linguistics that · concerns itself with the study of language systems in

73

the abstract, without regard to the meaning or notional content of linguistic expressions. In micro-linguistics, language is reduced to the abstract mental elements of syntax and phonology. It contrasts with macro-linguistics, which includes meanings, and especially with sociolinguistics, which studies how language and meaning function within human social systems. The term *micro-linguistics* was first used in print by George L. Trager, in an article published in 1949 in *Studies in Linguistics: Occasional.*

Phonetics	the study of speech sounds	how the brain extracts speech sounds from an acoustic signal, how the brain separates speech sounds from background noise
Phonology	the study of how sounds are organized in a language	how the phonological system of a particular language is represented in the brain

| Morphology and lexicology | the study of how words are structured and stored in the mental lexicon | how the brain accesses words that a person knows |
| Syntax | the study of how multiple-word utterances are constructed | how the brain combines words into constituents and sentences; how structural and semantic information is used in understanding sentences |

6.2 MACRO LINGUISTICS

Based on http://dictionary.infoplease.com/, macrolinguistics is a field of study concerned with language in its broadest sense and including cultural and behavioral features associated with language.

Macrolinguistics is the study of external of linguistics, it's mean that linguistic combine with the other subjects become a new one subjects. Such as

sociology + linguistics become sociolinguistics, linguistics covers sociolinguistics, discourse analysis and other related disciplines. In sociolinguistics, the micro-level is often equated with variation and face-to-face communication, whereas macro sociolinguistics involves language planning and sociology of language.

Since many disciplines other than linguistics are concerns with language, it is not surprising that several interdisciplinary areas should have been identified within macrolinguistics and given a distinctive name such as sociolinguistics, psycholinguistics, ethno linguistics, stylistics etc.

According to Lyons (1992:36), one point that must be emphasized is that the distinction between microlinguistics and macrolinguistics is independent of the distinction between theoretical and applied linguistics. There is, in principle, a theoretical aspect to every branch of macrolinguistics. It so happens that in such areas of applied linguistics as language teaching it is essential to take the broader, rather than the narrower, view of the structure and functions of languages. This is why some authors have incorporated what is here called macrolinguistics within applied linguistics.

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PHONOLOGY

Linguistics is a large field, or set of fields, involving the scientific study of language. At the interface between the sciences and humanities, linguistics is a battleground for anthropologists, philosophers, philologists, poets, theologians, psychologists, biologists, and neurologists, all of whom seek to describe language and how it works from their own perspective. The ever-receding and highly ambitious goal is a theory of how all aspects of language work.

Linguistics has many sub-fields. This includes comparative linguistics (which compares languages to each other), historical linguistics (history of language),

and applied linguistics (putting linguistic theories to practical use). As a whole, linguistics concerns itself with three major problems: how we learn languages, how languages vary, and what is universal to language. Serious progress has been made on these questions during the 20th century, but there is still much more to investigate. Language is probably the most complex form of human behavior.

Many of the sub-fields of linguistics are arranged on a spectrum from concrete form to abstract meaning. Ranging from concrete to abstract, these include phonetics (the physical properties of speaking and listening), phonology (the study of specific sounds that make up words), morphology (the study of word structures and variations), syntax (how words are arranged into sentences), semantics (the meaning of words), pragmatics (how sentences are used to communicate messages in specific contexts), and discourse analysis (the highest level of analysis, looking at texts). Many students gain some exposure to these concepts as early as elementary school, but delving deeply into them tends to be a job for language majors or linguistic.

7.1 Phonology

Phonology is the study of how sounds are organized and used in natural languages. Phonology is just one of several aspects of language. It is related to other aspects such as phonetics, morphology, syntax, and pragmatics. Here is an illustration that shows the place of phonology in an interacting hierarchy of levels in linguistics:

Pragmatics

Semantics

Syntax

Morphology

Phonology

Phonetics
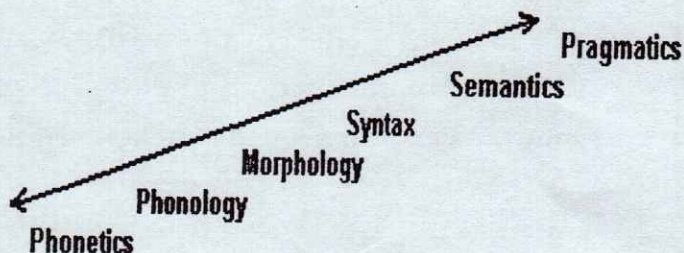
At one extreme, phonology is concerned with *anatomy* and *physiology* - the *organs of speech* and how we learn to use them. At another extreme, phonology shades into *socio-linguistics* as we consider social attitudes to features of sound such as *accent* and *intonation.* And part of the subject is concerned with finding objective standard ways of recording speech, and representing this symbolically.

Different models of phonology contribute to our knowledge of phonological representations and processes:

- In **classical phonemics,** phonemes and their possible combinations are central.
- In **standard** generative phonology, distinctive features are central. A stream of speech is portrayed as linear sequence of discrete sound-segments. Each segment is composed of simultaneously occurring features.
- In **non-linear models of phonology,** a stream of speech is represented as multidimensional, not simply as a linear sequence of sound segments.

7.2 Phonemes

A phoneme is the smallest contrastive unit in the sound system of a language. Here is a chart that compares phones and phonemes:

A phone is ...	A phoneme is ...
One of many possible sounds in the languages of the world.	A contrastive unit in the sound system of a particular language.
The smallest identifiable unit found in a stream of	A minimal unit that serves to distinguish

speech.	between meanings of words.
Pronounced in a defined way.	Pronounced in one or more ways, depending on the number of allophones.
Represented between brackets by convention.	Represented between slashes by convention.
Example: [b], [j], [o]	**Example:** /b/, /j/, /o/

7.3 Generative Phonology

Generative phonology is a component of generative grammar that assigns the correct phonetic representations to utterances in such a way as to reflect a native speaker's internalized grammar. Generative phonology posits two levels of phonological representation:

○ An underlying representation is the most basic form of a word before any phonological rules have been applied to it. Underlying representations show what a native speaker knows about the abstract underlying phonology of the language.

speech.	between meanings of words.
Pronounced in a defined way.	Pronounced in one or more ways, depending on the number of allophones.
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Example: [b], [j], [o]	**Example:** /b/, /j/, /o/

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- o   An underlying representation is the most basic form of a word before any phonological rules have been applied to it. Underlying representations show what a native speaker knows about the abstract underlying phonology of the language.

81

o   A phonetic representation is the form of a
word that is spoken and heard.

7.4   Autosegmental Phonology

Autosegmental phonology is a non-linear
approach to phonology that allows phonological
processes, such as tone and vowel harmony, to be
independent of and extend beyond individual
consonants and vowels. As a result, the phonological
processes may influence more than one vowel or
consonant at a time. Autosegmental phonology treats
phonological representations as multi-dimensional,
having several tiers. Each tier is made up of a linear
arrangement of segments. The tiers are linked to each
other by association lines that indicate how the
segments on each tier are to be pronounced at the
same time.

7.5   Metrical Phonology

Metrical phonology is a phonological theory
concerned with organizing segments into groups of
relative prominence. Segments are organized into
syllables, syllables into metrical feet, feet into
phonological words, and words into larger units. This
organization is represented formally by metrical trees

and grids. Here is an example of a metrical tree of the word *metricality*

```
                        w                    s        foot

              s             w     s      w       w    syllable
              △             △     △      △       △
              CV            CCV   CV      CV      CV
              me            tri   ca      li      ty
```

On the word and foot level, **s** and **w** indicate relative stress. The **w** indicates weaker prominence, and the **s** indicates relative stronger prominence. The internal syllable structure in the above figure has been omitted and is represented by triangles. Within the syllable, **s** and **w** refer to stronger and weaker degrees of sonorant, not stress, and **s** corresponds to the syllable nucleus, which is the most sonorant segment in a syllable.

7.6   Lexical Phonology

Lexical phonology is an approach to phonology that accounts for the interactions of morphology and phonology in the word building process. The lexicon plays a central, productive role in the theory. It

consists of ordered levels, which are the domain for certain phonological or morphological processes.

7.7   The sounds of English

English has twelve vowel sounds. In the table above they are divided into seven *short* and five *long vowels*. An alternative way of organizing them is according to where (in the mouth) they are produced. This method allows us to describe them as *front, central* and *back.* We can qualify them further by how high the tongue and lower jaw are when we make these vowel sounds, and by whether our lips are rounded or spread, and finally by whether they are short or long. This scheme shows the following arrangement:

Front vowels

- /i:/ - cream, seen (long high front spread vowel)
- /ɪ/ - bit, silly (short high front spread vowel)
- /ɛ/ - bet, head (short mid front spread vowel); this may also be shown by the symbol /e/
- /æ/ - cat, dad (short low front spread vowel); this may also be shown by /a/

Central vowels

- /ɜː/- burn, firm (long mid central spread vowel); this may also be shown by the symbol /ə:/.
- /ə/ - about, clever (short mid central spread vowel); this is sometimes known as *schwa*, or the neutral vowel sound - it never occurs in a stressed position.
- /ʌ/ - cut, nut (short low front spread vowel); this vowel is quite uncommon among speakers in the Midlands and further north in Britain.

Back vowels

- /uː/ - boob, glue (long high back rounded vowel)
- /ʊ/ - put, soot (short high back rounded vowel); also shown by /u/ `
- /ɔː/ - corn, faun (long mid back rounded vowel) also shown by /o:/
- /ɒ/- dog, rotten (short low back rounded vowel) also shown by /o/
- /ɑː/ - hard, far (long low back spread vowel)

We can also arrange the vowels in a table or even depict them against a cross-section of the human mouth. Here is an example of a simple table:

	Front	Central	Back
High	ɪ iː		ʊ uː
Mid	ɛ	ə ɜː	ɔː
Low	Æ	ʌ	ɒ ɑː

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MORPHOLOGY

Morphology is a field of linguistics focused on the study of the forms and formation of words in a language that retains meaning. The rules of morphology within a language tend to be relatively regular, so that if one sees the noun morphems for the first time, for example, one can deduce that it is likely related to the word morpheme.

Morphology is the identification, analysis and description of the structure of words (words as units in the lexicon are the subject matter of lexicology). While words are generally accepted as being (with clitics) the smallest units of syntax, it is clear that in most (if not all) languages, words can be related to other words by

rules. For example, English speakers recognize that the words *dog, dogs,* and *dog catcher* are closely related. English speakers recognize these relations from their tacit knowledge of the rules of word formation in English. They infer intuitively that *dog* is to *dogs* as *cat* is to *cats*; similarly, *dog* is to *dog catcher* as *dish* is to *dishwasher* (in one sense). The rules understood by the speaker reflect specific patterns (or regularities) in the way words are formed from smaller units and how those smaller units interact in speech. In this way, morphology is the branch of linguistics that studies patterns of word formation within and across languages, and attempts to formulate rules that model the knowledge of the speakers of those languages.

8.1 Morpheme-based morphology

In morpheme-based morphology, word forms are analyzed as arrangements of morphemes. A morpheme is defined as the minimal meaningful unit of a language. In a word like *independently*, we say that the morphemes are *in-, depend, -ent,* and *ly; depend* is the root and the other morphemes are, in this case, derivational affixes. In a word like *dogs*, we say that *dog* is the root, and that *-s* is an inflectional morpheme. In its simplest (and most naïve) form, this way of analyzing word forms treats words as if they were

88

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SEMANTICS

10.1 Definition of Semantics

Semantics is the study of meaning, usually in language. The word "semantics" itself denotes a range of ideas, from the popular to the highly technical. It is often used in ordinary language to denote a problem of understanding that comes down to word selection or connotation. This problem of understanding has been the subject of many formal inquiries, over a long period of time. In linguistics, it is the study of interpretation of signs or symbols as used by agents or communities within particular circumstances and contexts. Within this view, sounds, facial expressions, body language, proxemics have semantic (meaningful) content, and each has several branches of study. In

written language, such things as paragraph structure and punctuation have semantic content; in other forms of language, there is other semantic content.

The formal study of semantics intersects with many other fields of inquiry, including phonemics, lexicology, syntax, pragmatics, etymology and others, although semantics is a well-defined field in its own right, often with synthetic properties. In philosophy of language, semantics and reference are related fields. Further related fields include philology, communication, and semiotics. The formal study of semantics is therefore complex.

Semantics is sometimes contrasted with syntax, the study of the symbols of a language (without reference to their meaning), and pragmatics, the study of the relationships between the symbols of a language, their meaning, and the users of the language.

The word *semantic* in its modern sense is considered to have first appeared in French as *sémantique* in Michel Bréal's 1897 book, *Essai de sémantique*. In international scientific vocabulary semantics is also called *semasiology*.

10.2 Symbol and Referent

These terms may clarify the subject. A symbol is something which we use to represent another thing - it

might be a picture, a letter, a spoken or written word - anything we use conventionally for the purpose. The thing that the symbol identifies is the referent. This may sometimes be an object in the physical world (the word *Rover* is the symbol; a real dog is the referent). But it may be something which is not at all, or not obviously, present - like *freedom, unicorns* or *Hamlet*.

10.3 Conceptions of Meaning

a. Words → things

This view is found in the *Cratylus* of Plato (427-347 BC). Words "name" or "refer to" things. It works well for proper nouns like *London, Everton FC* and *Ford Fiesta*. It is less clear when applied to abstractions, to verbs and to adjectives - indeed wherever there is no immediately existing referent (thing) in the physical world, to correspond to the symbol (word).

b. Words → concepts → things

This theory was classically expressed by C.K. Ogden and I.A. Richards, in *The Meaning of Meaning* (1923). It states that there is no direct connection of symbol and referent, but an indirect connection in our minds. For each word there is a related concept.

The difficulty is in explaining what this concept is, and how it can exist apart from the word. In

Nineteen Eighty-Four George Orwell imagines a society whose rulers remove disapproved thoughts by removing (from print and broadcasting) the corresponding words. However there are many real-world examples of concepts which came before the words which described or named them (*hovercraft, Internet*) or where the symbols have changed, but not the concepts they refer to (*radio* for *wireless, Hoover* for *vacuum cleaner*). This suggests that the concept is independent of particular language symbols.

c. Stimuli → words → responses

Leonard Bloomfield outlines this theory in *Language* (1933). A stimulus (S) leads someone to a response (r), which is a speech act. To the hearer the speech act is also a stimulus (s), which leads to a response (R), which may be an action or understanding.

S → r...............s → R

Jill is hungry, sees an apple (S) and asks Jack to bring it her (r). This new language stimulus, Jack's hearing her (s) leads to his action (R) of bringing her the apple. Bloomfield's behaviourist model leads to obvious problems - Jack doesn't bring Jill the apple because of a quarrel years before, or he brings several apples and a glass of beer.

10.4 Practical Applications of Semantics

Some natural language processing tasks (e.g., message routing, textual information retrieval, translation) can be carried out quite well using statistical or pattern matching techniques that do not involve semantics in the sense assumed above. However, performance on some of these tasks improves if semantic processing is involved. (Not enough progress has been made to see whether this is true for all of the tasks).

Some tasks, however, cannot be carried out at all without semantic processing of some form. One important example application is that of database query, of the type chosen for the Air Travel Information Service (ATIS). For example, if a user asks, ``Does every flight from London to San Francisco stop over in Reykyavik?" then the system needs to be able to deal with some simple semantic facts. Relational databases do not store propositions of the form *every X has property P* and so a logical inference from the meaning of the sentence is required. In this case, *every X has property P* is equivalent to *there is no X that does not have property P* and a system that knows this will also therefore know that the answer to the question is *no* if a non-stopping flight is found and *yes* otherwise.

Any kind of generation of natural language output (e.g., summaries of financial data, traces of KBS system operations) usually requires semantic processing. Generation requires the construction of an appropriate meaning representation, and then the production of a sentence or sequence of sentences which express the same content in a way that is natural for a reader to comprehend. To illustrate, if a database lists a 10 a.m.\ flight from London to Warsaw on the 1st--14th, and 16th--30th of November, then it is more helpful to answer the question *What days does that flight go?* by *Every day except the 15th* instead of a list of 30 days of the month. But to do this the system needs to know that the semantic representations of the two propositions are equivalent.

10.5 Development of Semantic Theory

It is instructive, though not historically accurate, to see the development of contemporary semantic theories as motivated by the deficiencies that are uncovered when one tries to take the FOPC example further as a model for how to do natural language semantics. For example, the technique of associating set theoretic denotations directly with syntactic units is clear and straightforward for the artificial FOPC example. But when a similar programmed is attempted

for a natural language like English, whose syntax is vastly more complicated, the statement of the interpretation clauses becomes in practice extremely baroque and unwieldy, especially so when sentences that are semantically but not syntactically ambiguous are considered. For this reason, in most semantic theories, and in all computer implementations, the interpretation of sentences is given indirectly. A syntactically disambiguated sentence is first translated into an expression of some artificial logical language, where this expression in its turn is given an interpretation by rules analogous to the interpretation rules of FOPC. This process factors out the two sources of complexity whose product makes direct interpretation cumbersome: reducing syntactic variation to a set of common semantic constructs; and building the appropriate set-theoretical objects to serve as interpretations.

Montague made a further departure from the model provided by FOPC in using a more powerful logic (*intensional logic*) as an intermediate representation language. All later approaches to semantics follow Montague in using more powerful logical languages: while FOPC captures an important range of inferences (involving, among others, words like *every*, and *some* as in the example above), the

range of valid inference patterns in natural languages is far wider. Some of the constructs that motivate the use of richer logics are sentences involving concepts like *necessity* or *possibility* and *propositional attitude* verbs like *believe* or *know*, as well as the inference patterns associated with other English quantifying expressions like *most* or *more than half*, which cannot be fully captured within FOPC.

10.6 Semantic Fields

In studying the lexicon of English (or any language) we may group together lexemes which inter-relate, in the sense that we need them to define or describe each other. For example we can see how such lexemes as *cat, feline, moggy, puss, kitten, tom, queen* and *miaow* occupy the same semantic field. We can also see that some lexemes will occupy many fields: *noise* will appear in semantic fields for acoustics, pain or discomfort and electronics (*noise* = "interference").

a. Synonym, antonym and hyponym

Synonym and antonym are forms of Greek nouns which mean, respectively, "same name" and "opposed (or different) name". We may find synonyms which have an identical reference meaning, but since they have differing connotations, they can never be

129

truly synonymous. This is particularly the case when words acquire strong connotations of approval (amelioration) or disapproval (pejoration). We can see this by comparing *terrorist* with *freedom fighter* or *agnostic* (Greek) with *ignoramus* (Latin). Both of the latter terms express the meaning of a person who does not know (something). A pair which remains more truly synonymous (but might alter) would be *sympathy* (Greek) and *compassion* (Latin). Both mean "with [= having or showing] feeling", as in the English equivalent, *fellow feeling.*

Some speakers will not be aware of synonyms, so cannot make a choice. But those with a wide lexicon will often choose between two, or among many, possible synonyms. This is an area of interest to semanticists. What are the differences of meaning in *toilet, lavatory, WC, closet, privy, bog, dunny* and so on?

Intelligent reflection on the lexicon will show that most words do not have antonyms. When Baldric, in BBC TV's *Blackadder*, attempts to write a dictionary he defines cat as "not a dog" - but the two are not antonyms. A cat is not a fish, banana, rainbow or planet, either - it is not anything, but a cat! We can contrast simple pairs like *fat/thin* but realize that both are relative to an assumed norm. Such lexeme pairs (for example: *big/little, clever/stupid, brave/cowardly,*

hot/cold and *beautiful/ugly*) are gradable antonyms . *True* and *false* may show a clearer contrast. Clear either/or conditions are expressed by complementary antonyms: *open/closed, dead/alive, on/off.* Another kind (not really opposites at all) are pairs which go together, and represent two sides of a relation: these are converses or relational antonyms. Examples would be:

> *husband/wife,*
> *borrow/lend,*
> *murderer/victim,*
> *plaintiff/defendant.*

Hyponymy is an inclusive relationship where some lexemes are co-hyponyms of another that includes them. As *cutlery* includes *knife, fork, spoon* (but not *teacup*) these are co-hyponyms of the parent or superordinating term. This traditional term denotes a grouping similar to a semantic field. So *cod, guppy, salmon* and *trout* are hyponyms for *fish*, while *fleet* has the hyponyms *battleship, aircraft carrier, cruiser, destroyer* and *frigate.*

David Crystal points out (*Cambridge Encyclopedia of Language*:105) that this is a linguistic, not a real-world, relationship - so it varies from one language to another. In English *potato* is a hyponym of

vegetable but in German the lexeme *Gemüse* does not include *Kartoffel* (=potato).

b. Collocation, fixed expression and idiom

Some words are most commonly found paired with other words, to create a semantic unit or lexeme. Thus *false* is often found together with *passport, teeth* or *promise*. These pairs are known as collocations. They are very helpful in establishing the meanings of the words in the pair. *Porn* is likely to be followed by *film, mag, star* or *video*. It may be collocated with *actor, director* or *merchant* but is less likely to be followed by *customer, operative* or *minister*. After *estate* you expect *agent*. How often have you seen *whole new* (*whole new ball-game*) as a collocation (here *whole* is redundant)? Think of collocations including these words: *American, British, coffee, dirty, first, mad, millennium, native, Ninja, prime, police, rotten, speed, surf*.

When words become grouped in almost predictable ways these are fixed expressions. Examples include *jewel in the crown, desirable residence, criminal mastermind, world of work, address the issues, I put it to you.*

Sometimes the group is so well rooted in the language that the meanings of the component words

are ignored, or metaphorical meanings (in dead metaphors) are never visualised. Such a group has a meaning that is not to be found in analysis of its parts, and is an idiom. Examples include: *keep your nose clean, stick your nose/oar in, beneath your station, bed of roses, load of crap, not my cup of tea, a piece of cake, get on your high horse, off your own bat* (frequent substitution of *back* shows the speaker is unaware of the original meaning) or *skin of your teeth, get stuffed* (what did this originally mean?).

c. Polysemy

Polysemy (or polysemia) is an intimidating compound noun for a basic language feature. The name comes from Greek *poly* (many) and *semy* (to do with meaning, as in *semantics*). Polysemy is also called radiation or multiplication. This happens when a lexeme acquires a wider range of meanings.

For example, paper comes from Greek *papyrus*. Originally it referred to writing material made from the papyrus reeds of the Nile, later to other writing materials, and now to things such as government documents, scientific reports, family archives or newspapers.

d. Homonymy, homophones and homographs

Homonyms are different lexemes with the same form (written, spoken or both). For example, *bank* is both an elevated area of ground and a place or business where money is kept. You may think these are the same words, but this is not so, since the meaning is an essential feature of a word. In some cases, the same form (as with paper) has the same origin but this will not always be the case. The etymology of a lexeme will tell us where it comes from and how it acquired a given meaning.

Identity of form may apply to speech or writing only. David Crystal calls these forms "half" identical. They are:

• Homophones - where the pronunciation is the same (or close, allowing for such phonological variation as comes from accent) but standard spelling differs, as in *flew* (from *fly*), *flu* ("influenza") and *flue* (of a chimney).

• Homographs - where the standard spelling is the same, but the pronunciation differs, as in *wind* (air movement or bend) or *refuse* ("rubbish" or "disallow", stress falls on first and second syllable, respectively).

e. Lexicology and lexicography

Lexicology is the systematic historical (diachronic) and contemporary (synchronic) study of the lexicon or vocabulary of a language. Lexicologists study semantics on a mass scale. Lexicography is the art and science of dictionary making. Lexicography also has a history. Although dictionary compilers today, as in the past, wish to create an authoritative reference work, their knowledge and understanding of language has changed radically. Different dictionaries serve very different purposes - some only give information about semantics (word meanings, descriptions or definitions) and orthography (standard spellings). Others give information about etymology, variants and change of meaning over time.

An unfortunate by-product of English teaching in the UK is a preoccupation with standard spelling forms to the exclusion of much else. Children are encouraged to use dictionaries for spell checking and not to learn about the language more generally. You should, with any dictionary, read the introduction to discover which principles have been used in compiling it, what models of language the compilers works from.

Is it, for example, broadly prescriptive or descriptive? Is it encyclopaedic, or does it exclude

proper nouns? What variety or varieties of English does it include?

In checking an etymology cited above (*git*) I used three dictionaries - Funk and Wagnall's *New Practical Standard* (US, 1946) the *Pocket Oxford* (1969) and the complete (1979) *Oxford English Dictionary.* None of these listed *git.* Modern dictionaries may well give a range of world Englishes. Dictionary functions built into computer software give the user a choice of different varieties - UK, US, Australia/New Zealand or International English.

f. Thesauruses, libraries and Web portals

Students of semantics attempt to categorize and explain meaning in language. But there are other people who face a similar task. A thesaurus is a reference work in which words are arranged under general, then more specific semantic fields. As with much of language study there is a problem in making a linear representation of a complex model.

Libraries organize books under categories and sub-categories, the most popular model by far being the Dewey system named after its inventor. And portal sites on the World Wide Web organize information and links by (usually) a hierarchy of categories. These may all be helpful to you, in understanding semantic fields.

g. Epistemology

This is the traditional name for the division of philosophy otherwise known as theory of knowledge. Epistemology underlies semantics in a fundamental way. Historically, it has had a profound influence on how we understand language. For example, a modern language scientist, looking at the class of words we think of as nouns, might wish to subdivide them further. But there is no very good reason to split them into those that denote physical and material realities and those that denote feelings and concepts - that is concrete and abstract nouns. This division comes from Plato, who divided things absolutely into the categories of mind (*nous*) and matter (*physis*). It breaks down when we apply it to modern phenomena, such as artificial intelligence.

Plato also divided things into *universals* and *particulars*. Some names represent a massive category of things, in which countless individual examples are included - *boy, dog, car* and *cloud*. Others are unique to one individual thing - *Elvis Presley, Lassie, New York.* In English and other European languages the word classes of common and proper nouns mark this distinction. In written English we signal that a word is a proper noun usually with initial capital letters. In written and

spoken English, we also show it by omitting articles or determiners in many (not all) contexts, where a common noun would have these.

But the distinction does not bear close scrutiny - many nouns which we capitalize stand for a wide category, not just a single individual, as with *VW Beetle* or *Hoover.* And what of eponyms - words named for a single individual, but now applied widely, as with *sandwich, Wellington, boycott* and *quisling* (look it up)?

At a more fundamental level, epistemology may help us decide whether the concepts of language are coherent and objective - as with word classes: are the notions of noun, verb, pronoun, adjective and so on logical as regards their referents?

h. Colour

David Crystal (*Cambridge Encyclopedia of Language,* p. 106) draws attention to the way the semantic field of colour shows "patterns of lexical use in English", because the visible spectrum is a continuum. Crystal points out some interesting features of languages other than English, in identifying colour, such as the absence in Latin of lexemes for "brown" and "grey". He suggests that modern English has eleven basic colour lexemes - *white, black, red, green, yellow, blue, brown, purple, pink, orange* and

138

grey. You may not agree with this - for example, you may think of *orange* and *purple* as secondary, being mixtures of or intermediate between others. Our sense of primary colours may come from the world around us - blue for the sky, green for grass and red for blood, for example.

The lexicon of colour is interesting when we study it historically (what colours are most frequent in the writings of Chaucer or Shakespeare) or in a special context. What names do manufacturers of paint or cosmetics favour? For parts of the body (especially hair) we have a special lexicon - hair is not *yellow* but *blonde* (the word indicates both hair colour or, as a noun, people with this colour of hair), *brunette* (although *brown* is also standard for males) and *redhead* (where *red* has a special colour denotation - not the scarlet or crimson it usually suggests). Another special lexicon (which may preserve historical differences) applies to horse colours - *bay, grey* (which denotes a horse more or less white) and *chestnut.*

10.7 Semantic change and etymology

Over time lexemes may change their meaning. This kind of change is semantic change. Perhaps a connotation will take the place of the original denotation. More often a second (or third) meaning will

develop side by side with the original. In time, this may come to be the primary reference meaning. *Gay* has both the sense of "happy" and "homosexual". In spoken British English today the primary meaning is more likely to be the second of these. *Queer* has the sense of both "odd" and "homosexual", but in contemporary spoken British English is more likely to have the first meaning. For both, however, the context of the lexeme may suggest the meaning.

Etymology is the systematic study and classification of word origins, especially as regards forms and meanings - it is therefore an important concept both for semantics and the study of language change. The etymology of a given lexeme denotes an account of its historical-linguistic origin.

We can illustrate semantic change through the etymology of *gentle*. In the 14th century *gentil* had the meaning of "noble", referring both to social class and to character. Because a noble person was supposed to be kind and considerate, the adjective today has the sense of "tender", "careful" or "delicate". The older meaning is preserved in *gentleman, genteel* and *gentility*. Until recently public toilets in the UK were designated *Gentlemen* or *Ladies* - where now we usually see a male or female picture representation. But these meanings live on in spoken English, as when someone

says, perhaps in a public house, that she is *off to the ladies'* or he is *going to the gents'*.

Villain has come to mean a wicked person, especially in drama or literature. Originally, it meant a person who farmed land under the feudal system. It is thus a class insult when used of the noble Romeo by Tybalt ("*Thou art a villain*"), or of the common Iago by Othello ("*Villain, be sure thou prove my love a whore*"). We may see how this leads to the modern meaning.

The Old English and (related) Scandinavian words for a town give us modern forms such as *by*, *burgh*, *borough* and *brough*. From the German *Hamburg* came *Hamburger*, either a person of the town or a kind of sausage. This name was later used in the USA for a slice of the sausage in a bread cake. A mistaken belief that the initial *ham* refers to pig-meat has led to variants, such as *beefburger*, *cheeseburger* and *veggieburger*. Now *burger* alone denotes the food. Its earlier meaning of "resident of a town" is fading.

Holocaust has a fascinating etymology. It is a compound of two elements from classical Greek - *holos* (meaning "whole", as in *holistic, hologram*) and *kaustos* (meaning "burnt", as in *caustic, hypocaust*). It was first coined in writing by the translators of the Septuagint, a Greek translation of the Hebrew Scriptures made in Alexandria for King Ptolemy II in the third century BC.

In its original context, the noun appears over two hundred times to translate Hebrew *'olâ* (meaning literally "that which goes up", that is, a sacrificial burnt offering). In modern times it has been used to denote the massive destruction, especially of people, in the world wars of the 20th century. Since the 1950s, it has been used more narrowly to denote the Nazis' murder of European Jews between 1941 and 1945.

As English contains hundreds of thousands of lexemes, etymology is a vast field of study, of which any examples will be pitifully few and probably not very representative. Many dictionaries will give etymological information. You should though be aware of false etymologies - interesting and plausible stories about word origins: I was told as a child that a *bloke* was originally a pregnant goldfish and a *git* a pregnant camel - but both accounts are false. There are similar stories told about *quiz*, of which the etymology is really unknown. On the other hand, there are some lexemes for which we have an exact etymology. *Robot* for example first appeared in 1921, in Karel Capek's play *Rossom's Universal Robots*, as the name of a mechanical servant. And Lewis Caroll made up many words in *Alice in Wonderland* and *Through the Looking Glass*, some of which, like *chortled*, have become established

142

in the language. Use a good dictionary to check etymologies.

10.8 Semantics in linguistics

Semantics in linguistics is a subfield of the study of language which focuses on meaning. Semanticists examine how words, phrases and sentences combine in ways that are acceptable to language users, observing that appeals to grammaticality alone cannot explain these. For example, the sentence Mary will arrive tomorrow is both grammatically and semantically acceptable, but Mary arrived tomorrow is semantically nonsensical while syntactically grammatical. The field also examines how sentences that are grammatically very different can nevertheless be semantically equivalent, such as Bill sank six pints last night versus Bill drank half-a-dozen beers yesterday evening, and how language users can recognise ambiguity in sentences such as visiting relatives can be difficult.

Semantics in linguistics is related to pragmatics, but is distinct in that semantics involves actual linguistic knowledge, whereas pragmatics concerns knowledge outside language. For example, the sentence Bill's been to Paris is semantically and grammatically fine, but anyone encountering that sentence would

have to refer to context or other information they know or could predict about Bill to be able to completely understand the significance of the sentence. For example, listeners may be expected to express surprise at this news because they know that Bill is a francophobe, or they may have believed that Bill had intended to visit London rather than the French capital. This kind of information is outside linguistic semantics, which instead focuses on meaningful relations between lexical items: listeners need know nothing about Mary in the sentence. Mary is a widower in order to rule it unacceptable, for instance, because there is a clash of word meaning in the link between Mary and widower. Pragmatic knowledge, on the other hand, might lead speakers to recover an acceptable, though rather odd, meaning: Mary might have once been a woman, who changed her sex but not her name, and also married a woman she now survives.

10.9 Basic Notions of Semantics

A perennial problem in semantics is the delineation of its subject matter. The term *meaning* can be used in a variety of ways, and only some of these correspond to the usual understanding of the scope of linguistic or computational semantics. We shall take the scope of semantics to be restricted to the

144

literal interpretations of sentences in a context, ignoring phenomena like irony, metaphor, or *conversational implicature*

A standard assumption in computationally oriented semantics is that knowledge of the meaning of a sentence can be equated with knowledge of its truth conditions: that is, knowledge of what the world would be like if the sentence were true. This is not the same as knowing whether a sentence is true, which is (usually) an empirical matter, but knowledge of truth conditions is a prerequisite for such verification to be possible. *Meaning as truth conditions* needs to be generalized somewhat for the case of imperatives or questions, but is a common ground among all contemporary theories, in one form or another, and has an extensive philosophical justification.

A semantic description of a language is some finitely stated mechanism that allows us to say, for each sentence of the language, what its truth conditions are. Just as for grammatical description, a semantic theory will characterize complex and novel sentences on the basis of their constituents: their meanings, and the manner in which they are put together. The basic constituents will ultimately be the meanings of words and morphemes. The modes of combination of constituents are largely determined by

the syntactic structure of the language. In general, to each syntactic rule combining some sequence of child constituents into a parent constituent, there will correspond some semantic operation combining the meanings of the children to produce the meaning of the parent.

A corollary of knowledge of the truth conditions of a sentence is knowledge of what inferences can be legitimately drawn from it. Valid inference is traditionally within the province of logic (as is truth) and mathematical logic has provided the basic tools for the development of semantic theories. One particular logical system, first order predicate calculus (FOPC), has played a special role in semantics (as it has in many areas of computer science and artificial intelligence). FOPC can be seen as a small model of how to develop a rigorous semantic treatment for a language, in this case an artificial one developed for the unambiguous expression of some aspects of mathematics. The set of sentences or well formed formulae of FOPC are specified by a grammar, and a rule of semantic interpretation is associated with each syntactic construct permitted by this grammar. The interpretations of constituents are given by associating them with set-theoretic constructions (their *denotation*) from a set of basic elements in some universe of

discourse. Thus for any of the infinitely large set of FOPC sentences we can give a precise description of its truth conditions, with respect to that universe of discourse. Furthermore, we can give a precise account of the set of valid inferences to be drawn from some sentence or set of sentences, given these truth conditions, or (equivalently, in the case of FOPC) given a set of rules of inference for the logic.

10.10 Development of Semantic Theory

It is instructive, though not historically accurate, to see the development of contemporary semantic theories as motivated by the deficiencies that are uncovered when one tries to take the FOPC example further as a model for how to do natural language semantics. For example, the technique of associating set theoretic denotations directly with syntactic units is clear and straightforward for the artificial FOPC example. But when a similar programme is attempted for a natural language like English, whose syntax is vastly more complicated, the statement of the interpretation clauses becomes in practice extremely baroque and unwieldy, especially so when sentences that are semantically but not syntactically ambiguous are considered. For this reason, in most semantic theories, and in all computer implementations, the

147

interpretation of sentences is given indirectly. A syntactically disambiguated sentence is first translated into an expression of some artificial logical language, where this expression in its turn is given an interpretation by rules analogous to the interpretation rules of FOPC. This process factors out the two sources of complexity whose product makes direct interpretation cumbersome: reducing syntactic variation to a set of common semantic constructs; and building the appropriate set-theoretical objects to serve as interpretations.

The first large scale semantic description of this type was developed by. Montague made a further departure from the model provided by FOPC in using a more powerful logic (*intensional logic*) as an intermediate representation language. All later approaches to semantics follow Montague in using more powerful logical languages: while FOPC captures an important range of inferences (involving, among others, words like *every*, and *some* as in the example above), the range of valid inference patterns in natural languages is far wider. Some of the constructs that motivate the use of richer logics are sentences involving concepts like *necessity* or *possibility* and *propositional attitude* verbs like *believe* or *know*, as well as the inference patterns associated with other English

quantifying expressions like *most* or *more than half*, which cannot be fully captured within FOPC.

For Montague, and others working in frameworks descended from that tradition among others, Partee, Krifka, and Groenendijk and Stokhof, the intermediate logical language was merely a matter of convenience which could in principle always be dispensed with provided the *principle of compositionality* was observed. (i.e., *The meaning of a sentence is a function of the meanings of its constituents*, attributed to Frege,. For other approaches, Discourse Representation Theory, an intermediate level of representation is a necessary component of the theory, justified on psychological grounds, or in terms of the necessity for explicit reference to representations in order to capture the meanings of, for example, pronouns or other referentially dependent items, elliptical sentences or sentences ascribing mental states (beliefs, hopes, intentions).

In the case of computational implementations, of course, the issue of the dispensability of representations does not arise: for practical purposes, some kind of meaning representation is a *sine qua non* for any kind of computing.

149

10.11 Dynamic Semantics

Dynamic semantics takes the view that the standard truth-conditional view of sentence meaning deriving from the paradigm of FOPC does not do sufficient justice to the fact that uttering a sentence changes the context it was uttered in. Deriving inspiration in part from work on the semantics of programming languages, dynamic semantic theories have developed several variations on the idea that the meaning of a sentence is to be equated with the changes it makes to a context.

Update semantics approaches have been developed to model the effect of asserting a sequence of sentences in a particular context. In general, the order of such a sequence has its own significance.

A sequence like:

Someone's at the door. Perhaps it's John. It's Mary!

is coherent, but not all permutations of it would be:

Someone's at the door. It's Mary. Perhaps it's John.

Recent strands of this work make connections with the artificial intelligence literature on truth maintenance and belief revision.

Dynamic predicate logic extends the interpretation clauses for FOPC (or richer logics) by

allowing assignments of denotations to subexpressions to carry over from one sentence to its successors in a sequence.

This means that dependencies that are difficult to capture in FOPC or other non-dynamic logics, such as that between *someone* and *it* in:

Someone's at the door. It's Mary.

can be correctly modeled, without sacrificing any of the other advantages that traditional logics offer.

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**MACROLINGUISTICS
(PHILOLOGY, GRAPHOLOGY,
SOCIOLINGUISTICS)**

11.1 Philology

Philology considers both form and meaning in linguistic expression, combining linguistics and literary studies. Classical philology is the philology of the Greek, Latin and Sanskrit languages. Classical philology is historically primary, originating in European Renaissance Humanism , but was soon joined by philologies of other languages both European (Germanic , Celtic , Slavistics , etc.) and non-European (Sanskrit, Oriental languages such as Persian or Arabic, Chinese etc.). Indo-European studies involves the

philology of all Indo-European languages as comparative studies.

Any classical language can be studied philologically, and indeed describing a language as "classical" is to imply the existence of a philological tradition associated with it. Because of its focus on historical development (diachronic analysis), philology came to be used as a term contrasting with linguistics. This is due to a 20th century development triggered by Ferdinand de Saussure 's insistence on the importance of synchronic analysis, and the later emergence of structuralism and Chomskian linguistics with its heavy emphasis on syntax.

The definitions of philology are :

1. *the study of literature and of disciplines relevant to literature or to language as used in literature. (Study kesusasteraan dan disiplin – disiplin yang relevan dengan kesusasteraan atau sebagaimana dipakai dalam kesusasteraan).*

2. a. *historical and comparative linguistics. (linguistics historic dan komparatif).*

b. the study of human speech especially as the vehicle of literature and as a field of study that sheds light on cultural history atau study ujaran manusia khususnya sebagai alat kesusasteraan dan sebagai bidang study yang menyinari sejarah cultural.

The term philology is derived from the Greek φιλολογία (philologia), from the terms φίλος (philos), meaning "loved, beloved, dear, friend" and λόγος (logos), meaning "word, articulation, reason", describing a love of learning, of literature as well as of argument and reasoning, reflecting the range of activities included under the notion of λόγος. The term changed little with the Latin philologia, and later entered the English language in the 16th century, from the Middle French philologie , in the sense of "love of literature".

The adjective φιλόλογος meant "fond of discussion or argument, talkative", in Hellenistic Greek also implying an excessive (" sophistic ") preference of argument over the love of true wisdom, φιλόσοφος. As an allegory of literary erudition, Philologia appears in 5th century post-classical literature (Martianus Capella , De nuptiis Philologiae et Mercurii), an idea revived in Late Medieval literature (Chaucer , Lydgate).

The meaning of "love of learning and literature" was narrowed to "the study of the historical

development of languages" (historical linguistics) in 19th century usage of the term due to the rapid progresses made in understanding sound laws and language change, the "golden age of philology", taken to last throughout the 19th century, or "from Friedrich Schlegel to Nietzsche ". In British English usage, and in British academia, "philology" remains largely synonymous with "historical linguistics", while in US English, and US academia, the wider meaning of "study of a language's grammar, history and literary tradition" remains more widespread.

11.1.1 Comparative Philology

One branch of philology is comparative linguistics, which studies the relationship between languages. Similarities between Sanskrit and European languages were first noted in the early 16th century and led to the speculation of a common ancestor language from which all of these descended — now named Proto-Indo-European. Philology's interest in ancient languages led to the study of what were in the 18th century "exotic" languages for the light they could cast on problems in understanding and deciphering the origins of older texts.

11.1.2 Textual philology editing

Philology also includes the study of texts and their history. It includes elements of textual criticism, trying to reconstruct an author's original text based on variant copies of manuscripts. This branch of research arose in Biblical studies and has a long tradition, dating back to Reformation. Scholars have tried to reconstruct the original readings of the Bible from the manuscript variants. This method was then applied to Classical Studies and to medieval texts for the reconstruction of the author's original work. The method produced so-called "critical editions" which provided a reconstructed text accompanied by a

"critical apparatus", ie footnotes listing the various manuscript variants available, thus enabling scholars to gain insight into the entire manuscript tradition and argue about the variants.

A related study method known as higher criticism studies the authorship, date, and provenance of text to place such text in historical context. These philological issues are often inseparable from issues of interpretation, and thus there is no clear-cut boundary between philology and hermeneutics. As such, when text has a significant political or religious influence (such as the reconstruction of Biblical texts), it is difficult to find objective conclusions.

As a result, some scholars avoid all critical methods of textual philology. Especially in historical linguistics where it is important to study the actually recorded materials. The movement known as New Philology has rejected textual criticism because it injects editorial interpretations into the text and destroys the integrity of the individual manuscript, hence damaging the reliability of the data. Supporters of New Philology insist on a strict "diplomatic" approach which is a faithful rendering of the text exactly as it is found in the manuscript without emendations.

11.1.3 Cognitive philology

Another branch of philology, cognitive philology studies written and oral texts, considering them as results of human mental processes. This science, therefore, compares the results of textual science with those results of experimental research of both psychology and artificial intelligence production systems.

11.2 Graphology

Graphology is the study and analysis of handwriting especially in relation to human psychology. In the medical field, it can be used to refer to the study of handwriting as an aid in diagnosis and tracking of diseases of the brain and nervous system. The term is sometimes incorrectly used to refer to forensic document examination. Graphology or Handwriting Analysis is a science of interpreting a person's character from his/her personal handwriting. Graphology study of how handwriting reflects a person's personality and character traits.

Graphology has been controversial for more than a century. Although supporters point to the anecdotal evidence of thousands of positive testimonials as a reason to use it for personality

evaluation, most empirical studies fail to show the validity claimed by its supporters. Graphology is now generally considered a pseudoscience .*Graphology: graphos (from the Greek γράφειν: writing) / logos (from the Greek λόγος : debate).*

11.2.1 Applications of Graphology

Graphology has been actively used in compiling profiles for Employment, Business Partnerships and Marital Compatibility. In Switzerland, approximately 80 percent of large corporations use graphology in their hiring procedures. Forensic document examination is not Graphology as it is only used to determine whether or not a document was written by the person concerned.
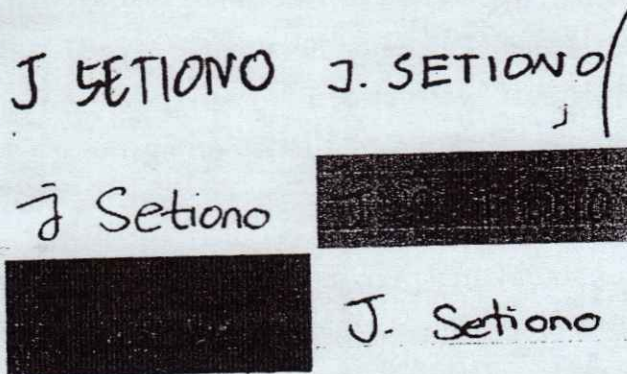
11.2.2 Handwriting analysis
Handwriting analysis is refered to as Graphology. Handwriting may also be regarded as "brainwriting". It is an expression of the whole personality. Writing is expressive movements and these movements have there meanings and interpretations. Graphology is the study of handwriting and the connection it has to a persons behavior. There are three main systems of graphology. In Holistic Graphology a persons profile is formed on the the

159

basis of Form, Movement and Space. Integrative Graphology is constructed on the basis that specific stroke formations relate to personality traits. Symbolic Analysis is based on the analysis of symbols seen in the handwriting. Every system of graphology has its own vocabulary that makes the meaning those words different.

Graphology has been actively used in compiling profiles for Employment, Business Partnerships and Marital Compatibility. In Switzerland, approximately 80 percent of large corporations use graphology in their hiring procedures. Forensic document examination is not Graphology as it is only used to determine whether or not a document was written by the person concerned.

Graphology is a way to read the characteristics of a person's through handwriting. From the rhythm of writing, the form of letters, pen pressure on the paper, written italic letter or straight, we can know the characteristics of person. When we learned to write firstly, the teacher told us to write the 'same style word' and it would be neat and order. Over time, our writing style may change. Magically, the fact that every individual has a different handwriting. With our graphology can also tell 'mood' writer when he

scrawled his pen. Note that graphology can not be used to predict our future. Example of handwriting:

J SETIONO   J. SETIONO

J Setiono

J. Setiono

If we consider all writing: "J. SETIONO" with a neat and orderly and no misspellings word. This indicates that the writer was 'good mood' when he wrote, he was smiling.

11.2.3 Conducting a Graphology Analysis

You will need a sample of spontaneous handwriting written on plain paper using a ballpoint or fountain pen of not less than 12 lines long with a signature. Graphology instruments needed are a magnifying glass, plastic ruler showing millimeters and a protractor for assessing the slant of the writing.

Saussure and of the American philosopher Charles Sanders Peirce.

Peirce's seminal work in the field was anchored in pragmatism and logic. He defined a sign as "something which stands to somebody for something," and one of his major contributions to semiotics was the categorization of signs into three main types:

(1) an icon, which resembles its referent (such as a road sign for falling rocks);

(2) an index, which is associated with its referent (as smoke is a sign of fire);

(3) a symbol, which is related to its referent only by convention (as with words or traffic signals). Pierce also demonstrated that a sign can never have a definite meaning, for the meaning must be continuously qualified.

a. Sign

In semiotics, a **sign** is something that stands for something, to someone in some capacity. It may be understood as a discrete unit of meaning, and includes words, images, gestures, scents, tastes, textures, sounds – essentially all of the ways in which information can be communicated as a message by any sentient, reasoning mind to another. And unless icons

(iconic signs), which signify their close resemblances to things they refer to, all other signs in most part, are in a sense arbitraries and the onomatopoeia is symbolic (i.e. sound symbolism whose pronunciation suggests it meaning).

Thus it is said to be that all the communication forms like sounds, gestures, icons, symbols, etc. must signify their signs to denote their referents. The nature of signs has long been discussed in philosophy. Initially, within linguistics and later semiotics, there were two general schools of thought: those who proposed that signs are 'dyadic' (i.e. having two parts), and those who proposed that signs are interpreted in a recursive pattern of triadic (i.e. three-part) relationships.

b. Symbol

A **symbol** is something such as an object, picture, written word, sound, or particular mark that represents something else by association, resemblance, or convention. For example, a red octagon may be a symbol for "STOP". On maps, crossed sabers may indicate a battlefield. Numerals are symbols for numbers. All language consists of symbols. The word "cat" is not a cat, but is an arbitrary symbol

representing the idea of a cat. A certain symbol might represent a town, city or a village of some sort.

The psychologist, Carl Jung, who studied archetypes, proposed an alternative definition of symbol, distinguishing it from the term "sign". In Jung's view, a sign stands for something known, as a word stands for its referent. He contrasted this with symbol, which he used to stand for something that is unknown and that cannot be made clear or precise. An example of a symbol in this sense is Christ as a symbol of the archetype called "self".

The use of symbols is often attributed to being unique to mankind. Humans use symbols in a variety of different ways. For example, written languages are comprised of a variety of different symbols that create words. Through these written words, humans communicate with each other. Kenneth Burke described man as "symbol-using, symbol making, and a symbol misusing animal" to indicate that man creates symbols in his life as well as misuses them. One example he uses to indicate his meaning behind symbol misuse is the story of a man who when told a particular food item was whale blubber, could barely keep from throwing it up. Later, his friend discovered it was actually just a dumpling. But the man's reaction was a direct consequence of the symbol of "blubber"

representing something inedible in his mind. In addition, the symbol of "blubber" for the man was created by him through varies kinds of learning. Burke emphasizes that humans gain this type of learning that helps us create symbols by seeing various print sources, our life experiences, and symbols about the past.

c. Signs and symbols

Some writers distinguish between a sign and a symbol. In this case, a sign is purely formal, having no resemblance to the object it represents, while a symbol suggests or resembles the object it represents. When this distinction is made, the word "cat" is a sign but the crossed sabers indicating a battlefield on a map are a symbol.

A word such as a Tree is *"a sign"*

And the picture of the object is *"a symbol"*
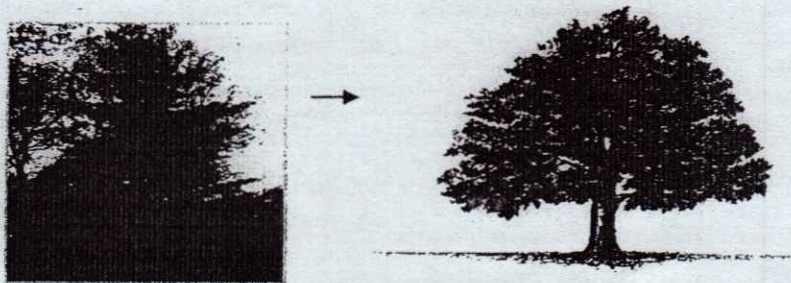
12.2 Ethnolinguistics

Ethnolinguistics is a field of linguistic anthropology which studies the relationship between language and culture, and the way different ethnic groups perceive the world. A well-known (but controversial) ethnolinguistic subject is the Sapir-Whorf Hypothesis, which states that perception is limited by what can be described in one's own language.

Ethnolinguists study the way perception and conceptualization influences language, and show how this is linked to different cultures and societies. An example is the way spatial orientation is expressed in various cultures. In many societies, words for the cardinal directions East and West are derived from terms for sunrise/sunset. The nomenclature for cardinal directions of Eskimo speakers of Greenland, however, is based on geographical landmarks such as the river system and one's position on the coast.

That part of anthropological linguistics concerned with the study of the interrelation between a language and the cultural behaviour of those who speak it. Several controversial questions are involved in this field: Does language shape culture or vice versa?

What influence does language have on perception and thought? How do language patterns relate to cultural patterns? These questions, which had been posed earlier by the German scholars Johann Gottfried von Herder and Wilhelm von Humboldt and their followers in the idealist-romanticist tradition, emerged again in the United States as a result of the discovery of the vastly different structure of American Indian languages, as delineated by the American anthropological linguists Edward Sapir and Benjamin L. Whorf. They noticed, for example, that Eskimo has many words for snow, whereas Aztec employs a single term for the concepts of snow, cold, and ice. The notion that the structure of a language conditions the way in which a speaker of that language thinks is known as the Whorfian hypothesis, and there is much controversy over its validity

Study of the relationship between language and culture; it usually refers to work on languages that have no written records. In the United States a close relationship between anthropology and linguistics developed as a result of research by anthropologists into the American Indian cultures and languages. Early students in this field discovered what they felt to be significant relationships between the languages, thought, and cultures of the Indian groups. The issue

of the relatedness of language and culture is still a controversial one, and it is now thought by many scholars that the relationship is not as close as was first suspected. Anthropologists currently draw on linguistic techniques primarily for the analysis of such areas as kinship systems, botanical taxonomies, and colour terms, but a number of anthropologists are still engaged in fieldwork centring on language description.

Family behaviors and values Respect of elderly and parents (authority) as an example of ethnology because it has same name, same skin color, same blood (cousin: co-sanguine), same language, same music, same roof, same budget, same tools, same recipes Same timing for rites: meals, sleep, cares, wedding, breeding and education Same beliefs and same historical background Implicit feelings and knowledge Ex: Japanese family: Japan, family, company, surname.

12.3 Musicolinguistics

Musicolinguistics may be defined as a branch of cognitive science which attempts to describe music perception phenomena by means of linguistic methodology. Musical grammar is also a formal theory – it uses the appropriate symbolical system to describe the postulated mental processes occurring during

native-idiom music perception. In this sense, the grammar of music is, to use the theory's internal metaphor, a 'daughter' of generative linguistic theories, as these, in principle, may be applied to any kind of cognition.

Other typical generative linguistic concepts also found their way into musicolinguistics, although some of them are to be taken with caution: musical idiom is analogous to a mother tongue, defined as a particular musical style accepted as "one's own" or recognizable by members of a nation or, more commonly, by people from a broader geographical region; native listener is skin to a native speaker: not a concrete person, but an abstraction: an idealized agent who by definition possesses full unconscious knowledge of the idiom and is able to parse musical phrases according to internalized rules; this agent develops musical intuition, again taken in the generative sense of unconscious knowledge: any music she hears will be automatically compared with this knowledge, on basis of which the line will be assessed as acceptable ('grammatical'), unacceptable ('ungrammatical') or ambiguous – where two interpretations are possible due to the discrepancy between the underlying and surface structures, usually on metrical or harmonic levels.

The goal of musicolinguistic description is thus equivalent to its linguistic counterpart – predictive and reductionism. It strives to explain how the perception of a seemingly endless set of meaningless stimuli may formally be reduced to the cognition of basic structural relations, in language and music based mostly on domination.

Musicolinguistics today reflects the tendencies of modern cognitive science. One of the pressing issues in the cognitive world now is the question of the complex interrelationship between the inborn and the acquired in any mental capacity. The old psychological paradox, widely known as the 'nature/nurture issue' (Jackendoff, 1994; Pinker, 2002) seems to attract numerous researchers, where the accent today is largely put on the 'natural', 'rewired', or genetic side of the problem. In other words, most researchers tend to believe that both musical and linguistic competence is a consequence of evolutionary development.

In linguistics, the Darwinian view, according to which language must be a product of natural selection is dominant among the y younger and middle generation of scholars, although major authorities still express their misgivings (Pinker and Jackendoff, 2005 contra Fitch, Hauser, and Chomsky). In the domain of music cognition, the view of music as being largely a

form of evolutionary adaptation is reviewed in McDermott and Hauser (2005). Most cognitively oriented researchers today tend to believe that music is species-specific, like language, so that musicality, taken in the broadest sense of the word, is only found in humans.

The conclusion that music must have been somehow important for the preservation of the human species sounds reasonable in such a milieu. In this respect, one line of scholars believes that, although its functions are today perceived as merely ritual or aesthetic, music must have originally had a strong social purpose, since it was a powerful means available to induce in humans a stronger sense of belonging to the group (Cross, 2001; Huron, 2001); others contend that music is an accidental, having developed spontaneously and purposelessly from other faculties, most notably language (Pinker, 1997); still others tend to think music capacity is not a sub form of language competence, but rather equal to it in a wider imitational, or 'mimetic' symbolical system (Vaneechoutte and Skoyles, 1998).

Which ever position one might embrace, the problem of biological foundations of music and this faculty's interdependence with language induces

numerous studies today, especially in cognitive neuroscience (Peretz and Zatorre, 2005).

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