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SHOIRA BATIROVNA YUSUPOVA



## METHODS OF LINGUISTIC ANALYSES

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FACULTY OF FOREIGN PHILOLOGY  
DEPARTMENT OF ENGLISH LINGUISTICS

SHOIRA BATIROVNA YUSUPOVA

METHODS OF LINGUISTIC ANALYSES



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**Mas’ul muharrir**

**J.Sh.Djumaboyeva – filologiya fanlari doktori, professor**

**Taqrizchilar:**

**Sh.O.Nazirova – filologiya fanlari nomzodi, dotsent**

**N.J.Sulaymonova – Phd, dotsent**

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## CHAPTER I. THE AIM AND THE TASKS OF THE METHODS OF LINGUISTIC ANALYSIS

### Plan:

- 1.1. Linguistic analysis
- 1.2. The Structure of Language
- 1.3. The aim and tasks of the subject

**Key words:** *linguistic analysis, methods, language levels, language classifications, Linguistics, history of linguistics.*

#### 1.1. Linguistic analysis.

The term *linguistic analysis* covers a lot of territory. We will use it in the narrow sense of a computer's attempt to extract meaning from text. Linguistic analysis is the theory behind what the computer is doing. Figuring out what humans are saying in written language is a difficult task. There is a huge amount of literature, and a great many software attempts to achieve this goal. The bottom line is that we are still a long way off from having computers really *understand* human language. Still, computers can do a good job at what we are after: getting concepts and sentiment from text.

There are steps in linguistic analysis that are used in nearly all attempts for computers to understand text. It's good to know some of these terms. Noam Chomsky is a key figure in linguistic theory. He conceived the idea of a "universal grammar", a way of constructing speech that is somehow understood by all humans and used in all cultures. This leads to the idea that if you can figure out the rules a computer could do it, and thereby understand human speech and text. The sentence parsing approach to linguistic analysis has its roots in this idea.

Linguistic analysis refers to the scientific analysis of a language sample. It involves at least one of the five main branches of linguistics, which are phonology morphology, syntax, semantics and pragmatics. Linguistic analysis can be used to describe the unconscious rules and processes that speakers of a language use to create spoken or written language, and this can be useful to those who want to learn a language or translate from one language to another. Some argue that it can also provide insight into the minds of the speakers of a given language, although this idea is controversial.

The scientific study of language may be referred to as linguistic analysis. The discipline of linguistics is defined as the scientific study of language. People who have an education in linguistics and practice linguistic analysis are called linguists. The drive behind linguistic analysis is to understand and describe the



knowledge that underlies the ability to speak a given language, and to understand how the human mind processes and creates language.

The five main branches of linguistics are phonology, morphology, syntax, semantics, and pragmatics. An extended language analysis may cover all five of the branches, or it may focus on only one aspect of the language being analyzed. Each of the five branches focuses on a single area of language.

*Phonology* refers to the study of the sounds of a language. Every language has its own inventory of sounds and logical rules for combining those sounds to create words. The phonology of a language essentially refers to its sound system and the processes used to combine sounds in spoken language. Phonetics is the study of individual speech sounds; phonology is the study of phonemes, which are the speech sounds of an individual language. These two heavily overlapping subfields cover all the sounds that humans can make, as well as which sounds make up different languages. A phonologist could answer the question, "Why do BAT and TAB have different meanings even though they are made of the same three sounds, A, B and T?"

*Morphology* refers to the study of the internal structure of the words of a language. In any given language, a speaker can add a suffix, prefix, or infix to create a new word to many words. In some languages, these processes are more productive than others. The morphology of a language refers to the word-building rules speakers use to create new words or alter the meaning of existing words in their language. Morphology is the study of words and other meaningful units of language like suffixes and prefixes. A morphologist would be interested in the relationship between words like "dog" and "dogs" or "walk" and "walking," and how people figure out the differences between those words.

*Syntax* is the study of sentence structure. Every language has its own rules for combining words to create sentences. Syntactic analysis attempts to define and describe the rules that speakers use to put words together to create meaningful phrases and sentences.

*Semantics* is the study of meaning in language. Linguists attempt to identify not only how speakers of a language discern the meanings of words in their language, but also how the logical rules speakers apply to determine the meaning of phrases, sentences, and entire paragraphs. The meaning of a given word can depend on the context in which it is used, and the definition of a word may vary slightly from speaker to speaker.

*Pragmatics* is the study of the social use of language. All speakers of a language use different registers, or different conversational styles, depending on the

company in which they find themselves. A linguistic analysis that focuses on pragmatics may describe the social aspects of the language sample being analyzed, such as how the status of the individuals involved in the speech act could affect the meaning of a given utterance.

## 1.2. The Structure of Language.

All languages have underlying structural rules that make meaningful communication possible. The five main components of language are phonemes, morphemes, lexemes, syntax, and context. Along with grammar, semantics, and pragmatics, these components work together to create meaningful communication among individuals.

1. A phoneme is the smallest unit of sound that may cause a change of meaning within a language but that doesn't have meaning by itself;
2. A morpheme is the smallest unit of a word that provides a specific meaning to a string of letters (which is called a phoneme). There are two main types of morpheme: free morphemes and bound morphemes;
3. A lexeme is the set of all the inflected forms of a single word;
4. Syntax is the set of rules by which a person constructs full sentences;
5. Context is how everything within language works together to convey a particular meaning.

Linguistic analysis has been used to determine historical relationships between languages and people from different regions of the world. Some governmental agencies have used linguistic analysis to confirm or deny individuals' claims of citizenship. This use of linguistic analysis remains controversial, because language use can vary greatly across geographical regions and social class, which makes it difficult to accurately define and describe the language spoken by the citizens of a particular country.

In linguistic knowledge, linguistic research methods are a set of standard tools and techniques based on assumptions about the nature of the object being analyzed. They were formed as a result of the development of science itself, as well as in the process of activity of different directions and schools.

In a broad sense, scientific linguistic methods of research are not only means and methods of studying an object, but also meta-scientific convictions and values shared by people involved in linguistics.

Within the framework of general linguistics, linguistic research methods are formed on the basis of the global analysis goals adopted by scientists of value commitments expressed in:

1. striving to get closer to the ideal of rigorous description;

2. practical value of the activity;
3. comparability of the obtained results of linguistic analysis with the results of other types of research.

With the development of the methodology, it is important to have an idea of which approaches to research can be considered scientific and which ones are not.

Along with the topic methods of linguistic research, initial positions applied without evidence. They are not questioned until there is any crisis phenomenon in the development of science or its separate direction.

In a broad sense, the methodology forms the core of the discipline, is its basic toolkit.

The key tools and techniques of language analysis should be considered methods:

2. descriptive;
3. comparative historical;
4. comparative;
5. historical;
6. structural;
7. opposition;
8. component analysis;
9. stylistic analysis;
10. quantitative;
11. transformational analysis;
12. distribution analysis.

#### 1.3. The aim and tasks of the subject

Language is the ability to produce and comprehend spoken and written words; linguistics is the study of language. Language is the ability to produce and comprehend both spoken and written (and in the case of sign language, signed) words. Understanding how language works means reaching across many branches of psychology-everything from basic neurological functioning to high-level cognitive processing. Language shapes our social interactions and brings order to our lives. Complex language is one of the defining factors that makes us human. Two of the concepts that make language unique are grammar and lexicon.

Language is such a special topic that there is an entire field, linguistics, devoted to its study. Linguistics views language in an objective way, using the scientific method and rigorous research to form theories about how humans acquire, use,



and sometimes abuse language. There are a few major branches of linguistics, which it is useful to understand in order to learn about language from a psychological perspective.

Language: The term language frequently occurs in our day to day interactions. It is multidimensional and can refer to a range of phenomena. Therefore, the meaning of this term specific to the present context may emerge from its comparison with other terms such as dialect, variety, code, communication, style, etc. The following points are noteworthy:

a) Language is unique to human beings. Animals, birds and other creatures may communicate, but they do not use language like humans. Hockett in 1960 presented a host of features called the design features that separate human language from animal communication. Language is combinatorial and rule-based whereas the sounds made by animals and birds are mostly holistic expressions communicating feelings of joy or despair.

b) Language can be spoken or written or signed;

c) Language is a medium of communication. Since one of the most important roles played by language is communication, traditionally the scholars language as a medium of communication;

d) Language also serves as a medium of cognition, shaping the ideas about the world and enabling the expression thereof;

e) In some functional perspectives, the term language may refer to anything from code, dialect, variety, pidgin, creole, lingua franca, etc;

f) In formal perspectives, language is a set of all and only grammatical sentences.

Linguistics: Linguistics is an academic pursuit that models the structure of the human language, explores how language develops in human beings and examines the intricacies involved in processing different kinds of usages. A linguist is a professional who studies languages scientifically. Linguistics has attracted the scholars and language enthusiasts across times and cultures. Needless to say, it is highly inter-disciplinary, and it has several sub focusing on different aspects of speech and interaction.

Get an overview, place your own methods in context, find other relevant methods, be able to critically read studies that use different methods and take part in discussions/reviews of research. Basic overview course as basis for choosing specified methods courses and for being able to find more information on each method.



The purpose of the discipline of Linguistic Research Methods is to provide master's students with knowledge of methods in linguistics.

The task of this discipline is to be acquainted with modern linguistic methods and to make hypotheses about the origin of language, language levels and linguistics, world languages and their classification, history of linguistics and linguists, linguistic methods, modern directions of linguistics

Linguistic analysis is a complex and rapidly developing science. Several approaches to linguistic analysis have been developed, each with its own strengths and weaknesses. To obtain the best results you should choose the approach that gives superior performance for the type of analysis you need. For example, you may choose a machine learning approach to identify topics, a rules based approach for sentiment analysis, and a sentence parsing approach to identify parts of speech and their interrelationships.

#### QUESTIONS:

1. What is Linguistic analysis?
2. What language levels do you know?
3. Why do we call basic and non basic levels? Give examples
4. How the languages are classified?
5. The main diachronic and synchronic methods?
6. What is the aim and task of the study?

## CHAPTER II. OBJECT OF THE SUBJECT LINGUISTIC METHODS AND THEIR BASIC CONCEPTS, THE ROLE IN LINGUISTICS

### Plan:

- 2.1. Linguistic methods
- 2.2. The basic concepts of linguistic analysis
- 2.3. Synchronic and diachronic approach to linguistics

**Keywords:** *Language, method, methodic, induction, deduction, observation, diachronic, synchronic, the experiment, statistical method, etc.*

### 2.1. Linguistic methods

One of the constant problems in the field of linguistics is the improvement of the methods of linguistic research. Despite the fact that most textbooks on linguistics address this problem, the methodology of linguistic research has become an object of special attention relatively recently: only since the 1990s did the first textbooks on the methods of linguistic research begin to appear. As many researchers testify, one of the problems of linguistics is that linguistic methods do not represent a single set of principles and methods of research and description of linguistic entities. Rather, it is methodology is the disorder of the basic concepts used. The encyclopedias note a menu" of complementary and / or mutually exclusive methods, used in different combinations and in different proportions in private linguistics and in specific linguistic studies. Moreover, this set is not permanent. It is constantly being enriched, and the attitude towards certain methods is also changing: in different historical periods and in different scientific schools, the same method may be dominant in linguistic practice or, on the contrary, scientifically discredited. According to A.T. Khrolenko, "the presence of a significant number of research methods requires, firstly, clarification of the very concept of "method of linguistics", and, secondly, raises the question of their classification. Both of these questions are closely related to each other and have not yet been resolved by modern linguistics. It was noted that the term method is ambiguous: it denotes an aspect of the study, methodology, techniques, methods of description, etc. Naturally, with such an undifferentiated approach to the definition of methods, it is difficult to create any scientific classification of linguistic methods. That is why even the best works on the methodology of linguistics are limited to the description of more or less indisputable methods and place them in one row without indicating a classification hierarchy. It seems that any attempt to clarify the term method and present a consistent classification is useful for linguistics, since in the empirical

sciences, which includes the science of language, classification is a way to gain new knowledge about the relationship of the studied phenomena and objects. The effectiveness of research is largely determined by the degree of development of research methods. Questions about how to study the linguistic material, where to start research, what stages of analysis need to go through, how much material is needed, what aspects, properties and characteristics of the object need to be analyzed and others arise for each scientist already at the first approach to the object.

Therefore, the methodology of linguistic research is a traditional branch of linguistics and is represented in almost all textbooks known to us on introduction to linguistics and general linguistics. It can be especially difficult for novice

researchers to understand the methodology of science due to the abundance of terms, the variety of their interpretations, modifications and classification principles. As a result, the methodology and methods are defined in the works least competently. Linguistic methods of linguistic research are a set of standard tools and methods based on assumptions about the nature of the analyzed object. They were formed as a result of the development of science itself, as well as in the process of the activities of different directions and schools.

Methodology is "a contextual framework' for research, a coherent and logical scheme based on views, beliefs, and values, that guides the choices researchers [or other users] make". It comprises the theoretical analysis of the body of methods and principles associated with a branch of knowledge such that the methodologies employed from differing disciplines vary depending on their historical development.

Method - a system of research techniques and procedures that promote targeted study of something from a certain point of view. It is impossible to study all objects of reality with the help of one method. Therefore, the question is how many methods exist and how to classify them.

Methodic - The study of method or methods, methodology; especially the methodology of language teaching.

In a broad sense scientific and linguistic research methods - this is not only the means and techniques of studying the object, but also meta scientific beliefs, values shared by people engaged in linguistics.

## 2.2. The basic concepts of linguistic analysis.

Each of the methods has its own main research task, its own area of the object studied by science, its own range of basic requirements imposed on the



researcher by the method. The method requires the researcher to subordinate the entire complex process of collecting classification and explaining facts to the main scientific task. Each special research method is embodied in the practice of scientific work in a certain system of logical actions and in a certain system of repetitive, more or less standardized methods of collecting, processing and generalizing facts. Such a system of techniques is also often called a method, but it is more convenient to call it a technique. The research method determines the way of cognition and interpretation of facts, and the methodology groups the facts themselves, classifies, shows them from the right side, puts them in different positions. V.I. Kodukhov distinguishes and describes in detail the following "basic methods of linguistic analysis": descriptive, comparative historical, comparative, stylistic, dialectographic, experimental phonetic and mathematica. Later, he names two methods of linguistic research as the main ones - descriptive and comparative; within the framework of the comparative method,

he distinguishes, in turn, comparative-historical, historical-comparative (traditionally called historical) and comparative. V.N. Yu.S. Stepanov considers the following methods as "the main special methods of linguistics": algebraic (or set-theoretic), functional, opposing, distributive, representative and some others. I.P. Raspopov, describing the methods of synchronous analysis of the language, distinguishes among them the following: the method of distributive analysis, the method of differential analysis and the transformational method. I.V. Arnold emphasizes (along with others) and examines in detail such "methods and procedures of linguistic analysis": hypothetical-deductive method, opposition method, distributive analysis, distributive-statistical analysis, component analysis. As an independent research method, he singles out "the method of automatic text analysis using computers". As can be seen from all that has been said above, in modern linguistics there is no sufficiently clear understanding of the concept of the method of scientific research, there is no complete clarity in the issue of distinguishing between research methods and other related phenomena. The main linguistic methods of assimilation (analysis) of facts are: descriptive, comparative and normative-stylistic. Descriptive is a method of synchronous analysis of one language. The material is considered outside of its assessment from the point of view of the norm. Normative-stylistic - the establishment of existing norms on the basis of a descriptive method and the development of recommendations of a normative-stylistic nature based on certain criteria. The comparative historical method is the first scientific method



in linguistics (formed in the first half of the 19th century). Its purpose is to explain the origin of genetically related languages from a common source. Reconstruction of certain proto-forms is a deductive study based on certain scientific premises. Private methods of a descriptive approach to language: Techniques (private methods) for the descriptive study of phenomena: distributive analysis, differential analysis, transformational method, etc. The use of different methods of describing one material allows you to deeper knowledge of linguistic reality.

Common Methods with other Sciences are: *induction, deduction, observation, the experiment, statistical method, diachronic, synchronic, etc.*

*Induction* supposes the study of the accessible phenomena of observation by formulating a rule, a law. A relatively reduced number of phenomena is investigated taking into account "all the imaginable possibilities in the framework of certain limits".

*Deduction* takes as the starting point or laws after which the explaining of particular phenomena takes place.

*Observation* implies the selection and the primary interpretation of the language phenomena. The experiment represents the investigation of a phenomenon "provoked under known conditions" that can be modified according to the necessary objectives.

### 1.3. Synchronic and diachronic approach to language.

In linguistics, the terms 'synchrony' and 'diachrony' refer to two different approaches in linguistic research, with respect to the periods of time considered in the research in question. The synchronic approach means studying any aspect of language solely in one particular period of time (typically the present), without taking into account other periods of time in that language's history. For example, studying the usage patterns of double negatives in English (e.g. I ain't got no money) in the early 21st century, without looking into the usage patterns of double negatives in English prior to the 21st century. Most fields in linguistics typically employ synchronic approaches as not lose focus in their research.

The diachronic approach means studying any aspect of language by comparing it between two (or more) periods, effectively focusing on the change and evolution of whatever it is you are looking at. As an example, studying the usage patterns of double negatives in English in the 18th century and comparing it to the patterns in the 19th, 20th, and early 21<sup>st</sup> centuries to see how double negatives in English may or may not have changed. By definition, historical

linguistics typically employs diachronic approaches. Saussure distinguishes between synchronic (static) linguistics and diachronic (evolutionary) linguistics. Synchronic linguistics is the study of language at a particular point in time. Diachronic linguistics is the study of the history or evolution of language. According to Saussure, diachronic change originates in the social activity of speech. Changes occur in individual patterns of speaking before becoming more widely accepted as a part of language. Speaking is an activity, which involves oral and auditory communication between individuals. Language is the set of rules by which individuals are able to understand each other. Saussure says that nothing enters written language without having been tested in spoken language. Language is changed by the rearranging and reinterpreting of its units. A unit is a segment of the spoken chain that corresponds to a particular concept. Saussure explains that the units of language can have a synchronic or diachronic arrangement. Saussure's investigation of structural linguistics gives us a clear and concise presentation of the view that language can be described in terms of structural units. He explains that this structural aspect means that language also represents a system of values. Linguistic value can be viewed as a quality of the signified, the signifier, or the complete sign.

#### **QUESTIONS:**

1. What is the language?
2. Give the definition to the word "Linguistics"
3. What kind of linguistics do you know?
4. Common methods with other sciences
5. Give example to the methods deduction, induction, observation, diachronic, synchronic methods
- 6 What is the synchronic and diachronic approach to linguistics?

### CHAPTER III. COMPARATIVE HISTORICAL LINGUISTICS AND COMPARATIVE HISTORICAL METHOD

#### Plan:

- 3.1. Comparative-historical study of languages
- 3.2. The history of language, the discovery of Sanskrit language
- 3.3. Fundamental conceptions and consequences in Comparative-Historical method
- 3.4. Comparative-historical and historical methods

**Key words:** *comparative-historical, research, language, vocabulary, grammar, phonetics, comparative linguistics, comparative-historical method, historical method*

#### 3.1. Comparative-historical study of languages.

There are many languages on Earth, both great and small. According to modern calculation the number of living languages exceed 2500 (two thousand and five hundred) languages. Alongside of highly developed national languages with ancient writing and literature, there are languages having no writing and no recorded history. Here belong the spoken languages of tribes and small nationalities in America, Africa, and Australia. Many of the spoken languages are dying out together with peoples. Due to the miserable condition, they have been reduced to by the higher European civilization, as is the case with the aboriginal Indian tribes in America or Australia. On the other hand, the number of known languages is still growing as new languages and dialects come to be recorded and studied by science. Observing the fact that some of the languages are very similar to one another in their forms while others are quite dissimilar, scholars still long ago expressed the idea that languages revealing formal features of similarity have a common origin. Attempts to establish the groups of hundred languages were repeatedly made from the XVI<sup>th</sup> century on. But a consistently scientific proof and study of the actual kinship (relationship) between languages became possible only when the comparative historical method of language study was created in the first quarter of the XIX<sup>th</sup> century. The historical-comparative method developed in connection with the comparative observation of languages belonging to the Indo-European family and its appearance was stimulated by the discovery of Sanskrit.

Comparative-historical study of languages in general, uses a variety of special techniques. It seems appropriate in this general complex system of scientific methods of comparative-historical research, not forgetting about its integrity, provide separate special tricks for closer consideration. According to modern



calculations, the number of living languages exceeds 2,500. The human mind has been speculating on the origin and relationship of languages for hundreds of years. Many scholars pointed out some common (mainly lexical) features of different languages. This idea also germinated in the minds of the first Europeans who visited India. In the sixteenth century, an Italian missionary Filippo Sassetti noted the similarity between the Italian numerals from six to nine - sei, sette, otto, nove, and their Sanskrit counterparts- sas, sapta, astau, nava. In the history of language, the discovery of Sanskrit is often compared to the discovery of America in the history of humankind. It altered the whole field of linguistic research. The languages of the Angles and the Saxons did not come out of thin air; they evolved from Proto-Germanic, the language of a tribe that occupied much of northern Europe in the first millennium B.C. The western branch of the tribe split into groups that gave us not only Anglo-Saxon, but also German and its offshoot Yiddish, and Dutch and its offshoot Afrikaans. The northern branch settled Scandinavia and came to speak Swedish, Danish, Norwegian, and Icelandic. The similarities in vocabulary among these languages are visible in an instant, and there are many similarities in grammar as well, such as forms of the past-tense ending -ed [Pinker, 1995: 251]. The ancestors of the Germanic tribes left no clear mark in written history or the archeological record. That mark was discerned in 1786 by Sir William Jones, a British judge stationed in India, in one of the most extraordinary discoveries in all scholarship. W. Jones had taken up the study of Sanskrit, a long-dead language, and pointed out in the form of a rigorously grouped scientific hypothesis that Sanskrit, Greek, Latin, Germanic and some other languages of India and Europe had sprung from the same source which no longer existed. W. Jones announced clearly the relationship between three of the great languages of antiquity - Sanskrit, Greek and Latin - and at the same time anticipated the reconstruction of the parent Indo-European language itself. Such similarities in vocabulary and grammar are seen in an immense number of modern languages. Among others, they embrace Germanic, Greek, Romance, Slavic, Celtic, and Indo-Arian languages. Subsequent scholars were able to add Anatolian (extinct languages spoken in Turkey), Armenian, Baltic (Lithuanian and Latvian), and Tocharian (two extinct languages spoken in China). The similarities are so pervasive that linguists have reconstructed a grammar and a large dictionary for a hypothetical common ancestor language, Proto-Indo-European, and a set of systematic rules by which the daughter languages changed [Pinker, 1995: 252]. Some ancient tribe must have taken over most of Europe, Turkey, Iran, Afghanistan, Pakistan, northern



India, western Russia, and parts of China. The idea has excited the imagination of a century of linguists and archeologists, though even today no one really knows who the Indo-Europeans were. Ingenious scholars have made guesses from the reconstructed vocabulary. Words for metals, wheeled vehicles, farm implements, and domesticated animals and plants suggest that the Indo-Europeans were a late Neolithic people. The ecological distributions of the natural objects for which there are Proto-Indo-European words: *elm and willow*, for example, but not *olive or palm* - have been used to place the speakers somewhere in the territory from inland northern Europe to southern Russia. Combined with words for *patriarch, fort, horse, and weapons*, the 11 reconstructions led to an image of a powerful conquering tribe spilling out of an ancestral homeland on horseback to overrun most of Europe and Asia, the word "Aryan" became associated with the Indo-Europeans, and the Nazis claimed them as ancestors. More sanely, archeologists have linked them to artifacts of the Kurgan culture in the southern Russian steppes (modern Ukraine) from around 3500 B.C. A band of tribes that first harnessed the horse for military purposes [Pinker, 1995: 253], Archeologist Colin Renfrew [1987] argues that the Indo-Europeans lived in Anatolia (part of modern Turkey) on the flanks of the Fertile Crescent region around 7000 B.C., where they were among the world's first farmers, Archeologists agree that farming spread in a wave that began in Turkey around 8500 B.C. and reached Ireland and Scandinavia by 2500 B.C. Geneticists recently discovered that a certain set of genes is most concentrated among modern people in Turkey and becomes progressively diluted as one moves through the Balkans to northern Europe [Pinker, 1995: 253].

### 3.2. The history of language, the discovery of Sanskrit language.

Linguistics as a science was created in the 19th century, especially comparative linguistics. The first of the great pioneers in comparative linguistics in Western Europe was the Danish Rasmus Kristian Rask (1787— 1832), his major work *Investigation on the Origin of Old Norse or Icelandic* (1818) may be called a comparative Indo-European Grammar. In this book, Rask clearly demonstrated the significance of laws of sounds as a proof of linguistic kinship, although he added that they were especially convincing when supported by grammatical similarities. Thus in Rask we find the whole kernel from which modern linguistic comparative methods have been developed. Even without the use of Sanskrit, Rask hit upon the two sound shifts in the history of the Germanic languages. It should be added that he did not see the complete regularity of the