

**Ministry of Higher Education
and Scientific Research
University of Al-Qadissiya
College of Education
Department of English**

Theories of Distinctive Feature

Submitted By:

Angham Ghafil

Ayat Habeeb

Supervised By:

Asst.Prof . Iman Khudhair Al-Abodi

2018 A.D

1439 A.H

Dedication

To our dear parents with love

Acknowledgements

First of all, we thank Allah for His help. We would like to thank our supervisor Asst.Prof . Iman Khudhair Al-Abodi for her advice and guidance.

We would also like to express our gratitude and appreciation to our families for their encouragement.

Contents

Dedication

iii

Acknowledgements

iv

Abstract

v

Contents

vi

1.1 Definition of Distinctive Features

1

1.2 Historical Background of Distinctive Features

3

1.3 Nikolai Trubetzkoy's Distinctive Theory

5

1.4 Jakobson's Distinctive Theory

10

1.5 Chomsky and Halle's Distinctive Features

14

Conclusion

21

Bibliography

23

Abstract

Distinctive feature is not a unique concept within linguistic theory. It has two distinct theoretical bases: phonemic theory(which is one of the units of sound that distinguish one word from another in a particular language (and generative theory (which is a linguistic theory that regards grammar as a system of rules that generates exactly those combinations of words that form grammatical sentences in a given language(. Phonemic theory assumes a direct correspondence between distinctive features and the speech signal.

The aim of this research is to trace developments of distinctive feature theories with specific reference to the work of Trubetzkoy(1934), Jakobson(1952), Chomsky and Halle(1968).

It is divided into five sections. Section one deals with definition of distinctive features, section two talks about historical background of distinctive features while section three gives a brief view about Nikolai Trubetzkoy .Section four sheds light on Jakobson's distinctive features theory .Then section five discusses Chomsky and Halle's distinctive features

The conclusions are summed up in the last section. Jakobson's work is associated with the idea that, as far as phonology is concerned, distinctive features are binary - a hypothesis articulated in depth in Jakobson and others and taken

further by Chomsky and Halle. Carrying on where Trubetzkoy left off, Jakobson also stressed the importance of a **distinctive** feature.

vi

1.1 Distinctive Features

The smallest units of linguistic structure, from which larger units are built, sometimes seen as the attributes by which phonemes can differ. The idea is fundamental in phonology, where many generalisations are standardly stated in terms of features(Chapman, and Routledge,200:1).

In phonological theory the building blocks of speech sounds are often argued to be what are called “distinctive features.” They typically have phonetic definitions and phonetically inspired names (e.g., [voice], [nasal], [labial]). While various algorithms for feature specification exist, segments and natural classes of segments are typically interpreted as bundles of the phonetically defined feature values that match their phonetic descriptions. Throughout the history of distinctive feature theory, a major goal has been to identify a set of features that is adequate for describing the segmental contrasts and phonologically important segment groups observed in the world’s languages (Gussenhoven and Jacobs,2005:12).

Distinctive features have long been involved in the study of spoken language, and in one form or another remain central to the study of phonological patterning within and across languages. However, their phonetic nature as well as their role in mental representation, speech

production and speech processing has been a matter of less agreement. Many phoneticians consider features to be too abstract for the purposes of phonetic study, and have tended to explore alternative models for representing speech (e.g., gestures, prototypes, exemplars)(Ibid.) .

Psycholinguists, too, have sometimes hesitated to integrate features into their models, often preferring to work with traditional phonetic categories, segments, or syllables. The resulting breach between the representational categories of phonology on the one hand and those of the experimental speech sciences on the other has tended to increase the gap between phonology, phonetics and psycholinguistics, challenging the underpinnings of the movement to reintegrate these approaches (Gussenhoven and Jacobs,2005 :١٣).

The fact that much of the experimentalist's understanding of features is still based on largely outdated theories of thirty or forty years ago, due in large part to the absence of accessible recent overviews of the subject. It would therefore seem useful to provide an up-to-date overview of the phonetic bases of distinctive feature theory as it is conceived at the present time (Norrick,1985:73).

Distinctive feature is the most basic unit of phonological structure that may be analyzed in phonological theory. Distinctive features are grouped into categories according to the natural classes of segments they describe: major class features, laryngeal features, manner features, and place features. These feature categories in turn are further specified on the basis of the phonetic properties of the segments in question)Ibid.).

Since the inception of the phonological analysis of distinctive features in the 1950s, features traditionally have been specified by binary values to signify whether a segment is described by the feature; a positive value, [+], denotes the presence of a feature, while a negative value, [-], indicates its absence. In addition, a phoneme may be unmarked with respect to a feature. However, in recent developments to the theory of distinctive features, phonologists have proposed the existence of single-valued features. These features, called univalent or privative features, can only describe the classes of segments that are said to possess those features, and not the classes that are without them (Anderson, 1985:68).

Then a feature distinguishes one phoneme from another, it is a distinctive feature. This difference also accounts for the meaning difference, as in the following minimal pairs: seal vs. zeal here, the distinctive feature [voice] tells [s] from [z]. The two are contrasting phonemes. But the two are neither allophones nor in complementary distribution. The only difference is the distinctive feature [voicing]. bat/mat, rack/rock, see/zee (ibid:71).

1. 2 Historical Back Ground of Distinctive Features

The central idea behind distinctive feature theory is the notion that contrasts between phonemes can be most elegantly and insightfully described in terms of properties of segments rather than by treating segments as alphabetic atoms. For example, if one identifies voicing as a distinctive feature, then it is possible to say not only that a language

contrasts the phonemes /p/, /b/, /t/, and /d/ but also that the contrast between /p/ and /b/ is in some sense the same as, or at least parallel to, the contrast between /t/ and /d/ (Mielke,2008:3).

The early history of distinctive feature theory is thus bound up with related issues, such as the definition of the phoneme, and, because many features are defined in articulatory or auditory terms, the relation between phonology and phonetics. Although many of the properties encoded by features had already been discussed in earlier work in phonetics, it was Ferdinand de Saussure (1959) who crucially saw them as the basic elements of systems of phonological oppositions. Saussure's insights were elaborated on by the Prague Circle during the 1930s. Many of the basic ideas of modern distinctive feature theory were laid out in Trubetzkoy (1969), which originally published in (1939), a year after his death (Hall, Mielke,2017:17)

This includes motivating the distinction between phonetics and phonology and identifying the different types of oppositions involved in segment inventories and some of the phonetic dimensions that are used by these oppositions. Nikolai Sergeevich Trubetzkoy emphasized that phonological oppositions can be studied only as part of a system of oppositions and Jakobson(1942) continued this work (Ibid:18).

The Prague school system of oppositions was given explicit phonetic underpinnings in Jakobson, et al. (1952:68), which exploited the invention of the spectrograph to give precise acoustic definitions of oppositions observed in segment inventories. The developing concept was also

influenced by information theory, for instance, in the effort to reduce contrasts to a set of binary oppositions. Jakobson and Halle 1956 developed some of the theoretical points suggested in the earlier work, and Halle 1959 used this feature system in an analysis of the phonological alternations of Russian (Hall and Mielke, 2017: 19).

The preliminary feature system was very similar to the later sound pattern of the English system but did not claim that the features were innate and did not use them to formulate phonological rules. In *The Sound Pattern of English* (SPE) the number of distinctive features was doubled, and the acoustically defined features found in earlier work were recast as articulatorily defined features. Changing the names to articulatory names gave the impression that this was a more radical departure, but [grave] survived as [–coronal] and so on. Changes to some parts of the (SPE) system were proposed almost immediately (including the authors' replacement of [vocalic] with [syllabic] before the book was finished), so what is often thought of as “the SPE system” is actually a modification of the original proposal (ibid.).

1.3 Nikolai Trubetzkoy's **Distinctive Theory**

Nikolai Trubetzkoy (1890–1938) was a Russian emigre scholar who settled in Austria in (1922) serving as Head of Slavic Linguistics at the University of Vienna and participating in the Prague Linguistics Circle. Trubetzkoy wrote nearly (150) works on phonology, prosody,

comparative linguistics, linguistic geography, folklore, literature, history, and political theory. His posthumously published *Grundzuge der Phonologie* (*Principles of Phonology*) is regarded as one of the key works in the science of phonology. Here Trubetzkoy, influenced by Saussurean insights, elaborated on the linguistic function of speech sounds, the role of oppositions, and markedness. He was also concerned with developing universal laws of phonological patterning, and his work involves the discussion of a wide variety of languages (Anderson,1985:115).

Trubetzkoy proceeded from first principles, noting Saussure`s distinction between langue and parole and reiterating the important terminological distinction between phonetics as the study of sounds and phonology as the function of sounds as elements in a system, organizing and reducing the phonetic level to differences that play a functional role in the system. Having established the groundwork, Trubetzkoy defined the phoneme not as an unanalyzable element of a language system but as a bundle of phonetic properties (later to be called distinctive features), and he left behind his earlier view of phonemes as psychological units in favor of a view of phonemes defined operationally and objectively (Clover, 2016:65).

Isolated oppositions hold between pairs of phonemes when the features which distinguish them do not play a recurring role in

distinguishing other pairs of phonemes; thus, the distinction between /n/ and /g/ is an isolated opposition, whereas the distinction between /n/ and /m/ is proportional (recurring in the oppositions between /t/ and /k/ and between /d/ and /g/). Bilateral oppositions are ones in which a pair of phonemes have all properties in common but one, such as English /p/ and /b/. Multilateral oppositions are those in which paired phonemes share few features in common, such as the opposition between /f/ and /z/ in English, which share a manner of articulation but differ in place of articulation, voicing, and stridency (Clover, 2016:65).

Equipollent, gradual, and privative oppositions refer to the characterization of phonetic properties. Equipollent oppositions are those in which phonemes are distinguished by properties which are taken to be equal opposites (such as front versus back vowels), rather than one reflecting the lack of the other. Gradual oppositions are ones in which sounds possess a property to various degrees (such as vowel height). Privative oppositions are those in which phonemes differ in that one contains a feature that the other lacks such as voicing versus the lack of voicing, or nasality versus lack of nasality (Ibid:68).

In a privative opposition, one member is characterized by the presence of a ‘mark’ (a feature such as nasality, voicing, or roundedness) that is absent in the other member of the oppositions.

The elements in opposition were known as marked and unmarked, respectively, and Trubetzkoy proposed that when a privative opposition was neutralized in a certain context, it was the unmarked member that appeared. Thus, when the opposition between voiced and voiceless consonants was suspended in word-final position, only the unmarked voiceless consonants occurred. Trubetzkoy also distinguished logical markedness from natural markedness, defining the logically unmarked term in this way: “the opposition member that is permitted in the position of neutralization is unmarked from the standpoint of the respective phonemic system, while the opposing member is marked” (Trubetzkoy, 1969:81).

Natural unmarkedness refers to the member of an opposition which requires the least deviation from normal breathing. Trubetzkoy also noted the analytic tension between natural and logical markedness, suggesting that “Only in those cases where the given phonemic system contains direct proof for another (‘unnatural’) distribution of markedness or unmarkedness of the opposition members can this ‘natural’ way of evaluation be ignored” . The idea of markedness appears in the Trubetzkoy correspondence as early as (1930), and Jakobson would later extend the concept of privative oppositions and propose that phonological markedness relations were universal (Ibid.).

In addition to discussing the phonological structure of phonemes

in *Principles of Phonology*, Trubetzkoy offered characterizations of syllable structure, including the notions of syllabic versus nonsyllabic consonants, the acoustic properties of suprasegmentals, and the different manifestations of vowel quantity in terms of units of length (morae) or intensity. Trubetzkoy discussed the phonological devices that signal sentence, word, and morpheme boundaries, including neutralization, free versus fixed accent, phonotactic signals, harmony, and rhythm (Ibid.).

While *Principles of Phonology* is a founding text of phonological theory, it was written under the difficult circumstances of life in prewar Vienna. According to Jakobson, Trubetzkoy was dictating the text of the book from his hospital bed as he lay dying, and about twenty pages were still needed to complete the book when he died. Jakobson made a hurried attempt to edit the work but published it largely in its existing state (Trubetzkoy, 1969 :vi, 323), so it is likely that the published version does not reflect the most precise exposition Trubetzkoy was capable of (Battistella,2017:5).

One of the appendices of *Principles of Phonology* is a short section titled “Thoughts on Morphonology” in which Trubetzkoy proposed a level of morphophonology as the link between phonology and morphology, writing that: A complete morphonological study comprises the following three parts: (1) the study of the phonological structure of morphemes; (2) the study of

the combinatory sound changes that take place in the morphemes in morpheme combination; (3) the study of the sound alternation series that fulfill a morphological function (Ibid.).

In the first, Trubetzkoy made a synchronic study of Polabian, the extinct West Slavic language spoken near the Elbe River. He proposed a system of morphological analysis to complement the phonetic and phonological levels, and he reintroduced the term 'morphophoneme' to refer to a set of phonemes which alternate with each other in morphemes and which could be represented by a common symbol. In Trubetzkoy's practice, morphemes which exhibited no alternation could be considered to consist exclusively of phonemes, whereas morphemes exhibiting alternations would be analyzed as having some morphophonemes along with phonemes (Battistella,2017:5).

As Stankiewicz (1976:105) explains Trubetzkoy's approach "introduces a severe dualism between phonetics and phonology (i.e., between a purely physical-physiological unit and its ideal, psychological equivalent), and on the other hand, it treats the morpheme as a sum of its variants, or more precisely it reifies the sum of its phonetic alternants into a separate psychological entity". In other words, by developing morphophonemics by analogy with phonology, Trubetzkoy's method established a separate level of morphophonemic analysis which later proved to be an unnecessary theoretical complication, as Morris Halle later showed.

Trubetzkoy's book *Das morphonologische System der russischen*

Sprache (1934) was a short but extensive analysis of the grammatical and derivational categories of Russian in terms of marked and unmarked binary oppositions. Here Trubetzkoy noted the distinct morphophonemic patterns of different word classes and treated the alternations of voicing and of palatalization in Russian, though at times his methodological assumptions hinder the actual analysis of alternations and his morphological work fails to match the depth and systematicity of his phonological studies (Ibid.).

1.4 Jakobson's Distinctive Features Theory

As a pioneer of the structural analysis of language, which became the dominant trend in linguistics during the first half of the 20th century, Jakobson was among the most influential linguists of the century. Influenced by the work of Ferdinand de Saussure (1940), Jakobson 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 may be extended to semantics (Caton, 1987:223).

The influential work of the Prague School linguists in the first decades of the 20th century was echoed later by one of the most distinguished representatives of the school, Roman Jakobson, who published in (1952) a book co-authored by Gunnar Fant and Morris Halle, entitled *Preliminaries to Speech Analysis*. It was the first major attempt by the structural school of linguistics to give a comprehensive and articulate, coherent picture of the distinctive features in language (Mannell, 2008:1).

Roman Jakobson was a member of the Prague school of linguistics and worked closely with Trubetzkoy. Distinctive feature theory, based on his own work and the work of Trubetzkoy, was first formalised by Roman Jakobson in (1941) and remains one of the most significant contributions to phonology(Ibid.).

Amplitude (or loudness), pitch (or frequency) and duration (length) are the three coordinates that define speech sounds. Largely relying on data made available by technical developments, the authors built up a system of features that they tabulated and baptized the feature matrix of the respective phonemes. Thus, making use of only nine binary features they gave a tentative description of all the phonemes of English (Mannell,2008:2) .

Most features belonged to a more comprehensive category, called *sonority features*. The first two, *vocalic/non-vocalic* and *consonantal/non-consonantal* obviously distinguish between vowels and consonants. Acoustically, [+*vocalic*] sounds were described as having a well-defined formant structure, while articulatorily they are characterized by vocal cord vibration and free passage of the airstream. Acoustically, consonantal sounds were characterized by a lowering in the first formant, while articulatorily an obstruction is met by the outgoing airstream. While vowels were described as [+*vocalic*; -*consonantal*] consonants received the specification [+*consonantal*; - *vocalic*]. The lateral l (and, later, the other liquid, r) was controversially described as [+*vocalic*; +*consonantal*] while

the glottal fricative h received the specification [– *vocalic*; - *consonantal*], a label also used for glides (Ibid.).

The feature *compact/diffuse*, supposedly common to both vowels and consonants, distinguishes between open and low vowels and front and back (post-alveolar) consonants respectively. The name of the feature comes from its acoustic characterization. Diffuse sounds have energy spread widely (diffusely) across the spectrum, while in the case of compact sounds the energy is concentrated in the central area of the auditory spectrum (it is compact). Articulatorily, the diffuse sounds (close vowels and front consonants) are characterized by a backward-flanged shape of the resonator (the oral cavity), while compact sounds (open vowels and postalveolar consonants) are characterized by a forward-flanged shape of the resonator (Mannell,2008:3).

Within the opposition *nasal/oral*, [+*nasal*] sounds are characterized acoustically by a reduction of the intensity of the sound the presence of a nasal formant and a damping of the oral ones, while articulatorily one witness a blocking of the oral cavity and the release of the air through the nasal cavity (Ibid.).

The feature *continuant/interrupted (abrupt)* keeps apart fricative sounds the pronunciation of which can be continued indefinitely, from stops which are characterized in articulatory terms by instantaneous release. Acoustically, stop [-*continuant*] sounds are characterized by a sudden spread of energy over a wide frequency region (Ibid:7).

Strident/mellow is a feature that differentiates among affricates and grooved fricatives (labio-dental, alveolar and alveo-palatal) on the one hand – they are all [+strident] and slit fricatives (the dental ones) which are [-strident]. Acoustically, strident sounds have irregular wave forms and articulatorily they are rough-edged because of an additional obstruction that increases turbulence at the place of articulation (Jakobson et al ,1961:4).

Protensity features are only represented by the feature *tense/lax*. The [+tense] specification characterizes sounds which are articulated with a greater effort. Acoustically they evince a greater spread of energy in the spectrum and have a longer duration, while articulatorily they require a greater deformation of the vocal tract. Voiceless consonants will be thus specified, while voiced ones will be described as [– tense] (Ibid.).

Tonality features Tonality is the arrangement of pitches and/or chords of a musical work in a hierarchy of perceived relations, stabilities, attractions and directionality . Tonality features include the *grave/acute* and *flat/plain* oppositions. The former characterizes both vowels and consonants and distinguishes back vowels from front ones and “peripheral” from “central” consonants. [+grave] sounds are characterized acoustically by a low pitch (frequency) and include back vowels and labial and velar consonants. Acute sounds will display higher frequencies and include front vowels, dental, alveolar and palatal consonants. The flat/plain opposition contrasts rounded to unrounded vowels. [+flat] sounds display acoustically a lowering of the higher formant and are articulatorily characterized by lip rounding (Ibid:7).

1. 5 Chomsky and Halle's Distinctive Features Theory

Avram Noam Chomsky ,was born on December 7, 1928, in the East Oak Lane neighborhood of Philadelphia, Pennsylvania, is an American linguist, philosopher, cognitive scientist, historian, social critic, and political activist. Sometimes described by scholars as "the father of modern linguistics," Chomsky is also a major figure in analytic philosophy and one of the founders of the field of cognitive science. (He is the author of over 100 books on topics such as linguistics, war, politics, and mass media). Ideologically, he aligns with anarcho-syndicalism and libertarian socialism. He holds a joint appointment as Institute Professor Emeritus at the Massachusetts Institute of Technology (MIT) and laureate professor at the University of Arizona (Otero,1994:487).

Morris Halle was born on July 23, 1923 .He is a Latvian-American linguist and an Institute Professor and professor emeritus of linguistics at the Massachusetts Institute of Technology. He is best known for his pioneering work in generative phonology, having written *On Accent and Juncture in English* in(1956) with Noam Chomsky and Fred Lukoff and *The Sound Pattern of English* in 1968 with Chomsky (Slife,1993:117).

Chomsky and Halle's approach to phonological theory, as with other components of generative grammar, represented a sharp break with the main currents of American linguistics that immediately preceded them. Accounts of the development of phonology emphasize technical issues, such as arguments over the existence of a taxonomic phonemic level 'or whether it is permissible to' mix levels 'in a phonological analysis.

The Sound Pattern of English) 1968, henceforth *SPE* (was done together. Nevertheless, some indication of what each brought to the enterprise can be gleaned from Chomsky's (1957) review of Jakobson and Halle's *Fundamentals of Language*) Jakobson and Halle 1956). For Jakobson and Halle's approach to phonology. In particular, he approved of the hypothesis that the sound systems of all languages could be characterized in terms of a limited number of universal distinctive features. They assigned two segments to the same phoneme if they have the same feature specifications (Chomsky and Halle, 1968:67.)

Most other approaches to phonemic analysis prevailing at the time sounds assigned to phonemes if they are in complementary distribution (or in free variation) and phonetically similar, appealing to a notion of similarity that is difficult to define. Chomsky extends the authors' emphasis (advanced over the years by Jakobson) on the importance of extending phonological theory to account for language acquisition, disorders, and other aspects of linguistic behaviour (ibid.).

On the other side, Chomsky observes that many of Jakobson and Halle's proposals need to be made more explicit and precise before they can be empirically tested. He further proposes an amendment to their conception of how phonemes are related to speech. He found that the requirement that the distinctive features assigned to phonemes be present in their correct sequence in the phonetics is too strict. He proposes that distinctive feature specifications form an "abstract underlying system of classification related, perhaps indirectly, to the physical facts of speech".

Finally, Chomsky proposes that general criteria of simplicity play an important role in the evaluation of particular phonological analyses (Chomsky and Halle, 1968:68).

Chomsky and Halle's theory of generative phonology was a synthesis of Jakobson and Halle's theory of distinctive features and phonemic analysis, revised in the light of Chomsky's emphasis on formal explicitness, simplicity, and abstractness and autonomy of mental representations. When first introduced, the centrality of *rules* in Chomsky and Halle's approach to phonology appeared revolutionary. A grammar of a language must merely *list* many things – for example, the English word *tide* begins with a / t / , ends with a / d / , and has a vowel sound represented by / i / . A person who knows English but who happens never to have encountered this word cannot derive this information) Fant, 1969:1.(

It is a particular fact about English that must be learned and committed to memory. Other facts about the pronunciation of this word are more systematic. For example, the /t/ in *tide* is pronounced with a puff of air, called aspiration (represented as *th*) (in contrast to the /t/ in *style* , which is not aspirated. Any speaker of English told that *tide* begins with /t/ would automatically know that the / t / must be pronounced with aspiration. That is, the aspiration of /t/ is not an idiosyncratic fact that must be listed in the lexical entry of *tide* , but can be encoded in a rule. Thus, the lexical, or *underlying* , form of the word *tide* need only specify that the initial sound is a /t/, where slant brackets represent *phonemic* forms; this form is then subject to the rule of aspiration, which derives the *phonetic* , or *surface* , form [th] (where square brackets represent phonetic forms) (

Dresher,2004:3.(

Fant, and Halle (1952) states that one of the main advantages is the introduction of a set of tongue body features in common for vowels and consonants but separate from the consonantal "place of articulation" features. The basic philosophy of treating phonetics as an integral part of general linguistics demands that features in addition to their classificatory function shall have a definite phonetic function reflecting independently controllable aspects of the speech event or independent elements of perceptual representation. However, there is a danger that the impact of the theoretical frame with its apparent merits of operational efficiency will give some readers the impression that the set of features is once for all established and that their phonetic basis has been thoroughly investigated.)Fant,1969:1.(

As pointed out by Chomsky and Halle there are still serious shortcomings in general knowledge of the speech event. Their feature system is almost entirely based on speech production categorizations. The exclusion of acoustical and perceptual correlates was a practical limitation in the scope of their work but also appears to note the importance layed on the production stage.It is far easier to construct hypothetical feature systems than to test them on any level of the speech communication chain. This is really the present dilemma. Until reaching for a more solid basis in general phonetics any feature theory will remain "preliminary) "Fant,1969:2.(

The main approach of Jakobson (1968) was to start out with an ordering of phonemic oppositions and to identify minimal distinctions as the

same if motivated by phonetic similarities. The demand for a smallest possible number of features and the foregoing identification of features within the vowel and consonant systems, e.g., that of identifying the relation between dentals and labials with that of front and back vowels, resulted in an unavoidable pay-off between encoding efficiency and phonetic reality and specifiability (Avery and Rice,1989:180.(

Chomsky and Halle (1968:69) avoided some of these difficulties by introducing a greater number of features. One of their basic issues is that a feature system in addition to the classificatory efficiency should conform with a natural phonetic systematization. The major class features "vocalic" and "consonantal" introduced already in the work of Jakobson and the features "sonorant" and syllabic display a complicated system of interdependencies .

The starting point for the major class features appears to have been the need to encode certain preestablished phonetic classes whereas the voiced-voiceless feature is a typical example of the opposite approach, i. e. to start out with a natural phonetic dimension and study its distinctive role in language. A natural linguistic class, i. e. all [r] -phonemes, may have rather complicated sets of phonetic correlates and a natural phonetic dimension as voicing may have to be studied together with several other dimensions as tensening, durations, and coarticulation when it comes to the discussion of its distinctive role) Fant ,1957:53).

The derivation of the rules of "phonetic component" of language aims at describing the speech production, speech wave, or perception correlates

of each feature given the "context" in a very general sense of co-occurring features within the phonological segment as well as those of following and preceding segments (Hooper, 1976:89.)

In addition to these more or less inertial dependent laws of connecting vocal gestures there may exist rules of neural reorganization of control signals for modifying the physical manifestation of a feature in accordance with a principle of least effort articulation, or the contrary, a compensation for maintaining or sharpening of a phonetic distinction dependent on what features occur or follow in the time domain. In addition to these enter rules for modifications dependent on stress patterns, intonation, tempo, speaker, type, and dialect, attitude, etc) Ibid.).

Rules for speech segment durations and sound shapes have to be expressed in terms of larger phonological segments, generally several syllables defining a natural rhythmical unit in terms of stress and intonation. Very little is known about these rules. There is some evidence that the phase of maximal intensity increase within a syllable is a reference point for ordering rules concerning segment durations) Fant, 1969:6.

This "phonetic component" of the speech event receives very little attention in the work of Chomsky and Halle who merely refer to the phonetic correlates of a feature as a scale with many steps instead of the binary scaling on the classificatory level. A knowledge of linguistic structuring is of great importance in practical communication engineering undertakings such as the administration of synthesis by rule or automatic

identifications (Ibid.).

Conclusion

Work on distinctive features is often carried out under the heading of 'segmental structure', or under the heading of 'phonological representation'. It's easy to get the idea that the recognition of 'parts of segments' is an exclusively twentieth century phenomenon. The central idea behind distinctive feature theory is the notion that contrasts between phonemes can be most elegantly and insightfully described in terms of properties of segments rather than by treating segments as alphabetic atoms.

Trubetzkoy's chief contribution in phonology was taken in the sense of functional phonology, his main interest, then, was in the classification of phonemic oppositions (or contrasts). In other words, he was concerned with the classification and comparison of the sound systems of different languages.

Jakobson exploited the invention of the spectrograph to give precise acoustic definitions of oppositions observed in segment inventories. Jakobson's phonological theory (or, to be precise, his reinterpretation and reshaping of the Prague school phonology, which he undertook in the 1940-70s), Within the framework of Jakobson's distinctive features, a consonant refers to any sound segment which is not specified as [-cons., +voc.].

The developing concept was also influenced by information theory, for instance, in the effort to reduce contrasts to a set of binary oppositions. Chomsky and Halle (1968) distinctive feature system was relevant to and descriptive of the perceptual domain of the listener in speech processing mode.

Bibliography

Anderson, S. R. (1985). *Phonology in the twentieth century: Theories of rules and theories of representations*. Chicago: Chicago University Press.

Avery, Peter, and Keren Rice. (1989). *Segment structure and coronal underspecification*. Cambridge: Cambridge University Press.

Battistella, Edwin L. Nikolai Trubetzkoy, (2017). "History of Linguistics, Linguists The Hague: Martinus Nijhoff

Chapman, S. and Routledge, P. (eds) (2005). *Key Ideas in Linguistics and the Philosophy of Language*. Edinburgh: Edinburgh University Press.

Caton, Steve C., (1987). *Contributions of Roman Jakobson*. Boston: Heinle and Heinle.

Chomsky N., and M. Halle. (1968). *The sound pattern of English*. New York: Harper & Row.

Chomsky, Noam.; Halle, Morris. *The Sound Pattern of English Studies in Language*. New York : Harper and Row, 1968

Clover, C. (2016). *Black wind, white snow: The Rise of Russia's New Nationalism*. New Haven: Yale University Press.

Dresher ,B. Elan (2004). *Chomsky and Halle's Revolution in Phonology*. Oxford: Oxford University Press.

Fant ,Gunnar(1957). *Modern Instruments and Methods for Acoustic Studies of Speech*. New York: McGraw-Hill Medical.

Fant ,Gunnar(1969). *Distinctive Features and Phonetic Dimensions*. Boston: Gruyter Mouton

Gussenhoven, Carlos; Jacobs, Haike (2005). *Understanding Phonology*. London: Hodder Arnold.

Jakobson ,Roman C., Gunnar M. Font Morris Halle(1961). *Preliminaries to Speech Analysis The Distinctive Features and their Correlates*. Oxford: Clarendon.

Halle, M. (1959). *The sound pattern of Russian*. The Hague: Mouton

Hooper ,Joan. (1976) .*An Introduction to Natural Generative Phonology* . New York: Academic Press.

Mannell, Robert(2008). *Distinctive Features*. Boston: Gruyter Mouton

Mielke ,Jeff (2008) *The Emergence of Distinctive Features*.Oxford :Oxford University Press

Norrick , N (1985) *How Proverbs mean : Semantic Studies in English Proverbs* . Berlin : Mouton Publishers.

Otero, Carlos Peregrín, ed. (1994). *Noam Chomsky: Critical Assessments*. Oxford: Oxford University Press.

Slife, Brent D. (1993). *Time and Psychological Explanation: The Spectacle of Spain's Tourist Boom and the Reinvention of Difference*. Amsterdam: John Benjamins.

Stankiewicz, E. (1976). *Prague School morphophonemics*. Ann Arbor: Michigan Slavic Publications.

Trubetzkoy, N. S. (1969). *Principles of phonology*. Berkeley: University of California Press.

