

LINGUISTIC CHANGE AND HISTORICAL LINGUISTICS*

Eiko Ito

1. Introductory Remarks

Traditionally, historical linguistics was sharply differentiated from general descriptive linguistics in subject matter and methods. New discoveries in general linguistics, however, have gradually come to be applied to historical data. Such applications presuppose not only that a new linguistic model in general linguistics can be used for the study of historical data, but also that it is necessary to re-evaluate many traditional concepts in historical linguistics, the most important of which is probably the nature of linguistic change. Several successful attempts led to calling into question the sharp separation of descriptive and historical linguistics. Now there is reason to assume that these two linguistics can be profitably integrated within the general field of linguistics. The purpose of the present paper is to examine various approaches to linguistic change proposed in the past and suggest the one which seems to be most adequate and profitable for historical investigations.

2. Dichotomy of Synchrony and Diachrony

It is the Swiss scholar Ferdinand de Saussure that first tried to

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explicitly state the dichotomy of synchrony (language states) and diachrony (language evolutionary phases). Scholars before him questioned which perspective, synchronic or diachronic, could better reveal the true nature of language. According to Saussure, however, these scholars missed the real point at issue. The facts of language are divided, so he argues (83, 99), into two distinct classes, synchronic and diachronic, each requiring a different method of study. Therefore, what is of utmost importance is to put each fact in its own class and not to confuse the two methods of study.

Central to Saussure's separation of the two linguistic studies is the particular way in which he views linguistic change. First, linguistic changes are all particular. Changes begin with individual speakers and are only later adopted by the whole speech community. That is, changes are part of *parole*, before they become part of *langue* (98).¹⁾ Secondly, from the "ever fortuitous nature of a state," it follows that each change is "unintentional" (85). One fortuitous state (e.g., *fôt* : *fēt*, pl.) is no better than the older state (*fôt* : **fōti*) for the purpose of signaling the sg.-pl. distinction. The change of **fōti* to *fēt* happened to trigger off alteration in the number signaling system, but it came about through sheer accident: the alteration is "a fortuitous and involuntary result of evolution" (86).

Thus Saussure (87) concludes:

Language is a system whose parts can and must all be considered in their synchronic solidarity. Since changes never affect the system as a whole but rather one or another of its elements, they can be studied only outside the system.

This conclusion is right, however, only if we can accept the two presuppositions it is based upon. If all linguistic changes originate in

parole and they are all unmotivated, then we should expect to encounter only extraneous deviations of the speech mechanism, i.e., those slips of the tongue which happen to be adopted later by the speech community and imperceptible articulatory shifts. However, counter-evidence for this expectation has been reported from many languages (Kiparsky 1965 : 17-21, Ch. 1). Moreover, Saussure's emphasis on absolute intra-systemic solidarity of linguistic elements would lead, if taken literally, to the conclusion that two different systems share no common features except by accident and cannot profitably be related. However, it is empirically observed that the speech (as recorded, for example, in written form) of a much earlier generation can be more or less understood without special training by the members of a later generation (Klima 1964b : 73). This indicates that there are certain over-all similarities shared by different stages of a language, rather than the total independence of each. If it is possible to relate two systems in a systematic way, then we can profitably consider how elements in a linguistic system change and why they change the way they do, questions which, for Saussure, would be meaningless to ask, since he assumes that change takes place simply by accident. Indeed it is precisely such questions that motivated the re-interpretation of linguistic diachrony.

3. New Approach to Diachrony

3. 1 Roman Jakobson

Around the end of the 1950's generative grammarians began to approach the problem of linguistic change within their theoretical framework and have been making important contributions since. Some of these recent developments in historical linguistics, however, were anticipated more than three decades ago in the works of one

European scholar.

Roman Jakobson accepts the distinction between synchronic and diachronic viewpoints in language study, but he objects to Saussure's view of linguistic change as particular and unintended. In Saussure's view, the equilibrium of linguistic elements is disturbed each time that change occurs; Jakobson (1918a:2)²⁾ argues that changes as viewed by Saussure are "destructive factors, fortuitous and blind." In Saussure's position (Saussure 81), as far as the individual speaker is concerned, change does not exist. The speaker cannot grasp the succession of language facts in time. In order to be able to use language, the speaker has to have a static synchronic linguistic system where all its elements are solidly knit together. Therefore, for Saussure, the role of the individual speaker in linguistic change is very limited. In opposition, Jakobson (1928b:5) writes:

Elle [=la doctrine de F. de Saussure] ne laisse... à la collectivité des subjects parlants qu'à trouver un sens à l'état de désordre, dans lequel ils se trouvent à un moment donné, en l'interprétant comme un système ordonné.

That is to say, to accept Saussure's position, one would have to assume that the speaker accepts as an orderly system each given state deviating from an earlier one due to changes which have taken place. In order for the speaker to be able to accept a given state of deviations as an orderly system, these deviations would have to be of a very limited kind, namely, such modifications of speech habits as are imperceptible to the speaker and the hearer. The grammar of language does not have to account for the directions of these imperceptible shifts in speech habits. Jakobson, on the other hand, instead of viewing linguistic change as simply mechanical and extraneous to

the grammar, emphasizes the significance of the role of speakers. When some change disturbs equilibrium within a system, speakers often initiate other changes to restore equilibrium rather than merely accept the state of deviation as an orderly one (Jakobson 1928b:5-6). Thus Jakobson proposes to view linguistic change teleologically: every transition from one system to another necessarily bears a linguistic function. There is an underlying principle of purposefulness in the evolution of linguistic systems. In this view changes are by no means isolated but systematic with "l'intention d'exercer une action sur le système" (1928b:6) and should be treated in the grammar of language in a general way.

Since Jakobson's position emphasizes the systematic nature of linguistic change, it becomes now natural to study various linguistic changes in terms of systems which undergo them. In a proposition presented at the first International Congress of Linguists in 1928, Jakobson (1928b:3), together with S. Karcevski and N. Trubetzkoy, suggests that

L'antinomie de la phonologie synchronique et de la phonétique diachronique se trouverait être supprimée du moment que les changements phonétiques seraient considérés en fonction du système phonologique qui les subit. Le problème du but dans lequel ces changements ont lieu doit être posé. La phonétique historique se transforme ainsi en une histoire de l'évolution d'un système phonologique.

It is not the successive development of individual sounds that should be investigated but the succession of whole stages, for unless one knew the relationship of a sound to the other sounds in one synchronic phonological system, one could never understand why sounds changed the way they did.

Jakobson does not discard the Saussurean opposition of synchrony and diachrony. Language can be analyzed either synchronically or diachronically. Re-examining the nature of linguistic diachrony, however, Jakobson (1931:220) objects to the easy equation of "la *synchronie*, la *statique* et le domaine d'application de la *téléologie* d'une part, et d'autre part la *diachronie*, la *dynamique* et la sphère de la *causalité mécanique*." There is difference in perspective in language study, but the two linguistic studies are by no means in conflict but interdependent. The relationship between the two now is far less neat than in Saussure's theory, but a new course of study may comprehend more details of linguistic phenomena. It is one of Jakobson's many contributions to linguistics to call for a historical linguistics in which the understanding of a synchronic state would play a key role.

3. 2 Structuralists

It is interesting to note that a Jakobsonian emphasis on the systematic nature of linguistic change was correctly accepted, at least in principle, by most of the structuralists of the period 1930-1960. For instance, the following quotation from Lehmann (149-50) echoes Jakobson's position:

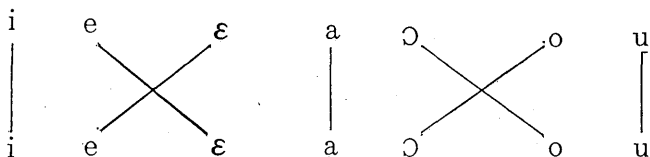
In dealing with changes affecting a phonemic system we now require grammars to note not only individual changes but also that they present them within the systems of the two stages.... Since grammars of the past dealt largely with individual phonological entities, they have rarely provided phonological systems of the language under discussion. With our present awareness of the importance of structures and substructures in language, we find such historical grammars inadequate and look forward to improved presentations.

The interest of most structuralists in linguistic change seems to be restricted to the area of phonology. Therefore it is natural that the way structuralists try to handle historical changes is determined by their conception of phonological structure, which has been referred to as "taxonomic phonemics" or "autonomous phonology (phonemics)" (Postal x). This view of phonological structure holds that there is an autonomous level of phonemics, which requires reference to only two sorts of facts: phonetics and the difference between *contrast* and *free variation* (Postal xi). Therefore, in studying phonological changes, structuralists must distinguish between changes in the phonemic system and modifications or shifts in sounds which may or may not lead to the former. In the structuralist framework, subphonemic changes are studied not for themselves but because the study is prerequisite for understanding changes in the phonemic system. And the results of investigation indeed have been presented in terms of the phonemic systems of successive stages. Thus, on the surface, structuralist assumptions in diachronic phonology have been consistent with the view that linguistic change is systematic.

Phonological changes discussed by structuralists, however, are of a very limited kind, that is, only those which originate in articulatory modifications. Grammatical properties like morphophonemic alternations, grammatical categories, and so on, are assumed to be irrelevant to phonology and are excluded from consideration in the study of phonological changes. Some structuralists are aware that in language are found those changes for which a continuous articulatory shift cannot well be postulated and which seem to involve a direct change from one phoneme to another. Lehmann (159) calls such cases "changes by phonemes." But even when talking about "changes by phonemes", structuralists still limit themselves to cases which are "governed

by articulatory possibilities and can best be understood by observing the underlying changes in articulation" (Lehmann 159); accordingly, such cases as metathesis, assimilation, dissimilation, are favored as typical examples. Thus, the structuralist position asserts that all the regular systematic statements which describe the change of phonological structure must be purely phonetic in both operation and environment. This position does not consider seriously the problem of the role of the speaker in linguistic change, which is raised by Jakobson and is to be investigated later by generative grammarians more fully in their theoretical framework. Thus, although from a different theoretical framework, structuralists arrive at the Saussurean constraint on possible linguistic change, that is, mechanical change brought about by deviations or shifts in speech habits of the speaker.

Nevertheless, cases where this taxonomic phonemics would fail are by no means lacking. For instance, in the dialects of Northern Corsica, the vowels of Vulgar Latin developed in the following way:



(Kiparsky 1965:20, Ch. 1)

That is, mid and open vowels have exchanged places with each other. The linguist, investigating this case, would want to explain not only why lowering in one case, and raising in the other, of a vowel took place, but also why this unusual phenomenon should occur both in front and back vowels. However, it would be impossible to do so in terms of articulatory change.³⁾ Such cases as these would have to be listed as particular sporadic changes in taxonomic theory. Then

many cases would be left as exceptions to the view that linguistic changes are systematic.

Most structuralists, in studying phonological changes, operate along the line suggested by Jakobson. Yet, by limiting themselves to those changes in the phonological structure which are phonologically conditioned, structuralists have arrived at the same conclusion as Saussure's as to the constraint on possible phonological changes, namely, those originating in deviations in performance. It seems that no structuralists have asked whether their view of phonological change, ultimately determined by their conception of phonological structure, really agrees with the claim of systematic linguistic change. Recently this question was raised by generative grammarians.

3.3 Morris Halle

Among generative grammarians, it is mainly Morris Halle who made the first crucial contributions to historical linguistic problems. In his important article published in 1962, Halle makes two particularly significant suggestions concerning the nature of difference between grammars and the mechanism of linguistic change.

First, Halle (343)⁴⁾ suggests that, since a grammar is viewed, in the framework of generative grammatical theory, as consisting of a system of ordered rules which generate grammatical sentences of a language, differences among grammars are due to the fact that a) different grammars may contain different rules, and/or b) different grammars may have differently ordered rules. In this view it becomes natural to regard linguistic change as rule change. Linguistic change takes place in that changes in the rules that the speaker possesses, bring about changes in his linguistic performance; it is not conceivable that these rules are continually revised to match random shifts in the

speaker's speech habits. In other words, linguistic change originates not in *parole*, individual speakers' performance, but in *langue*, the knowledge underlying their performance. Thus, we can see that Halle's view of linguistic diachrony is in direct contradiction to Saussure's view, i.e., that change originates in *parole*, rather than in *langue*. By presenting those cases which could not be accounted for by the "performance deviation" view of change, Halle and others following him⁵⁾ convincingly have shown, especially in the sphere of phonology, that their position is the more desired one.

Secondly, Halle (344-5) suggests that linguistic change is of at least two types. First there is the addition of rules to the grammar. This, he posits, is the only way that the grammar of the adult may change. The addition of rules may result in a grammar that is not optimal (the simplest) for the language of the adult. In such a case the child in the next generation will not learn the grammar of his parent, i.e., "the original grammar plus added rules," but will construct his own optimal grammar. This restructuring of the grammar is the second type of linguistic change.

The "rule change" view of linguistic diachrony suggested by Halle opened up a new set of interesting questions in historical linguistics. The study of linguistic diachrony is now related, in a significant way, to such more general issues as simplicity considerations, which form an integral part of generative grammatical theory, language acquisition, linguistic universals, and so forth. What is involved in Halle's view of change is the insight that a given set of sentences can be generated by more than one grammar, i.e., a set of ordered rules. Among several alternatives, which include his parent's grammar, the child selects, according to the simplicity criterion, certain formulations of rules that would generate most simply the representative data of

the language he encounters. Simplicity is generally interpreted as the shortness of rules, i.e., a fewer number of rules or rules with fewest conditions. When the parent's grammar is optimal, the child chooses essentially the same rule formulations. When the parent's grammar is non-optimal, the child rejects this alternative. And diachronic linguistics began to seek an explanation for not only *how* languages change but also *why* they can change in the way that they do. Linguistic universals would help to attack this crucial problem in diachronic linguistics. Since certain types of linguistic structure are often encountered in the languages of the world, whereas certain other types are very rare, there seem to be some general principles, e.g., greater simplicity, according to which human beings value certain linguistic systems more highly than others. The direction of linguistic change may be determined by tendencies toward such highly valued systems. If this is correct, then serious answers to the question "What is simpler linguistically for human beings?" must be sought in attempts to specify the universal characteristics of human language. The facts of linguistic change, on the other hand, would serve as empirical evidence on linguistic universals; that is, what are postulated as linguistic universals cannot be justified if they never function in linguistic change. Clearly the study of linguistic diachrony and that of linguistic universals are interdependent. Thus, it has come to be accepted that diachronic and synchronic linguistics should and can be more integrated within the study of language in general. As noted above, it was phonological problems that were first attacked with this new perspective, since the comparison of phonological systems is relatively easier because it can proceed on the basis of universal phonetic features, whereas the common denominator for syntactic comparison is not yet so firmly established. Recently, however, the

number of attempts in the sphere of syntax has been increasing.⁶⁾

3.4 Edward S. Klima

Edward S. Klima is one of the first to extend to the sphere of syntax the "rule change" view of linguistic diachrony. Following Halle's suggestion, Klima claims that certain differences between grammars are most simply analyzed as differences in the rules generating syntactic constructions, rather than constructions themselves. If different styles or successive stages of one and the same language⁷⁾ are viewed as independent systems not related to each other, one would have to assume that any structural similarity between them is due to accident. What the linguist could do in studying changes from one style or stage to another is to trace successive developments of individual linguistic constructions, that is, to match elements in two linguistic systems and list them essentially item by item in a rule of the form, "X in L_1 became Y in L_2 ", or "X in L_1 was replaced by Y in L_2 " (L_1 and L_2 are two different styles or historical stages of a language; X and Y may be a class of elements).⁸⁾ However, if the linguist takes one system as basic and the other as derived from it, the description will be simplified because "over-all identity of grammatical elements" does not have to be stated twice. Thus, in Klima's study, the relationship between two grammatical systems is thought of in terms of the rules (E_{1-2}) that must be added as an *extension* to the grammar (G_1) of L_1 to account for the sentences of L_2 . From the point of view of L_2 independently, however, the sentences of L_2 may be most economically described by a grammar (G_2) differing from " $G_1 + E_{1-2}$."⁹⁾

The most significant of Klima's contributions is that he made it clear that the direct comparison of G_1 and G_2 does not reveal

historical changes. The set of extension rules " E_{1-2} " would provide the connecting link between G_1 and G_2 and recapitulate the historical development. Essentially the same approach is taken in Elizabeth Closs's study of the history of the English verbal auxiliary (1965). The purpose of her study is "to reconstruct the intermediate steps that account for the types of innovations that can reasonably be assumed to underlie the observed mutations" (404). Thus Closs also maintains that one stage of a language does not directly change into another. It gives us more insight to assume the existence of intermediate innovations, which may lead to restructuring, or, in Closs's term, mutations.

The general approach to linguistic diachrony developed and applied to empirical problems by Halle, Klima and many others suggests that synchronic and diachronic relatedness between grammatical systems can be specified in the same manner, namely, rules may be provided such that the different systems may be regarded as modifications or extensions of a given basic system. Moreover, the simplicity criterion proposed by generative grammarians insures that in cases where the addition of a single, simple rule does not affect the over-all simplicity of the grammar, the order of rules synchronically established will mirror properly the relative chronology of the rules (Halle 346). Thus, it became even clearer that the traditional separation of synchrony and diachrony was indeed a superficial one. Key issues in historical linguistics are no longer the distinction between elements which form a solid system and particular changes which from no system and cannot, therefore, be dealt with in a general way, but that of innovations-added rules-and restructuring, which notions are crucially related to the simplicity criterion in general linguistic theory.

3.5 Paul Kiparsky

As to the precise mechanism of linguistic change, Klima departs from Halle's suggestion in accounting for the history of the case system in English. Halle (344) limits innovation strictly to rule addition. Klima relaxes the restriction on the possible means of innovation so that it may also include "rule inoperativization" (the labeling of a rule as non-applicable) (1964:94)¹⁰⁾ and "rule generalization" (the broadening of the domain of a rule) (1964b:155).¹¹⁾

In his dissertation (1965) Paul Kiparsky raises the question of whether or not "innovation-restructuring" is the only mechanism of linguistic change. If innovation and subsequent restructuring were the only way in which linguistic change takes place, so he argues (1, Ch. 2), isoglosses should be expected to consist typically of the absence or presence (or, former presence, if restructuring has taken place) of certain rules. An innovation may not be easily placed at different points of a grammar, since its placement seems to be heavily constrained (Halle 346) and, therefore, difference in the order of rules should be a rare form of dialectal differentiation. This expectation is not confirmed, however, by empirical data. Isoglosses frequently consist of differences in the order of application of shared rules or small differences in the detail of essentially shared rules. This consideration led Kiparsky to posit "imperfect learning"¹²⁾ as a mechanism of linguistic change distinct from the "innovation-restructuring" path. Kiparsky (1965:12-5, Ch. 2) argues that imperfect learning takes place in two ways: a) fortuitous ignorance, and b) overriding the data.

Fortuitous ignorance contributes to imperfect learning in the following way. The child has constructed the optimal, simplest grammar for a certain body of his linguistic experience. It is possible that the

language has counter-data which would motivate re-analysis. If, for some reason, these counter-data do not register on the child in the language-acquisition stage, no revision of grammar takes place and the grammar of the child is different from the grammars of the people whose speech constitutes the child's linguistic experience. Moreover, the child can, so Kiparsky suggests, actually override the data and construct a simpler grammar than his linguistic experience would justify. If the grammar is altered grossly (in terms of the number and frequency of altered forms, etc.), it is hard to assume that the counter-data have simply by chance not appeared in the child's linguistic experience, and it must be posited that "the simplification has, for some obscure reason, been 'worth' the violation of observational adequacy that the child has committed" (1965: 15, Ch. 2).

Clearly Kiparsky is trying to refine a theory of linguistic diachrony by introducing the mechanism of imperfect learning where Klima shows a departure from the view of linguistic change as first suggested by Halle. Like Halle, Kiparsky limits innovation strictly to rule addition. In Kiparsky's view, changes due to rule generalization are distinct from those changes clearly caused by "ordinary" rule addition. This distinction is motivated by the empirical observation that changes of the former type show a slow diffusion property, whereas changes of the latter type can spread over large areas with astonishing rapidity. As for rule inoperativization, Kiparsky (1965: 3-5, Ch. 2) proposes to consider such examples as the following:

Ex. 1 Reordering in Swiss German dialects

1. Umlaut ([*-consonantal*] → [*-grave*]/...)
2. Monophthongization (*æI* → *ā* except before vowels)
 **æIli* 'egg (Dimin.)' → *āli* (Umlaut does not apply.)

↓
æli

Switzerland and of Yiddish

Older *bunt* : *bundes* changed to *bund* : *bundes*

— 16 —

Exs. 1-2 in terms of added rules. But it has not yet been shown that this kind of change involving abstract properties of rules occurs *only* in child language. In Kiparsky's framework the concepts of rule addition and imperfect learning, that is, simplification, are related to adult and child language, respectively (1968:195). If such changes as Exs. 1-2 do occur in adult language, and if we assume that adult language cannot undergo changes affecting the over-all simplicity of the grammar (Halle 344), then we still need to posit a new rule somehow incorporated into the adult's existing grammar as an innovation. As a matter of fact, it seems quite likely that an innovational rule which served to cause a subsequent restructuring was not recovered in the comparison of two optimal grammars, so that an observed change appears to be a counter-example for "innovation-restructuring."

Both Klima and Kiparsky, in constructing a theory of mechanisms of linguistic change, departed in certain different ways from the initial suggestion by Halle. Preference of one formulation over another should be determined ultimately by our knowledge of what it is that determines possible and impossible processes of language modification by the adult and what constitutes the evaluation measure used by the child in constructing his grammar. But we have only begun to understand some aspects of these problems. Until we get a deeper insight into them than at present, a theory of precise mechanisms of linguistic change may claim to be suggestive but not definitive.

4. Conclusion

We have seen how, as the concept of linguistic change was reinterpreted, particularly within the framework of generative grammatical theory, diachronic linguistics became an integral part of

general linguistics. The assumptions about linguistic change within the generative framework may be summarized as follows:

1. Linguistic changes are changes in rules.
2. Linguistic changes are not directly reflected in two optimal grammars which are independently formulated.
3. Intermediate steps that underlie observed changes between different grammars must be reconstructed.
4. This task is done most simply by taking a given grammar as basic and others as modifications or extensions of this basic system.
5. This method of specifying the relationship between different grammars operates both synchronically (different dialects of one and the same language) and diachronically (different stages of one and the same language).

From these assumptions we can derive our conclusion as to the goal of diachronic linguistics: diachronic linguistics as a structured discipline does not aim to compile optimal discrete grammars which happen to be genetically related and happen to be chronologically arrangeable, but to account for the evolutionary development from one grammatical system to another. If L_1 and L_2 are two different stages of a language, then their grammars are structurally related but different systems and the description of the relationship consists in specifying over-all identity of grammatical elements and the extension rules which can explain differences between the two grammars, i.e., in constructing G_1 -based grammar of L_2 , " $G_1 + E_{1-2}$ ". Such grammars would reveal with greater clarity and in simpler form the same information that the direct comparison of optimal discrete grammars, G_1 and G_2 , would provide essentially in the manner of listing all

cases of item replacements.

For many years general linguistics has sought *explanations* of linguistic phenomena. On the other hand, such attempts were, with few exceptions, simply not found in historical linguistics, which was concerned with systematic *descriptions* of the phenomena. New directions for historical linguistics, however, seem to have arisen finally through the work of generative grammarians such as Halle and his associates. Many investigations in this new perspective are often wrong in detail or still unable to handle certain complicated problems in linguistic diachrony, particularly in the area of diachronic syntax. Yet this new approach to linguistic change within the generative grammatical framework seems to be essentially sound and promising, in that it allows us to raise the kinds of questions for which serious answers must be sought because they have direct bearing on the nature of human language, precisely as is the case with those questions raised in general linguistics. I believe that, if more studies are done along lines suggested by Halle and others, we will eventually come to a better understanding of linguistic change in all its aspects, i.e., *what changes* take place in the evolution of language, *how* these changes come about, and *why* the changes go in one direction rather than another.

FOOTNOTES

- 1 Saussure's famous distinction between *langue* (a grammatical system that exists in the brains of a collectivity of speakers) and *parole* (execution of *langue*, individual speech facts) partially corresponds to *competence* and *performance* in generative grammatical theory, though the social aspects of Saussure's *langue* ("it exists only by virtue of a sort of contract signed by the members of a community" (14)), are now largely discarded.
- 2 All the citations from Jakobson given below are taken from *Selected*

Writings, I (1962).

- 3 Such changes as this are treated as "exchange rules" or "alpha-switching rules" of phonology in the generative grammatical framework. On exchange rules in general see Chomsky and Halle (1968 : 254-9).
- 4 Page references below for Halle are to the reprinted version in Fodor and Katz (1964).
- 5 E. g., Paul Kiparsky (1965, 1968)
Paul M. Postal (1968)
- 6 E. g., Edward S. Klima (1964a, b)
Elizabeth Closs (1965)
Robin T. Lakoff, Ch.6 "Diachronic Change in the Complement System" (1968)
Elizabeth Closs Traugott (1972)
- 7 In his 1964 article in *Lg*, Klima approaches the pronoun case syntax as reflected in different dialects. His dissertation handles the same problem historically, i. e., the changes in the case system from Late Middle English on to Modern English. Klima suggests that these two types of relatedness can be handled in a uniform way. He writes in his *Lg* article (1964a : 2) that "within different styles of one and the same language...comparison of syntactically differing systems is simplified by overall identity of grammatical elements.... It is hoped that this CONTROL situation may help to clarify more complicated relationships, stages of one and the same language...."
- 8 Cf. a statement of phonological change in Hoenigswald (2) : "... / #kn ... / has been replaced by, or 'become', /#n... /...."

A typical example of this kind of listing in syntax is found in Pyles (160) :

The Old English masculine-feminine interrogative pronoun *hwā* became in Middle English *wwō*, and the neuter form *hwæt* became *what*. As with the other pronouns, the dative drove out the accusative (OE *hwone*) of the first of these, the dative *whōm* (OE *hwām*, *hwē̄m*) being used in any objective function. *Hwæt* had the same dative form as *hwā* in Old English, but, as with other neuters, this was given up...."

- 9 The term "extension rule" is adopted in (1964a). Extension rules(E1-2) are those rules added as innovations in a Halleian fashion, which may bring about a non-optimal grammar. If "G1 + E1-2" is non-optimal, restructuring takes place in a later generation such that the resultant

grammar (G2) is optimal.

- 10 Klima does not seem to make much use of the principle of rule inoperativization in his two studies, however.

- 11 E. g.:

Case Reduction

Stage One (c. 1450)

Case marking is completely a characteristic of grammatical function.

$$\left\{ \begin{array}{c} \text{v} \\ \langle \text{trans} \rangle \\ \text{p} \end{array} \right\} (\text{Det}) \langle \text{pro} \rangle$$

$$\Rightarrow \begin{array}{cc} 1 & 2 \\ & 2 + \text{CASE} \end{array}$$

Stage Two (End of the 17th century)

1st Case Reduction Rule (Innovation)

$$\left[\langle \text{indet}^n \rangle + \text{CASE} \right]_{\text{wh}} \Rightarrow \left[\langle \text{indet}^n \rangle \right]_{\text{wh}}$$

(not applicable to relatives)

Stage Three (18th century)

2nd Case Reduction Rule (Innovation)

$$\left[\langle n \rangle + \text{PRO} + \text{CASE} \right]_{\text{wh}} \Rightarrow \left[\langle n \rangle + \text{PRO} \right]_{\text{wh}}$$

If we assume rule generalization of the type of removing from the rule of some lexical feature, we do not have to have two separate reduction rules, i. e.,

$$\left[\langle \text{indet}^{\text{pro}} \rangle + \text{CASE} \right]_{\text{wh}} \Rightarrow \left[\langle \text{indet}^{\text{pro}} \rangle \right]_{\text{wh}}$$

see (1964b : 155-6).

- 12 Later Kiparsky adopts the term "simplification" for this mechanism; see his article in Bach and Harnes (1968).
- 13 The devoicing rule may have the form $[+ \text{obstruent}] \Rightarrow [- \text{voiced}] / -\#$. In Klima's formulation, an innovation would be posited such that the valence of this rule changes from OBL (obligatory) to NON (nonapplicable). That is, where there is a structural analysis "[+ obstruent] before a word boundary marker," the devoicing rule must not apply. Kiparsky does not make it clear precisely why this innovation should be interpreted as occurring in *parole*. In his 1968 article (191) *generality of theory* is taken into consideration to reject a solution like Klima's: the loss of such rules as the devoicing rule does not generalize to reordering or rule generalization.
- 14 First Klima posits (1964b : 82) that innovations consist of rule addition and rule inoperativization and assigns to restructuring all the other types

of linguistic change - - rule generalization, rule replacement and rule reordering. But later he relaxes the possible means of innovation to include rule generalization as well (1964b: 155).

- 15 Jakobson mentions (1928a: 1) the obvious fact that a speech community accepts and sanctions some innovations but not others, which he refers to as the "social character" of linguistic change. There is no doubt that information concerning the social value of different speech forms is an important part of what the speaker knows and may have diachronic relevancy. At present, however, it is not very clear how to incorporate such information into our conception of competence. When a new conception of grammar enables us to do this, the role of these broader aspects of competence in linguistic change will be explicitly accounted for.

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