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Contributions to the Study of Its Causes

Edited by

Leiv Egil Breivik and Ernst Håkon Jahr

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Preface

Most of the papers in this volume were presented at the symposium "The causes of language change: Do we know them yet?" held at the School of Languages and Literature, University of Tromsø, October 15–17, 1987. The symposium was made possible by generous financial support from the University of Tromsø and the Norwegian Research Council for Science and the Humanities.

Tromsø, December 1988

Leiv Egil Breivik
Ernst Håkon Jahr

Contents

Introduction

The past two decades have witnessed an upsurge of interest in historical linguistics, with attention to all areas of language. There has been a flourishing of new journals and scholarly work – dissertations, monographs, articles, and introductory texts. A great number of contributions have been prompted by the International Conferences on Historical Linguistics (ICHL), the first of which was held in Edinburgh in 1973 and the eighth and latest in Lille in 1987; by the international conferences on historical phonology (1976), historical morphology (1978), historical syntax (1981), historical semantics/word formation (1984), historical dialectology (1986), and historical linguistics and philology (1988), all of which were organized by the Institute of English, Adam Mickiewicz University, Poznań; by special sessions of recurring meetings and congresses, e. g. those of the Chicago Linguistic Society in 1976 and the 14th International Congress of Linguists in 1987; and by special symposia, such as those held at Santa Barbara in 1974 and 1976.

The present volume also reflects the current activity in the field. It is the outgrowth of a symposium, entitled "The causes of language change: Do we know them yet?", held at the University of Tromsø, October 15–17, 1987. The title of the symposium was intended to provide an association to a much-cited statement by Leonard Bloomfield; in 1933, in his book Language (ch. 21.9), Bloomfield claimed that "the causes of sound change are unknown". Undoubtedly, there is still much that is unknown in diachronic linguistics, much that still has to be investigated. However, recent research has delved more deeply into the complex causes of not only phonological change but of language change in general; there now seems to exist a better understanding of the motivations for, and mechanisms of, language change through time. This improved understanding has been made possible by the development and expansion of disciplines such as sociolinguistics, language contact research, communication theory, child language and creole studies – together with innovations in the study of language-internal developments as well as in the study of language universals and linguistic typology. We feel it is safe to claim that historical linguistics has now left the stage where all the causes of language change are unknown.

This volume contains eleven papers which were prepared for the Tromsø symposium (Breivik's paper was not presented, and Romaine

read a different one from that included here). The collection of papers covers a wide range of approaches; they draw their data from a variety of languages and language types, but all focus on the main topic of the symposium: the causes of language change.

In the first paper, Henning Andersen emphasizes the importance of understanding the circumstances which motivate speakers to change their language. He argues that the social dimension should be integrated into the description of language, thus eliminating the distinction between linguistic and extralinguistic factors. The functions that innovations have for speakers of a language are also discussed. The author views innovations as a metadialogue through which members of a community propose and reject or adopt new norms.

Leiv Egil Breivik's paper is concerned with the relationship between typological shifts and specific linguistic changes in English; it examines the ways in which sentences with existential *there* have changed and developed over the centuries, and tries to provide an explanation for the diachrony by appealing to various parameters. His data show that syntactic and semantic changes in these constructions are closely correlated with pragmatic factors; indeed, in a number of cases, pragmatics seems to be the primary causal factor.

A similar conclusion is arrived at by Jan Terje Faarlund, who examines the various properties pertaining to the Old Norse nominative NP and the Modern Norwegian subject. He argues that the grammatical changes that have taken place since the Old Norse period have been induced by thematic and contextual factors. Faarlund's general hypothesis is that, in a diachronic perspective, syntax is motivated by the pragmatics of previous stages. It is claimed that this hypothesis is supported by the cross-linguistic data.

Ernst Håkon Jahr considers the relationship between language planning and linguistic change. Particular attention is given to cases where a deliberate and successful effort has been made by political authorities or prescriptive linguists to change a spoken language or a spoken variety of a language in a desired direction. Examples of this are provided from Norwegian and Icelandic.

Charles N. Li's paper addresses two related issues: the diachronic development of switch reference in Green Hmong and the function of switch reference. The fact that switch reference can emerge in a prototypal isolating language which is verb-medial is intriguing from a typological as well as from a diachronic point of view. The Green Hmong data also pose a challenge to the standard interpretation of switch reference, under

which it is restricted to tracking the reference of subjects. Finally, the data are discussed within the context of the causes of syntactic change.

Helmut Lüdtke focuses on a set of phenomena which are not planned or intended but nevertheless a result of man's activity. He argues that such 'invisible-hand processes' are important causes of language change; they happen continually and inevitably. For example, the development from Latin to Romance provides evidence for the existence of the quantitative process whereby meaningful elements grow shorter and shorter as regards their phonological realization (shrinking). Invisible-hand processes are discussed in relation to a number of parameters.

Peter Mühlhäusler is concerned with the causes of the dramatic linguistic changes that are taking place in many parts of the Pacific area. He argues against the widely held assumption that language change should be explained in terms of changes in linguistic systems. In his view, most causes of change are person-made causes in linguistic ecology. Accelerated linguistic change in the Pacific is a consequence of modernization; the way man has caused language change is similar to the way he has brought about cultural change.

In his paper, John J. Ohala brings the study of linguistic change into the laboratory, arguing that modern instrumental phonetics allows us to identify some of the causes of sound change or at least locate the domain in which they lie. He discusses three mechanisms in detail (confusion of similar sounds, hypo-correction and hyper-correction), and gives recipes for eliciting in the laboratory sound changes caused by these mechanisms. Ohala's account is entirely non-teleological; for example, sounds are not claimed to change in order to be easier to pronounce.

The main topic of Suzanne Romaine's paper is the role of children in the overall communicative structure of the speech community: does variation in children's language use lead to long-term restructuring of the language system? Her data suggest that there is often a parallelism between first language acquisition and historical change, but she points out that much more research needs to be done on the ontogenetic/diachronic parallels and dependencies; we do not know as yet why the normal acquisition of language by children effects long-term changes only in certain cases.

Peter Trudgill examines the relationship between linguistic development and social context, with reference to the role of *contact* in linguistic change. The paper considers the extent to which changes that occur in situations of low contact are significantly different from those which take place in high-contact contexts. Trudgill stresses the importance of study-

ing low-contact varieties; his thesis is that insights into the causes and mechanisms of linguistic change are most likely to be found in investigations of data from isolated languages.

Language contact is also the topic of P. Sture Ureland's paper, the first part of which is devoted to a selective overview of recent works dealing with linguistic change. The author points out that the ethnic and language-contact hypothesis as formulated by medieval language philosophers has often been neglected by linguists working in this area. In his view, this is unfortunate since the impact of foreign influence is an extremely important causal factor. Contact-induced structures from several language areas are cited in support of this claim. Particular attention is given to Scandinavia, Holland, and the Engadine in the Swiss Canton Grison.

Understanding linguistic innovations

Henning Andersen

0. Introduction

The title of the symposium posed a question about the causes of linguistic change – do we know them yet? I suppose most linguists would hesitate to answer this question with a categorical yes or no, but would be inclined in one direction or the other. For my own part, I think an affirmative answer is in order, but for this answer to be unqualified, I feel the question would have to be phrased slightly differently. It should concern linguistic innovations and ask whether we can understand them yet.

I have formulated the title of this paper accordingly. In the remarks that follow, I will clarify the sense of the three words I chose for my title (sections 1–3) and will then try to substantiate my affirmative answer (section 4). As it happens, my title allows of an interpretation that is quite different from the one that probably comes to mind first, but which seems to be no less relevant. I will explicate this alternative reading of the title in my conclusion (section 5).

1. Understanding

The question the organizers of our symposium raised is straightforward, and it has been given straightforward answers in the past. And so it might be useful to take as point of departure a confrontation of two of the best known statements on the causes of linguistic change.

On one hand we have Bloomfield's position (cf. (1)), which sums up his evaluation of the theories that would explain sound-change by reference to economy of effort:

(1) Although many sound-changes shorten linguistic forms, simplify the phonetic system, or in some other way lessen the labor of utterance, yet no student has succeeded in establishing a correlation between sound-change and any antecedent phenomenon: the causes of sound-change are unknown. (1935: 385)

On the other, there is Coseriu's position:

(2) In one sense, the most general one, the so-called 'causes' are actually not unknown, but perfectly well known and observable every day, for they coincide with the very conditions of speaking and are part and parcel of every speaker's experience. In another sense – as cultural and functional determinants – the 'causes' of change derive from the general conditions of language and are, whenever a given language is adequately documented, by and large open to investigation. (1952: 83, 1967: 123 f.; my translation, HA)

The two quotations might seem to express diametrically opposite opinions of one and the same matter. But it would be a mistake to interpret them in this way – and not only because the question of the causes of linguistic change is not a matter of opinion. What the apparently opposite judgements of Bloomfield and Coseriu reflect is first and foremost a difference in metatheoretical premisses, a difference in scientific ideology, which it is instructive to make explicit.

Note that Bloomfield's statement is couched in orthodox positivist terms: it speaks of efficient causality, carefully referring to causality in its observable aspect, as correlations between antecedent phenomena and their consequents. Given this physicalist understanding of the notion of 'cause', few linguists would probably disagree with Bloomfield's conclusion that such causes of linguistic change are unknown. But at the same time, if the notion of 'cause' is restricted in this fashion few linguists today, probably, would find the question of the causality of change very interesting. To my knowledge, at least, no modern advocates of theories of economy of effort subscribe to the crude, efficient-causality view of the relation between explanantia and explananda which Bloomfield rejected.

Coseriu, by contrast, explicitly distances himself from such an understanding of the sources of sound-change, and of linguistic change generally, by using the word 'causes' in quotation marks. Instead he speaks

of the conditions of speaking and the conditions of language, and reveals in his choice of the term 'conditions' a more cautious view of the relation between the circumstances that surround language use and grammar and the changes that occur as time goes by.

To Coseriu, none of these circumstances acts as a cause of change. Change in language, as well as the absence of change, is produced by its speakers as part of that excercise of their free will which speaking is. In speaking, they may be motivated by the diverse circumstances under which they speak to deviate from the usage that is traditional in their community. But such a motivation is not a cause in the sense in which Bloomfield and his predecessors understood the word, for the individual speaker is free to let himself be moved, or not moved, by the given circumstance or circumstances. In Coseriu's view, the only true 'causes' of change are the speakers, who use their language – and, in doing so, observe or neglect their linguistic traditions as they see fit.

This is undoubtedly a fairly realistic way of looking at language change, not only because it assumes that any change may be conditioned by a number of coexisting circumstances, but also because it acknowledges the intentional character of speaking, whether it follows or breaks with tradition, and hence, by implication, an element of intention in both stability and change. In accordance with this latter aspect of Coseriu's theory, the language historian's task is one not of causal explanation, but of rational explication.

But a full account of the diverse kinds of change that occur in the history of languages must consider not only the aspects of change which are governed by the intentions of the speakers. It must include as well a number of different kinds of change which cannot by any stretch of the imagination be viewed as intentional in the usual sense of the word. Among these are changes of the kind Bloomfield was considering in the passage quoted above. We will look at such changes below, and I will try to show how such non-intentional changes, too, are compatible with the notion of rational explication (section 4.2.4).

1.1 Description, classification, explication

In discussions of linguistic change (as of any other phenomena), it is necessary to distinguish three different levels of inquiry – the particular, the general, and the universal (cf. Coseriu 1974: 23 ff.).

In diachronic linguistics, inquiry on the particular level (which Coseriu calls the historical one, and which might also be termed the idiographic) is concerned with individual historical changes and seeks to establish all the circumstances relevant to any such change, that is, to describe as fully as possible what actually occurred in the given instance.

Besides investigations of this kind there is a general level of inquiry, where similar changes in different languages are compared and contrasted, subsumed as tokens of types, and categorized from diverse points of view. Here different changes are examined with the aim of forming generalizations about that usually happens under such and such circumstances and, ultimately, of establishing what kinds of change are possible.

On this level of inquiry, where our experience with concrete linguistic changes is systematized, it is apparent that although all changes in some sense must be products of man's free will, they still give evidence of a fair degree of determinism. This is not surprising, considering that all languages conform to definite universal principles of use and of structure, which are not subject to human will. Coseriu, in my opinion, has tended to underemphasize this aspect of language change, and Itkonen denies its existence (1986). But to others it seems obvious that even on the particular level of inquiry, where we seek to describe and interpret individual changes as fully as possible, our success in identifying the relevant motivating circumstances and determinants and in clarifying their relative weight depends on our understanding of the universal principles which govern language use and grammar formation, and which thereby define the limits within which speakers are free to exercise their will.

These principles are central to the universal level of inquiry (which Coseriu has called the rational or philosophic one), where such problems are considered as what language change is, what the reasons for language change are, that is, why change is an invariable concomitant of any living language tradition – the problem of the mutability of language. Here it is essential to recognize that any language is a joint product of nurture and nature. On one hand, it is a cultural institution, assimilated by the individual and freely manipulated by him according to his needs and skill, and in relation to the limits set by social convention. On the other hand, it is acquired, maintained, and elaborated entirely by the grace of the natural language faculty that all members of our species share. It is against this background that the different types of rational explication must be applied which we will look at below.

Among the three different levels of inquiry sketched here – the particular, the general, and the universal – the question posed by the organizers of this symposium clearly refers to the last. No one would claim that we understand all the particular changes that have ever taken place in the languages of the world or even all the changes that are known to have taken place. It might even be hazardous to claim that all the possible types of change are known. But one can reasonably hold that we have an adequate understanding of the universal mechanisms of change and of the reasons why languages change.

It is in this sense that I interpret – and answer – the question posed in the title of our symposium, and I will consequently offer a survey of the major categories of change below (section 4) and a characterization of the different reasons for each of them.

2. Linguistic

There would be no need to explicate the second word in my title, *linguistic*, were it not for the fact that historical linguists, at least since the nineteenth century, have been concerned to make a distinction between the linguistic and the extra-linguistic (or non-linguistic), but have disagreed both on where the boundary between these two domains should be drawn and on the very relevance to their inquiry of allegedly extralinguistic facts.

Here I will mention only the relation between linguistic and other social values, which has been particularly troublesome and remains of current interest. I will contrast two different points of view and suggest a synthesis.

In their seminal essay on the theory of language change, Weinreich et al. illustrate the remarkable backwardness of some of their predecessors in the field with the following quotation from Kuryłowicz, a consistent advocate of a formal, algebraic structuralism and of immanent explanations in diachronic linguistics (1968: 177):

(3) One must explain linguistic facts by other linguistic facts, not by heterogeneous facts. ... Explanations by means of [heterogeneous] social facts is a methodological derailment. (The bracketed word is missing in the quotation, but occurs in the original; cf. Kuryłowicz 1948: 84, 1960: 246).

The omission by Weinreich et al. of the bracketed occurrence of 'heterogeneous' makes Kuryłowicz appear not to have considered language a social phenomenon, which is unjust. But the reinstatement of the word does not change the fact that Kuryłowicz (and some other structuralists) for one reason or another demanded a strict separation of what was properly linguistic from what was not and assigned exclusive relevance in historical explanations to the former.

The major contribution of Weinreich et al. – which has been universally acclaimed – was in arguing for social realism in the theory of linguistic change, in demonstrating how "sociological factors ... explain distributions and shifts in linguistic phenomena which, from a structural point of view, would have been seen as random" (177), and in clarifying how "the changing linguistic structure ... is embedded in the larger context of the speech community", and how "social factors bear on the system as a whole" or, perhaps more often, unequally on different parts of it, inasmuch as "linguistic structures [are] embedded unevenly in the social structure" (185).

Throughout the subsequent flowering of sociolinguistic studies it has proven practically impossible to escape the conceptual difficulties these few, randomly chosen quotations exemplify, first, the false dichotomy between the linguistic and the social, and, secondly, the notion that language is embedded in society.

This being so, it seems well worth emphasizing that the supposed dichotomy between language and society is non-existent in two respects. For one thing, language is an entirely social phenomenon and can in no way be separated from its social functions. For another, when linguistic rules make reference to social categories such as age, sex, or class, these categories are eo ipso linguistic categories. These categories can be, and should be, strictly distinguished from such notions as chronological age, biological sex, or socioeconomic status, which can be defined prior to, and without regard to, the investigation of any language. Of course, such language independent notions can be used as preliminary, auxiliary means to establish the social value of linguistic expressions. But what linguistic expressions index are culture specific categories such as 'youthfulness', 'femininity', or 'upper class', not as defined in universal, naturalistic terms, but as conventionally encoded and understood by speakers of the language in question at the given time. Far from being "sociological factors" or "social factors bear[ing] upon linguistic features" (186), these are simply linguistic features. They are language particular categories of content, indexed by linguistic elements of expression, and they are selected

for expression in discourse by speakers in accordance with their communicative intentions and with the same degree of freedom (and responsibility) as other categories of linguistic content.

Secondly, while it is a commonplace that language is totally embedded in society (linguistic facts are social facts, cf. (3)), what is important to understand is that through the sociolinguistic categories of content indexed by linguistic expressions, the categories of a society are ("unevenly", that is, selectively) embedded in its language.

What should distinguish our generation of linguists from that of Kuryłowicz is the understanding that social categories which are thus integrated into a language are not heterogeneous to it. If we look back at Kuryłowicz's methodological admonition with this, it seems, superior understanding and grasp the difference between "sociological factors" and sociolinguistic features of content, we can in fact give Kuryłowicz's statement our unqualified endorsement.

In speaking of "linguistic" innovations in my title I want to imply as broad an understanding of the word 'linguistic' as is necessary to accommodate the fact that the realms of content encoded by linguistic expressions extend far beyond what is given individual morphemic expression. No elements of meaning symbolized or indexed by linguistic expressions can be considered non-linguistic or extra-linguistic (cf. Hjelmslev 1961: 125 ff.).

3. Innovations

The third word in my title was chosen in an effort to pinpoint the phenomena that have to be explicated and understood in linguistic diachrony and to avoid the confusion and the misunderstandings that the word 'change' has traditionally given rise to.

To some extent speakers of a language can have the impression that their language is changing or has changed in their time. There is no reason why the word 'change' should not be used to describe this naive, subjective impression.

But in linguistics the word 'change' has come to be more of a liability than an asset. Several attempts have been made to define it as a technical term (Coseriu 1958: 45 f., 1974: 63 f., cf. Andersen 1975: 19, 22, 54;

Lüdtke 1985: 187), but perhaps it is best avoided altogether. It has been noted time and again – but is often not sufficiently appreciated – that in the literal sense of the word 'change', "linguistic change does not exist" (thus Coseriu 1985). What happens diachronically – in discourse as in grammar – is that innovations are made which for a time may occur or exist side by side with the corresponding traditional forms, and eventually may become established as traditional themselves. In such a diachronic development, which informally can be called 'a change', nothing strictly speaking changes into anything else. The key concept here is that of innovation, which we return to below.

Often, in the scholarly literature, the word 'change' is used indifferently about diachronic developments as just described and about an entirely different, purely metalingual notion, equally distinct from anything properly called change and therefore better denoted by a more precise, descriptive label. I use the term 'diachronic correspondence' for this, the relation between an entity belonging to one stage of a language and an equivalent entity of a later stage. Diachronic correspondences are, so to speak, the raw material on the basis of which the linguist determines whether there have been innovations or not during a given segment of time.

The simple fact that a diachronic correspondence may be the result of a series of diachronic developments ('changes') would in itself argue for a consistent, explicit distinction between the two notions. In fact, however, linguists have tended to take little interest in the actual diachronic developments in which a language tradition is preserved and renewed as it is passed on from speaker to speaker – which should be the historical linguist's primary object of inquiry. Instead they have focused their attention on diachronic correspondences, calling these metalingual relations 'changes', and speaking of them as of objects changing into other objects, bizarre as it may seem. Consider, among recent works, Bynon (1977), who speaks variously of grammars turning into subsequent grammars (e.g., pp. 46, 57, 67) and of surface representations changing into later, different surface representations (e.g., pp. 53, 64); these are the "pseudo-connections" highlighted by Andersen (1973: 767); or see Itkonen (1983: 208 ff.), who defines several schematic types of diachronic correspondence, calls these abstractions changes, and theorizes that some of them are more rational than others. In other words, the word 'change' has commonly been employed not to describe anything going on in the object of inquiry – language in diachrony – but rather to sum up a reified version of the linguist's observations (cf. Coseriu 1985).

In order to describe effectively the reality of diachronic developments, I use the term 'innovation' to refer to any element of usage (or grammar) which differs from previous usage (or grammars). The notion of innovation makes it possible to break down any diachronic development ('change') into its smallest appreciable constituent steps. The notion has sufficient flexibility to allow ad hoc qualification – we can recognize passive innovations, in decoding competence, along with active ones, speak of collective as well as of individual innovations, or consider a train of cumulative innovations as a single innovation – without losing sight of the term's ideal, minimal extension. In this regard, the term 'innovation' differs very favourably from the word 'change', which has traditionally tended to subsume arbitrarily large segments of development.

Most importantly, as the notion of innovation allows us to analyse any diachronic development into its constituent steps, it also lets us recognize that these are of necessity quite differently conditioned and leads us to inquire whether any given innovation in usage or in grammar is intentional, to what extent it is determined by universal or language specific features of discourse or grammar, and whether it affects or is codetermined by one or another of the different levels of grammatical organization of the language – its received norms, its functional system, and its type (thus Coseriu 1971) or groundplan (as Sapir sometimes called it).

4. Finality, determinacy, fortuity

In section 3, I sketched the usual course of events in diachronic developments: an innovation arises, the new entity (of usage or of grammar) cooccurs or coexists for some time with the corresponding traditional one and is then eventually established as traditional itself – if it does not go out of use, yielding to the traditional one or to a new innovation. To understand any such particular development it is necessary to understand the reason for the initial innovation, why it was accepted, adopted or acquired, or duplicated by others, and finally, why it was generalized or given up in competition with alternative linguistic entities.

To speak meaningfully about such developments in general, one needs to recognize that each and every step in such a development is an innovation, not only the initial act, through which a new linguistic entity comes into being. It is through innumerable individual acts of innovation – of acceptance, adoption, and acquisition – that any new entity gains currency and enters into competition with traditional entities in the usage of a linguistic community. Among all the different kinds of innovation, however, the initial innovations show the greatest variety and involve the most varied kinds of motivation.

A consistent analysis of diachronic developments into the steps of which they are composed leads to the identification of three major categories of innovation, which differ by the distinct kinds of motivation they involve. They are, first, the pragmatically motivated innovations, which involve finality (section 4.1), secondly, the innovations that arise in the transmission of a language from generation to generation, which involve different degrees of determinism (section 4.2), and finally, the innovations that arise, as it were, fortuitously out of nowhere (section 4.3).

4.1 Adaptive innovations

An adaptive innovation is a purposeful elaboration of an innovator's competence (a covert innovation), typically motivated by immediate communicative needs and immediately realized in discourse (in an overt innovation). An adaptive innovation enables the innovator to overcome a perceived shortfall of his competence vis-à-vis his communicative needs, and in thus extending his competence it can be said to adapt his grammar to – that is, bring it into greater conformity with – the demands of discourse. The simplest illustrations are new words coined to express new notions; Andersen 1975 and 1980a offer systematic overviews with lexical, morphological, morphophonemic, and phonological examples.

Adaptive innovations may be premeditated (as, for instance, terminological neologisms typically are), but most are not. Some are unquestionably intentional or may be rationalized ex post facto as intentional. But many appear to be made without conscious intent and may be produced in the here-and-now of discourse even without the innovator's being aware of their novelty. Maybe most kinds of adaptive innovations conform to Coseriu's conception of innovations as products of the speak-

er's free will, but some must be recognized as involuntary. The unifying feature of all adaptive innovations is their purposefulness (or goal-directedness – finality, as the philosophers would say), the fact that they are modifications of a speaker's grammar aimed at achieving specific communicative ends.

This makes it natural to categorize adaptive innovations according to the diverse functions discourse serves, as suggested in Andersen (1975: 19 f., 1980 a: 7 ff.). Minimally one can distinguish six categories, corresponding to Jakobson's six functions of discourse, innovations facilitating (1) reference precision, (2) emotive expressiveness, (3) aesthetic aptness, (4) conative effectiveness, (5) channel efficiency, and (6) code conformity (cf. Jakobson 1960: 353 ff.). All of these can evidently be divided into subcategories, with differences in detail from culture to culture.

4.1.1 Contact innovations

Contact innovations, which include the last-mentioned category above, are noteworthy in several regards, first of all by being necessarily involved in every diachronic development: it is through contact innovations that any overt innovation spreads and is generalized in a speech community, by being (passively) accepted, (intentionally) adopted, or (voluntarily or involuntarily) acquired by other speakers. More importantly, it is through contact innovations (especially adoption and acquisition) that members of a language community manifest their linguistic solidarity, and that any community language is maintained as such. Furthermore it is through contact innovations that speakers of any language bridge communication gaps between themselves and speakers of other languages.

It stands to reason that very different conditions for contact innovations obtain under these different circumstances. Active participation in the linguistic tradition of one's own speech community is one thing. Adoption of the norms of another sociolect or dialect is quite another. Adoption of a different grammatical system, yet another, not least where the languages in contact are typologically distant. The consequences of contact innovations undoubtedly depend on whether the adaptation is unilateral or occurs in a context of mutual code adjustment, and whether it is based on adoption alone or includes acquisition (cf. Andersen 1988). Again, much probably depends on the relative stability of the contact situation and on how long it obtains: the development of a shared ecology of speaking may be a prerequisite for such relatively orderly amalgama-

tions of grammars as Zamboangueño (Frake 1971) or Michif (Rhodes 1977), as well as for the development of linguistic alliances (Sprachbünde), whereas the confrontation of widely different ecologies may inevitably produce the sort of cataclysmic results described by Mühlhäusler elsewhere in this volume.

But while a great deal remains to be learned about the conditioning of contact innovations, there is no doubt about the reason for them. Speakers of all languages naturally look to the fitness of their linguistic competence and will adopt or acquire novel expressions they encounter by reason of their apparent utility – be it with respect to referential precision, emotive expressiveness, aesthetic aptness, conative effectiveness, channel efficiency, or code conformity. Thus the reasons for contact innovations include all the reasons why adaptive innovations are made. And all the reasons for adaptive innovations may result in code conformity, not just the common desire to speak like one's fellows.

4.1.2 Finality and indeterminacy

If one considers the logical structure of innovations and views any innovation as a conclusion derived from a set of premisses, then the purposive character of all adaptive innovations can be seen to consist in the fact that their "final cause" – the goal of the innovation – is the chief of these premisses, the single sufficient condition, the reason for the innovation.

In addition, two sets of conditions are invariably involved in adaptive innovations, elements of the innovator's pragmatic competence – which, for instance, determine the fact and the extent of the innovation – and elements of his grammatical competence. The latter may determine the character of the innovation positively – for instance, where a productive pattern of word formation is used to coin a neologism, or negatively – such as when an adaptive innovation goes beyond the customary means of the innovator's competence, as typically innovations in word order or contact innovations.

There is a notable difference between contact innovations and the other five types mentioned above, which I call accommodative innovations. In contact innovations, the covert innovation is a hypothetical (abduced) account of elements of a model usage, defined on the basis of the innovator's prior competence, in terms of which these elements have been observed. In accommodative innovations, by contrast, the goal of

the individual covert innovation is not part of the innovator's prior experience and is largely determined by his grammatical competence. As a consequence, accommodative innovations are less determinate than contact innovations. Note that contact innovations typically contribute to linguistic convergence, whereas accommodative innovations often result in divergence, as one and the same communicative problem is solved differently by different members (in different parts) of a community.

4.2 Evolutive innovations

I have suggested the term 'evolutive innovations' for the unintentional and purposeless innovations in grammar and in usage that occur as a language is transmitted from generation to generation – or, perhaps more accurately, is acquired by generation after generation – in a language community (cf. Andersen 1973: 778).

4.2.1 Continuity

The continuity of a linguistic tradition rests entirely on the interplay of two activities, in which all members of a language community are engaged from cradle to grave. These two activities, which it is useful to view in logical terms, are discourse – the (logically deductive) derivation of observable usage by means of internal grammars – and language acquisition – the (abductive) construction of internal grammars on the basis of observed usage.

Leaving aside performance errors and adaptive innovations, the usage of discourse is logically entirely determined by the internal grammars with which it is produced; such is the nature of deduction. If internal grammars were similarly determined by the usage from which they are inferred – as many linguists have believed – no innovations would arise in the transmission of language, or at most one would expect to record random, individual fluctuations due to acquisition errors, or imperfect learning, as it is usually called.

In fact, of course, diachronic shifts do occur in all linguistic traditions, and they may affect any part of grammar and range from almost imperceptible shifts in the shape, value, or distribution of single entities to wholesale systemic shifts, and even typological shifts. What is more, when

such shifts occur, they are typically actuated in discourse in a gradual and generally orderly fashion. These are the two major explananda for a theory of evolutive innovations.

4.2.2 Bifurcations

Historical dialectology sheds considerable light on the reason for such diachronic shifts. The analysis of dialect boundaries provides massive evidence suggesting that in general, to any diachronic shift which occurs in some language area at some time, there is a logical alternative, often attested in a complementary area (on the other side of an isogloss) or known from the history of some other language (cf. the notion of 'bifurcation' in Andersen 1975).

What this means is two things. First, whereas the construction of a grammar by and large may be sufficiently determined by evidence available to the learner, this is probably never the case in all particulars, the observable usage being susceptible to more than one interpretation in some, perhaps in numerous, respects. Secondly, the lack of determinacy involved can more often than not be ascribed to ambiguities – with respect to distinct parameters – which must be resolved in the course of the acquisition process by cognitive operations such as segmentation, valuation, or ranking, which are equally relevant to the expression side, the content side, and the syntactic specifications of any linguistic entity; cf. Andersen 1975, 1980a. It is the fact that many of these operations involve binary decisions which explains why the attested diachronic shifts typically imply logical alternatives. Any ambiguity in the observed discourse data which different learners may resolve differently is sufficient reason for an (abductive) innovation.

4.2.3 Norms and system

Since usage is logically entirely determined by the internal grammars with which it is produced, all abductive innovations might be expected to have immediate observable consequences. However, a grammatical competence develops, throughout a speaker's life, as a dual structure composed of a (hypothesized) system of the productive rules of the language and a (similarly hypothesized) account of its norms, the principles of usage which guide the speaker in his efforts to speak as he should. Consequently

speakers are able to produce usage conforming relatively closely to the same norms despite differences in their internal grammatical systems. Or, to put this into a diachronic perspective, even relatively significant systemic shifts may be shielded from immediate manifestation by the speakers' adherence to received norms of usage. In ontogenetic terms, an abductive interpretation of some part of a grammatical system which turns out to be untenable may – instead of being revised – be covered up, or patched up, with adaptive rules formulated in subsequent contact innovations; this is the scenario exemplified in Andersen 1972. Or, elements of the received usage may be acquired 'by rote' as part of the norms before any generalizations are made regarding the productive system, in which case observable usage might not offer any evidence at all of the innovative or non-innovative character of the speaker's system.

This, in outline, is the theory adumbrated with regard to diachronic morphophonemics in Andersen 1969 (821 ff.) and elaborated with reference to phonology in Andersen 1972. An essential element in this theory is the asymmetrical relationship between norms and system which follows from the generality and simplicity of the system and the fact that the norms, which prevent the system from full, immediate manifestation, in many regards have to be acquired piecemeal. First, in every respect in which a speaker is not familiar with the norms, he will be guided in his usage by the productive system he has constructed for himself. As a consequence, deductive innovations will arise in community usage side by side with entities conforming to the received, unproductive patterns. Secondly, since the novel entities bear a simpler relation to the productive system than the received ones, they may be evaluated by the speakers as simpler and more natural than the received ones and hence not be subject to censure, at least in some styles. Thirdly, the actual occurrence of the novel entities in the usage of the community will tend to increase the frequency with which the innovative, productive patterns will be constructed by subsequent learners. As a consequence, the unproductive patterns defined by the norms will gradually be curtailed and superseded by the productive patterns of the system, and observable usage will gradually approach complete comformity with the rules of the system.

The theory that has been summarized here departs from what can be observed in order to explain it. What can be observed when a shift is actuated is that minor alterations of usage gradually lead to a new systematic regularity. The theory, by contrast, assumes that the shift precedes the actuation. It views the actuation of a systemic shift as a series of innovations in usage, conditioned by the novel interpretation of

the system and allowed to increase in frequency, number, and variety as the norms are gradually brought into conformity with the novel interpretation of the system.

The dynamic relation between norms and system implied in this conception is in essence a theory of double standards. It provides an account of the tension between received community norms and individual interpretations of the system, which is presumably relevant to other value systems than language. Be this as it may, the functional advantage of the differentiation of grammar into norms and system is evident. Since grammar construction is based on abduction, there are no safeguards against divergent interpretations of the data of usage. The norms protect against the undesirable consequences a diversity of interpretations would have for communication. They secure a relative homogeneity (or ordered heterogeneity) and continuity of usage whether or not there are differences among the grammars constructed by different speakers.

4.2.4 Determinacy and ambiguity

Unlike adaptive innovations, evolutive innovations are not purposeful. To be sure, the efforts through which each speaker acquires his competence are evidently purposeful. But the purposeful character of the acquisition process as a whole merely means that the acquisition of any part of a grammar is purposeful, and not that innovation would be either more or less purposeful than the absence of innovation. There is no need for the concept of finality in discussions of evolutive innovations.

As mentioned above, observable usage is in principle (leaving aside performance errors and adaptive innovations) entirely determined by the internal grammar from which it is (deductively) derived, whereas the system of an internal grammar is not fully determined by the usage data from which it is (abductively) inferred.

The reduced determinacy of the abductive process, however, is far from being a play of chance. In the first place, it is mainly around certain threshold values that the observable usage corresponding to given parameters is ambiguous. This is clear from the geographic consequences of bifurcations when a language area is differentiated into dialects; these are typically neat bisections of an area and not random distributions of the two logical alternatives. Secondly, there is evidence to suggest that abductive innovations are conditioned not just by ambiguous usage data, but also by prior analytic decisions the learner has made (cf. Andersen

1973: 767 f.). In fact, such prior decisions may determine innovations even in cases where there are apparently no ambiguities in the data (cf. Andersen 1980 a: 37 f.). Thirdly, central among the premisses that condition the results of the acquisition process are universal principles of grammar formation, which determine which aspects of the usage data will be cognized, the strategies of analysis used, and the form the results of abduction will have. To give just one example, there is probably a universal, possibly holding by default, to the effect that of two alternants, the longer will be derived from the shorter (cf. Andersen 1980 b: 299). This universal would be an essential part of the explanation for the remarkable fact mentioned by Bloomfield in (1) (section 1) that linguistic forms tend to shorten. On the whole, it seems that there is copious evidence in documented language histories for an extensive codetermination of abductive innovations by other facts of grammar with which given innovations seem to cohere, and hence, by implication, evidence for the character of this coherence. Perhaps due to the absence of a generally accepted theory of evolutive innovations, this evidence has not attracted quite the attention it deserves.

While many questions regarding the conditioning of evolutive innovations remain to be answered, the reason why they occur is clear: it is in the intrinsic fallibility of the abductive mode of inference. In other areas of cognition, the fallibility of abduction is offset by the possibility of inductive observation. But in the inference of mental objects, such as the grammatical patterns that underlie language behavior, this corrective procedure is not, for obvious reasons, available.

4.3 Spontaneous innovations

The last of the three major types of innovation has long seemed the most enigmatic. What I call spontaneous innovations are like some adaptive innovations in that they extend the innovator's competence relative to that of his models. But unlike adaptive innovations, they serve no discourse purpose. In Andersen 1972 (785 f., 790), I described them as a kind of evolutive innovations. But they differ from what I have discussed as evolutive innovations above (section 4.2–4.2.4) by having no basis whatever in tradition. In fact, they are the innovations from which traditions spring.

Spontaneous innovations are the innovations by which speakers interpret as regular variation what is objectively mere fluctuation. I will mention only two areas in which the effects of spontaneous innovations are most notable.

One is the ascription of social value to all novel linguistic entities. When innovations – any innovations – are first introduced in usage, they may convey whatever linguistic and pragmatic content they are intended to convey, but they have no social value. Social value is ascribed to them by individual speakers as they receive them, depending on the social group membership of the speakers from whom they hear them and on the context in which the innovations are heard. These individual (abductive) ascriptions of sociolinguistic and stylistic indexical content, which are tantamount to conditions of use, determine each individual's own use of the innovation if he adopts or acquires it. Only as an innovation gains currency in the speech of the community does a collective understanding of its social value develop on the basis of the use patterns of those who have adopted it (cf. section 5).

Such use patterns may remain stable, but more often they will drift. Whenever a condition of use is defined by a markedness relation, the given entity's use will be less clearly defined at one end of the given dimension than at the other, and the resulting skewed fluctuation will give rise to subsequent revaluations of the categories that are indexed.

The other area I will mention, in which spontaneous innovations play an important role, is low level phonetics. It is through spontaneous innovations that the naturally occurring mutual adjustments of contiguous phonic elements (intrinsic allophones) are elevated to conventional, that is, rule governed indexes (extrinsic allophones). By such innovations, phonetic fluctuation – that is, to put it in Saussurean terms, the amorphous sound material just beyond what is linguistically formed – is given linguistic form as rules of allophonic variation and, in this way, semioticized (cf. Andersen 1979: 380 f., Dressler 1982: 116 f.). That the resulting variation, which originates as a result of individual spontaneous innovations, is idiosyncratic at first and may gain currency only if it is ascribed social value, perhaps goes without saying.

4.3.1 Fortuity and contingency

Spontaneous innovations appear to arise fortuitously, with the flimsiest conceivable basis in reality, or even without any at all. As innovations,