Andersen (1973) and dichotomies of change

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Henning Andersen in his well-known and oft-cited (1973) article "Abductive and deductive change" (*Language* 49(4).765–793) distinguishes two types of language change: evolutive change – defined as "change entirely explainable in terms of the linguistic system that gave rise to it" – and adaptive change – defined as "a change not explainable without reference to factors outside the linguistic system in question". In this paper, we present an overview of the evolutive versus adaptive dichotomy in Andersen's work and the role this dichotomy has played in the field in ensuing years. While this particular terminology has never taken a central role in discussions of these issues, the terms are still in some use, and the field as a whole has seen a proliferation of various terms focusing on this and similar dichotomies.

Keywords: evolutive vs. adaptive change, internally vs. externally motivated change, terminological dichotomies, language change

1. Introduction

Henning Andersen's "Abductive and deductive change" (1973, hereafter ADC) is an important work that has garnered much attention over the years. According to Google Scholar, it is by far his most-cited work, with 821 citations from works on syntax, phonological theory, language and biology, morphological change, constructionalization, and markedness, among other areas of investigation.

The title "Abductive and deductive change" refers to modes of inference crucial to language change. "Abductive change" invokes *abduction*, a mode of inference introduced by the American philosopher Charles Sanders Peirce in which one proceeds from a result, invokes a law, and infers that something may be the case; it is often confused with induction but is in fact distinct from it, as Peirce explained. "Deductive change" invokes *deduction*, a mode in which one applies a law to a particular case and predicts a result therefrom. One mode that is not mentioned,

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but is implicit nonetheless, is *induction*, in which one proceeds from observed cases and results and from them establishes a law, a generalization.

ADC, however, is about much more than just these modes of reasoning and their application to language change. While much of the attention paid to ADC focuses on the abduction/deduction dichotomy, our attention here is on a different dichotomy, that of evolutive versus adaptive change. This distinction can in simple terms be described as that between internally motivated and externally motivated change to a linguistic system, what is often now seen as a fundamental concept in introductory presentations of language change.

In this paper we present an overview of the evolutive versus adaptive dichotomy in Andersen's work and the role this dichotomy has played in the field in ensuing years. While this particular terminology has never taken a central role in discussions of these issues, the terms are still in some use, and the field as a whole has seen a proliferation of various terms focusing on this and similar dichotomies.

2. Evolutive versus adaptive and its historical context

2.1 Evolutive versus adaptive in Andersen (1973)

As is often the case in academic work, Andersen (1973) can be seen as one of a series of milestones along the way in the working out of important concepts and theories. Two earlier works by Andersen show the beginnings of these ideas before the full development in 1973. The beginnings of the focus on, for example, deductive change are found in Andersen's (1969) work on diachronic morphophonemics and Ukrainian prefixes, where he makes a distinction that is slightly different from but clearly related to what would be his main focus in 1973:

> … we identified two phases in each morphophonemic change: a covert phase, consisting in the formulation of a new morphophonemic rule, and an overt phase, consisting in a gradual elimination of lexical exceptions to that rule. The distinction between these two phases is of fundamental importance, for it is relevant for all linguistic change.
>
> The first (covert) phase we may call INDUCTIVE CHANGE, for it arises out of the inductive process of rule formulation. … The second phase we may call DEDUCTIVE CHANGE, for it takes place in the process of creating surface forms from base forms by the application of rules. (Andersen 1969: 828–829)

The dichotomy that is our focus here was first introduced in Andersen's (1972) paper on diphthongization, where in a footnote he says that:

> It is appropriate to note at this point that I recognize the fundamental distinction between evolutive change and adaptive change. EVOLUTIVE CHANGE can be characterized as internally motivated change, as change in a linguistic system entirely explainable in terms of that system itself. ADAPTIVE CHANGE, by contrast, is change in a linguistic system explainable only with reference to factors extraneous to that linguistic system, whether linguistic (e.g. language contact) or non-linguistic (e.g. the introduction of labrets). (Andersen 1972: 12, fn. 1)

He does not discuss this distinction further here, however, since evolutive change and not the contrast between the two is the focus of the paper, but he does point out "that the widely held view that all linguistic change is adaptive is fallacious. Evidently, while induced change may account for cases of convergence, linguistic divergence can be explained only as the result of evolutive change" (Andersen 1972: 12, fn. 1).

It is in the well-known 1973 paper, then, that the dichotomies of abductive versus deductive and evolutive versus adaptive come into focus. The evolutive versus adaptive dichotomy, our central concern here, is introduced in the course of discussing some sound changes affecting "sharped" (i.e. palatalized) labials, such as [p'], in various dialects of Czech – an important contribution by Andersen to Slavic and especially Czech linguistics. Here he presents two ways of characterizing key dimensions to this change. First, he recognizes earlier regular, purely phonetically driven changes – *p' b' m' > t d n* in some dialects, and *p' b' m' > p b m* in others – that were part of the general depalatalization of labials in Czech. Second, he identifies a later, lexically particular shift in the first group of dialects of *t d n > p b m*, which occurred after contact between the dialect groups. An important aspect of this second change is that the labial outcome in the first change was associated with the socially and economically dominant dialect.

Andersen saw these two changes as fundamentally different in nature. The first was driven entirely by linguistic factors, in this case acoustic phonetic conditioning – in that a palatalized labial is acoustically close to a dental – while the second was driven by social factors, motivated by contact between speakers of the different dialects. The former he referred to as an "evolutive change" and the latter as an "adaptive change".

An evolutive change, as Andersen defines it here, in slightly different terms from the earlier definitions above, is "a change entirely explainable in terms of the linguistic system that gave rise to it" (p. 778), thus a system-internal development arising out of the linguistic system in and of itself. Adaptive change, by contrast, is "a change not explainable without reference to factors outside the linguistic system in question" (ibid.), thus a system-external development driven by the embedding of the change in a larger social structure. Both types involve abductive and deductive

reasoning, thus establishing a connection between the abductive/deductive dichotomy and the evolutive/adaptive dichotomy.

The metaphor behind the terms "evolutive" and "adaptive" seems to be that with evolutive change, a language – almost like an organism – undergoes changes that are the result of its own internal structure and constraints, whereas with adaptive change, the language or, perhaps better, the speakers of the language accommodate their usage to that of others in order to avoid being socially stigmatized. The terminology thus recognizes a key distinction in our understanding of language change, namely the dichotomy between internal and external change or, better stated, between internally motivated versus externally motivated change. This dichotomy reflects the fact that language is both a psychological/cognitive/individual phenomenon, i.e. "internal" in a certain sense, and a social/interactional phenomenon, thus "external" in a certain sense.

2.2 Earlier conceptions of this distinction

While the distinction between internal and external motivation seems to be fairly basic and one that is fundamental to the study of language change, Andersen appears to have been one of the first to articulate it in this particular way. While language contact was always acknowledged as a source of borrowings and other developments in language diachrony, the focus of the Neogrammarians was on relatedness and reconstruction, with borrowing relevant only as needed to exclude material that was extraneous to determining relatedness. Even work that focused more specifically on language contact (e.g. Wave Theory, early studies of Creoles, etc.) focused on the nature of change, rather than the factors that lead to it. Similarly, structuralists like de Saussure recognized borrowing as a mechanism of change, but focused mainly on matters internal to the linguistic system – and thus, with regard to loanwords, on how they fit into these systems.

Interest in the motivations for change began to come into sharper focus as the field of modern linguistics continued to develop. Leonard Bloomfield (1926, 1933), for example, distinguished between changes in ways that lend themselves to a distinction between internal and external to the system (e.g. "sound-change" and "analogic change" (internal) versus "linguistic substitution" and "linguistic borrowing" (external); 1926), but did not use those terms as such. But Uriel Weinreich, in his *Languages in contact* (1953), contrasts "purely linguistic studies of languages in contact" with "extra-linguistic studies on bilingualism and related phenomena", saying ultimately that "they are all essentially complementary in understanding a phenomenon of so many dimensions" (as language contact). This conceptually comes very close to the internal/external distinction.

Charles Hockett (1958, 1965) refers to the "triad" of sound change, analogy, and borrowing, similar to Bloomfield's division, explicitly identifying it as generally recognized in the 1870s, and noting that:

> Nor was there any great fuss about [this] basic triad … Whether each of these was to be interpreted as a KIND of change, a CAUSE of change, or a MECHANISM of change is obscure; apparently the scholars of that time had not the habit of making distinctions of this sort. Even so, this classification afforded some answer to another question left open by the genetic hypothesis, which … had nothing much to say about either how or why language changes. The threefold classification was to some extent an answer to the how. (1965: 190)

Hockett also draws a distinction between the external and the internal **history** of a language in a chapter on the history of English in his book *A course in modern linguistics* (1958); this distinction comes close to internal versus external as causes of change, especially since "contact with speakers of other languages" is part of what he includes under "external history", but it is not an explicit drawing of this distinction.

The years preceding the publication of Andersen (1973) were ones in which important developments were occurring in the field of linguistics, with a move away from structuralism and with the rise of at least two important linguists who can be seen as representative of two major trends to impact linguistics for many years to come. One was Noam Chomsky and the generative approach to linguistic analysis, which did not concern itself much with the social side of language and the role it plays, and the other was William Labov and the new focus on the importance of sociolinguistics and language variation in the development of languages. Weinreich, Labov & Herzog, in their seminal 1968 work, for example, "suggest that a model of language which accommodates the facts of variable usage and its social and stylistic determinants not only leads to more adequate descriptions of linguistic competence, but also naturally yields a theory of language change that bypasses the fruitless paradoxes with which historical linguistics has been struggling for over half a century" (p. 99). They also introduce five central problems for the theory of language change: constraints, transition, embedding, evaluation, and actuation (p. 102), which have played an important role in studies in the field ever since.

Labov's 1965 paper and many subsequent publications were also important milestones along the way to what can be seen as this new focus in language change. The drawing of distinctions between internal and external factors was a central part of this, as Labov notes, for example, that "linguistic change cannot be explained by arguments drawn from purely internal relations within the system, even if external, sociolinguistic relations are recognized as additional conditioning factors. In the mechanism of linguistic changes which we have observed, the two sets of relations are interlocked in a systematic way" (1965: 91). Labov also introduces the notions

of "change from below" or "below the level of social awareness" (1965: 110) versus "change from above", that is, "a sporadic and irregular correction of the changed forms towards the model of the highest status group" (1965: 111), which map in some ways to the internal versus external distinction and the evolutive versus adaptive dichotomy of Andersen.

From this brief overview, ADC can be seen to be a natural and important part of the development of the modern-day field of historical linguistics. (See also the overview in Thráinsson (2012) with regard to the development of some of these concepts.) We personally have found the distinction Andersen draws here between evolutive and adaptive to be insightful and important and have employed it productively and usefully in teaching introductory historical linguistics. Our goal in the next sections is thus to explore how these particular concepts have fared in the years since ADC's publication, especially in the light of other competing terms that have emerged.

3. Evolutive versus adaptive and ADC's reception

3.1 Initial survey

As noted, ADC has attracted a considerable amount of attention over the years; however, the evolutive/adaptive distinction has not been the focus of most of the attention. In order to get a sense of the place of the evolutive versus adaptive distinction in the field, we conducted an initial survey of 25 introductory works in English that focus on historical linguistics; these works, which include handbooks and in some cases multiple editions of the same work, are listed in (1).

(1) Aitchison (1981/1991/2001) (*Language change: Progress or decay?* (1st/2nd/3rd edn.))
Anttila (1989) (*Historical and comparative linguistics* (2nd edn.))
Bowern & Evans (2015) (*Routledge handbook of historical linguistics*)
Bynon (1977) (*Historical linguistics*)
Campbell (1999) (*Historical linguistics: An introduction*)
Crowley (1987/1997) (*An introduction to historical linguistics* (1st/3rd edn.))
Hale (2007) (*Historical linguistics: Theory and method*)
Hock (1991) (*Principles of historical linguistics* (2nd edn.))
Hock & Joseph (1996/2009) (*Language history, language change, and language relationship* (1st/2nd edn.))
Jeffers & Lehiste (1979) (*Principles and methods for historical linguistics*)

Joseph & Janda (2003) (*Handbook of historical linguistics*)
Keller (1994) (*On language change: The invisible hand in language*)
Labov (1994) (*Principles of linguistic change*, vol. 1: *Internal factors*)
Labov (2001) (*Principles of linguistic change*, vol. 2: *Social factors*)
Labov (2010) (*Principles of linguistic change*, vol. 3: *Cognitive and cultural factors*)
Lass (1997) (*Historical linguistics and language change*)
Lehmann (1992) (*Historical linguistics* (3rd edn.))
McMahon (1994) (*Understanding language change*)
Ringe & Eska (2013) (*Historical linguistics: Toward a twenty-first century reintegration*)
Sihler (2000) (*Language history: An introduction*)
Trask (1994) (*Language change*)
Trask (1996) (*Historical linguistics*)

The results of this survey show that, perhaps surprisingly, the evolutive/adaptive distinction has not received much attention at all, and certainly far less than we expected, based on our own sensibilities as to its importance and utility. None of these 25 works has "adaptive change" or "evolutive change" listed in its index. Moreover, of the 25 works, ADC shows up as a bibliographic entry in only seven of them: Anttila (1989), Bowern & Evans (2015) (in Paul Kiparsky's chapter on "New perspectives in historical linguistics" and Stephen Anderson's chapter on "Morphological change"), Hale (2007), Hock (1991), Joseph & Janda (2003), Lass (1997), and McMahon (1994), though in the Joseph & Janda handbook, there are four different chapters that refer to ADC ("On language, change, and language change – Or, of history, linguistics, and historical linguistics", by Richard D. Janda & Brian D. Joseph; "Analogy: The warp and woof of cognition", by Raimo Anttila; "Constructions in grammaticalization", by Elizabeth Closs Traugott; "An approach to semantic change", by Benjamin W. Fortson, IV).

Closer inspection reveals that of these various mentions of ADC, very few are to the evolutive/adaptive notions that are the focus here. From the Joseph & Janda (2003) handbook, for example, Fortson (p. 662, fn. 11), refers to ADC with regard to the term "change" in general, and particularly versus "innovation" (on which see the discussion of Andersen (1988) and (1989) in §3.2 below). Traugott (p. 626) cites ADC with regard to abduction, as does Anttila (p. 440, fn. 12), who is rather critical of Andersen's take on abduction, though he does refer to ADC as "a deservedly influential article". In this regard, Anttila is expanding on his own views on abduction, as he spends a considerable amount of space in his 1989 work (pp. 196–203

and 404–409) discussing abduction, though without any overt reference to ADC.[1] Lass (1997: 334–336) similarly cites ADC with regard to abduction, while Hale (2007: 40) mentions ADC in the context of discussing Hopper & Traugott (1993) on grammaticalization. Hock (1991) includes ADC in his bibliography but does not discuss any of the substantive notions introduced in Andersen's article.

Specific mention of adaptive and/or evolutive rules can be found, however, in Janda & Joseph (2003) and McMahon (1994). Janda & Joseph's introduction to the 2003 handbook refers to adaptive rules (p. 144, fn. 30), but not evolutive rules, and McMahon (pp. 92–97), in the course of a discussion of the Czech labial changes and abduction more generally, refers to both types of rules.

In the case of some of these works, the failure to cite ADC may be a function of the level at which the book was aimed. ADC is, after all, a fairly sophisticated article, whether one focuses on the Czech contribution, on abduction, or on the evolutive/adaptive distinction. Accordingly, it would not be expected to be treated in Trask (1994), for instance, a short (less than 100 pages) and very low-level introduction, aimed only at presenting and illustrating some key, commonly discussed notions on language change; similarly, Aitchison (1981), and its two subsequent editions (1991, 2001), is aimed more at a general readership, and not at budding linguists per se. But the other works, even if introductory in nature in a certain sense, have a narrower audience in mind, so that the absence of reference to ADC can be seen as somewhat surprising.

In addition to this initial survey of general texts on historical linguistics, we looked in a bit more detail at some of the places and ways in which this evolutive/adaptive distinction has been cited in the years following ADC's publication, looking first at Andersen's continued development of the terminology within his own work (§3.2), then at its general reception by others (§3.3). A more recent resurgence of interest, of sorts, is discussed later in §5.2.

3.2 The continued development of the evolutive/adaptive dichotomy

In the years immediately following the publication of ADC, the terms are taken up in other writings. Andersen himself, of course, continued to use the terms, applying them within different contexts but with the same fundamental meanings.

1. Some clarification is needed here, as Anttila (1989) is a second edition of his book originally published in 1972, thus before ADC. Still, it is not unreasonable to think that Anttila and Andersen may have had some discussions about abduction, as they were colleagues at UCLA and Anttila does mention the Czech change of palatalized labials to dentals (though without any explicit mention of Andersen).

In 1974, for example, he discusses their role within the larger context of "the problem of formulating an overall typology of linguistic change" and the effort "to establish general types of change" (Andersen 1974: 17). In light of this problem, he proposes that "it may be productive to begin by distinguishing between innovations motivated by linguistic structure and innovations motivated by the communicative system. I call the former evolutive and the latter, adaptive innovations" (1974: 17). He expands here on adaptive innovations as "innovations which alter the relation between a given grammar and some other constituent(s) of the communicative system, and which cannot be explained without reference to the latter" and identifies some subcategories. Evolutive innovations are defined as "the innovations that arise when a linguistic code is maintained through time, and which are explained entirely by relations within the grammars of the speakers" (Andersen 1974: 23). He continues this theme in Andersen (1980a), which is dedicated to developing a typology of morphological change in particular, focusing on the abductive/deductive dichotomy (as modes of innovation) and the evolutive/adaptive dichotomy (as categories of innovation).

From a slightly different perspective, in his paper on "Russian conjugation: Acquisition and evolutive change" (Andersen 1980b), he ties the evolutive/adaptive distinction explicitly with the role of language acquisition in language change, setting up the two parts of the language learner's task as "(a) in the formation of a system of relations that forms the core of his linguistic competence, and which embodies what is motivated and productive in his language, and (b) in the formulation of special rules (adaptive rules, in the sense of Andersen 1973) which permit him to adjust his speech to what he perceives to be the norms of his speech community" (Andersen 1980b: 285). He also indicates his hope that "this study may … contribute to an understanding of how language acquisition strategies determine evolutive change in morphophonemics" (p. 299).

Two further works that are important for the understanding of the evolutive/adaptive dichotomy (and which are often cited in lieu of ADC) are the 1988 "Center and periphery: Adoption, diffusion, and spread" and the 1989 "Understanding linguistic innovations". The focus in the 1988 paper is on dialectology and language change. The section on "Spread without diffusion" looks at "a number of examples illustrating … the initial differentiation of uniform areas through evolutive change, the alternation of (deductive, system-motivated) innovations elaborating the norms and subsequent (abductive) innovations by which the systems involved may be reinterpreted" (Andersen 1988: 76). He again makes

> a fundamental distinction … between adaptive innovations and evolutive innovations. The former category includes, as one subtype, contact innovations, which are motivated by speakers' efforts to adapt their speech to what they perceive to be the norms of their fellows …. Among the evolutive innovations, one subcategory

> includes the abductive innovations which occur in primary language acquisition based on heterogeneous usage and blurred norms …. (1988: 77–78)

The 1989 paper picks up on themes from Andersen (1974) and Andersen (1980a), elaborating on the place of the evolutive/adaptive distinction within a general theory of language change.

3.3 Reception of evolutive versus adaptive: The first twenty-five years

In the years following the publication of ADC, the terms *evolutive* and *adaptive* do seem to have gotten a foothold of sorts in the field. For example, in the 1982 proceedings of the 3rd International Conference on Historical Linguistics (Maher et al. 1982), Gerritsen & Jansen (1982: 26) cite ADC and particularly the terminology of evolutive and adaptive change, and Itkonen (1982) cites Andersen (1974) for the division of linguistic innovations into the "two main types", adaptive and evolutive.

Studies on historical phonology and dialectology in particular seem to cite ADC more often than others, which perhaps is to be expected, considering the focus of the study in ADC and its importance to those particular subfields. An example of this can be seen in Harris's *Phonological variation and change: Studies in Hiberno-English* (1985), in which references to ADC and evolutive/adaptive are found throughout the book. A sample quote, one in which the author explicitly connects Andersen's terminology to that of Labov (as we shall also see in other, more recent, works), is as follows:

> In such cases, variability is likely to reflect a gradual internal development within the dialects in question (i.e. "evolutive" change in Andersen's 1973 sense). … One alternant may be the outcome of internal evolutive change within the dialect in question; the other is likely to be associated with some external, prestige variety. In such cases, variation is an indication of "change from above" … and stems from what was traditionally called borrowing or from what Andersen (1973) refers to as "adaptive" change. (Harris 1985: 130)

Another study in which ADC and adaptive rules in particular are referenced is Disterheft's (1990) "The role of adaptive rules in language". Her focus here is on addressing the "transition problem" of Weinreich et al. (1968): "How can language change from one state to another without interfering with communication among members of the speech community?" (Disterheft 1990: 181), and she argues that "the mechanism of language change which preserves communicability between generations is the Adaptive Rule, as proposed by Andersen (1973)" (p. 182).

A different type of study, but one that also falls within the subfield of historical phonology, is Frellesvig's (1995) *A case study in diachronic phonology: The Japanese*

onbin sound changes, which (according to the Google Books summary) is "the first large scale application of Henning Andersen's theory of language and language change". Reviews of this book explicitly note the important role that Andersen's work plays in it:

> Bjarke Frellesvig applies Henning Andersen's theory of language change to analyze the series of sound changes grouped under the term *onbin*, commonly translated as "sound euphony". This theory explains the results of sound change as the outcome of decisions made by the hearer in interpreting acoustic input. … In the theory of language change adopted from Andersen, change arises through innovations which are either adaptive or evolutive and deductive or abductive.
>
> (Wehmeyer 1998: 681, 682)

> As the words "case study" hint, Frellesvig … is not as much concerned with the group of Japanese sound changes collectively called *onbin* as with using their analysis to demonstrate the virtues of the approach to linguistic change pioneered by Henning Andersen. (Unger 1997: 363)

While this brief review of some of the citations of and references to ADC and the evolutive/adaptive distinction in the historical linguistics literature in the early years is hardly exhaustive, we hope that it gives an accurate picture of the developments: ADC and the dichotomies therein were not forgotten and were taken up in various ways across the field, but they also did not hold a central place in the discourse of language change.

4. Why this reception for ADC and the evolutive/adaptive distinction?

The question of why ADC and the evolutive/adaptive distinction specifically have not taken a more prominent position in the field is complex and no definitive answers can be given, but we can offer some speculation. We see two possible reasons, one having to do with the framework Andersen initially adopted for presenting this distinction, and the other having to do with competing terminology that has emerged.

4.1 Generative rules?

With regard to the first reason, the evolutive/adaptive distinction may have been interpreted by some linguists as if embedded in the generative phonological framework that was current at the time of the publication of ADC. That is, Andersen speaks of "A(daptive)-**Rules**" and "I(mplementation)-**Rules**" [our emphasis –*HCD/*

BDJ], the latter being the reflex in the grammar of evolutive change.[2] This invites the speculation that this particular distinction appeared to some to be inherently generative in its nature and tied to one version of generativism, specifically a rule-based version, and thus could not be extended to other frameworks. This was not how Andersen intended it. In ADC, he says about Implementation/I-rules that they turn a phonological representation, expressed in purely relational terms, into a phonetic representation:

> Like A-rules, I-rules serve the essential function of transforming a phonological representation, expressed in purely relational terms, into a phonetic representation sufficiently explicit to be realized. (Andersen 1973: 785)

This means that in the European structuralist sense, Andersen's rules are mappings between phonological form (the structural relations) and phonological substance. Nevertheless, consider, for example, Ohala's (1981 et seq.) focus on the important role of the listener in sound change due to the ambiguity of the acoustic signal, which seems to echo some of Andersen's concerns. He writes:

> … the acoustic speech signal [is] inherently ambiguous with respect to how it is articulated. The listener is not always able to resolve this ambiguity and may … hit upon an articulation different from that used by other speakers.
> (Ohala 1981: 178)

In this way he seems to pick up on two statements made in ADC:

> … the ambiguous character of the acoustic manifestations … If these manifestations are not analysed correctly … , they must be interpreted [differently] …
> (Andersen 1973: 771)

> The source of abductive innovations is to be found in distributional ambiguities in the verbal output from which the new grammar is inferred.
> (Andersen 1973: 789)

But Ohala explicitly notes that:

> the listener … applies his "reconstructive" rules, which … crucially depend on his having correctly perceived the environment causing the distortion. … (By using the term "rule" here I do not mean to put the listener's reconstructive process into the same category as the rules posited by traditional generative phonology and its offshoots.) (1981: 183)

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2. Andersen does not specifically define what he means by "rule", but he uses a standard formalism, for example, "adaptive rule (roughly of the form [t] → [p'] in morphemes marked [+ A-rule])" (1973: 773). However, on pages 785ff. he explains how phonology is a semiotic system, a view far from the generative position of the time.

That is, Ohala includes a specific disclaimer concerning the construct of "grammatical rule" and in this way seems to be distancing himself from generative frameworks.

But it is also important to note that the evolutive/adaptive distinction was not intended to be, nor was it, exclusively tied to the generative perspective. First, note that Andersen (1972) (where the terms are first introduced, as indicated above) criticizes generative phonology and its "abruptness doctrine" in the discussion of "evolutive phonetic change", which Andersen holds to be essentially gradual in nature:

> It is perhaps not surprising that many linguists who do not differentiate between phonetic change and diachronic correspondences believe that phonetic change is abrupt. This belief has played a prominent role in the application of the principles of generative phonology to linguistic change … (Andersen 1972: 12–13)

He goes on to discuss what he considers to be the faulty thinking behind this view of phonetic change as necessarily abrupt, again explicitly connecting it to generative approaches to language change:

> Two lines of reasoning have been used to support the "abruptness doctrine". The first … has as its point of departure a total or relative ignorance of the extensive body of evidence for the nature of phonetic change accumulated primarily by European linguists, chiefly in the pre-structuralist period. This line of reasoning is exemplified by Hoenigswald who skeptically speaks of the "alleged gradual character of phonetic alteration" and then recklessly labels it "guesswork" (1960: 72). Though it may seem incredible that lack of knowledge and imagination could persuade any scholar, Hoenigswald's "arguments" against the gradual character of phonetic change have been widely accepted. They are repeated in many later publications –in recent years, for example, in Chomsky & Halle (1968: 250), Wang (1969: 13), King (1969: 106–19). The second line of reasoning … is well represented by King. He assumes that a speaker's phonological competence can be described adequately in terms of rules using only polar distinctive-feature values (plusses and minuses). (Andersen 1972: 14)

Clearly, at least some major aspects of the generative-phonology approach to phonetic change were not what Andersen had in mind when he formulated his "rule"-based terminology.

Second, while Andersen does continue to refer to "rules", his studies that specifically focus on fleshing out the evolutive/adaptive dichotomy (e.g. Andersen 1974, 1980a, 1989) frame the distinction in terms of types or categories of **innovations**, and not on the development of rule-based systems. It thus seems clear that a rejection or passing over of ADC and its dichotomies out of a desire to avoid generative approaches is on the whole unjustified, but this issue nevertheless may have played a role.

4.2 Competing terminological distinctions

Another possible reason for the evolutive/adaptive distinction's lack of prominence in modern historical linguistics is that as the distinction between externally and internally motivated change continued to develop as a major factor in studies of language change, authors adopted various terms for this distinction, which can be seen as competing with *evolutive* and *adaptive*. We have already mentioned Labov's *change from below* and *change from above*, and Labov has more recently supplemented these notions with the terms *transmission* and *diffusion*, the former identifying change that emerges from within the system in the ordinary course of the passage of language from generation to generation, and the latter identifying change that spreads from speaker to speaker within speech communities (Labov 2007). Thus, "transmission" essentially covers the conceptual territory of Andersen's evolutive change, and "diffusion" covers adaptive change.

Another set of terms that are somewhat parallel to Andersen's terminology are *endogenous* and *exogenous*, long used in the social sciences, but increasingly common in recent linguistic literature to refer respectively to developments originating from within a system and those originating from outside the system. See, for example, Galloway & Rose's (2015: 30) description: "In discussions about the phases, or processes, through which change occurs, a distinction is usually made between **internally driven changes** from the language system (**endogenous**) and **externally driven changes** caused by the speakers (**exogenous**)" [emphasis in original].

These terms are not, of course, completely synonymous, representing as they do different nuances and areas of focus in the study of language change. It is natural in the development of a field for terminological variants to develop as basic concepts and perspectives are articulated and defined, and some earlier formulations may be casualties of that process.

5. More recent attention for ADC and the evolutive/adaptive distinction

Given these factors, along with the age of the paper, it perhaps would not have been surprising if these terms had disappeared even more from common use in the last fifteen years or so. But we see something different happening, with what could perhaps be seen as a resurgence of interest within particular subfields and by particular scholars, though only time will tell how much these terms will continue to be used in the years to come. We note here a few key works that reference this dichotomy, though we start with one that actually only appears to be relevant.

5.1 "Adaptive sound change" in Dahl (2004)

There is an important work that deserves some consideration here in that it constitutes a "near-miss"; that is, due to the terminology used, it seems as though it might draw on Andersen's dichotomy, but in fact it does not even cite Andersen. The work in question is Dahl (2004), wherein (pp. 157–159) the author draws a distinction between two major types of sound change, Neogrammarian sound change and what he calls "adaptive sound change". The former is what is seen in "classical Neogrammarian 'sound laws', ones that hit the lexical items in a language indiscriminately", while the latter refers to "a sound change that hits certain expressions as a response to their acquiring new niches or being used more often" (p. 157). Dahl notes some complications with this conceptualization. For instance, "sound change is sometimes implemented through 'lexical diffusion'" (p. 158; see Wang 1969) and so may "apply differentially to particular lexical items"; this means that it is "at least conceivable that a Neogrammarian sound change could start out as an adaptive sound change" (p. 158). For Dahl, the causal mechanisms involved in adaptive sound change are "redundancy and prominence management" (p. 158) so that it is "a reaction to the changed role of an expression, … a way of restoring the balance between the communicative role of an expression and its form" (p. 158).

Thus, while the use of the term "adaptive" itself is certainly suggestive as far as ADC is concerned, what this term means for Dahl is that "[b]asically, adaptive phonetic reduction would be a response to a decrease in informational or rhetorical value of the expression" (p. 159). This is clearly quite different in its thrust from Andersen's adaptive change, so we can conclude that despite the similarity in the specific terms, there is no connection between Dahl's notions and Andersen's.

5.2 A recent resurgence?

While, as previously noted, the terms *evolutive* and *adaptive* do not hold a prominent place in today's academic discussions of the causes and types of linguistic change, they have not completely disappeared and have recently received some attention from those working in certain specific areas.

First, Hinskens, Auer & Kerswill (2005), in a study of dialect convergence and divergence, devote several paragraphs to a general overview of types of change, focusing particularly on the internal versus external distinction, and drawing on the work of Andersen (among others) in the process, as in the following:

> … either *internal* (language structure, UG) or *external* (contact and borrowing) factors cause the actuation of a language change … To the external, contact-related factors we would add *extra-linguistic* factors …, that is, factors which are not

> directly related to the interaction of linguistic systems through contact. Under "extra-linguistic" we would also include social-psychological factors, especially identities and attitudes. … Andersen (1988, 1989) distinguishes adaptive, evolutive, and spontaneous innovations [cites definitions from ADC] … Adaptive innovations are externally motivated and involve finality, whereas both evolutive and spontaneous innovations are internally motivated and do not involve finality. … Andersen specifies a number of subtypes[, e.g.:] [c]ontact-induced innovation is a special type of adaptive innovation, usually affecting differences between language systems, and abductive innovation is a special type of evolutive innovation, which typically affects differences within a single system. (Hinskens et al. 2005: 41–42)

ADC is also cited several times in *The handbook of historical sociolinguistics* (Hernández-Campoy & Conde-Silvestre 2012). Most of the references are to abduction and deduction, but Roberge's chapter on "The teleology of change" cites Andersen (1973, 2006), summarizing ADC as follows:

> The potential for multiple structural analysis is a cause of change by virtue of the fact that it allows for abductive innovations (reinterpretations of structure) and deductive innovations (manifestations or applications of the new interpretations). Such innovations can lead to "evolutive changes," which are entirely explainable in terms of the linguistic system. Their subsequent diffusion to other groups, however, falls under the rubric of "adaptive change," for which we must seek explanations outside of the linguistic system. (Roberge 2012: 373)

Similarly, while not citing ADC itself, Weber's (2014) book *Principles in the emergence and evolution of linguistic features in World Englishes* cites the terms *adaptive* and *evolutive* and summarizes the basic approach from Andersen (1988) within the context of a discussion of various theoretical, and specifically sociolinguistic, approaches.

In *The Oxford handbook of historical phonology* (Honeybone & Salmons 2015), ADC is also cited in several papers in various contexts (e.g. covert reanalysis, the role of language acquisition in language change), and D'Arcy's paper on "Variation, transmission, incrementation" specifically focuses on ADC, connecting the terminology with other terms that were noted above:

> We can distinguish between two types of change. *Change from above* entails the importation of linguistic features from other systems … In the model proposed by Andersen (1973), this kind of change is considered *adaptive*. The normal mode however is *change from below*, which entails system internal innovation (equivalent to Andersen's *evolutive change*). (D'Arcy 2015: 587)

These several examples indicate a particular place for ADC and its terminology within the areas of historical dialectology (on which see also Kerswill & Torgersen 2005), historical phonology, and, in particular, socio-historical linguistics. As noted

earlier, this subfield has been grappling with competing sets of terminology, and various recent works include a focus on the similarities and differences among these terms, providing valuable service to the field. We present some key examples here, in the hopes that presenting these perspectives will help others as they seek to understand these terms and their uses.

D'Arcy's (2015) article cited above is just one example of work that she and coauthor Sali Tagliamonte have done in this area. Two additional examples can be found in their 2009 *Language* article (Tagliamonte & D'Arcy 2009) and their 2015 article in *Language Variation and Change* (D'Arcy & Tagliamonte 2015). In the earlier 2009 study, while discussing their findings, they ask:

> why do phonological changes generally have a peak in apparent time for women only (Labov 2001) while discourse-pragmatic and morphosyntactic (-semantic) changes consistently have peaks for both females and males? … [A] possibility is to focus in on the nature of language change itself, not simply with respect to its speed or point of change, but also with respect to its origin (inside or outside the community) and its nature and type (evolutive or adaptive (e.g. Andersen 1973), transmitted or diffused (Labov 2007)). (Tagliamonte & D'Arcy 2009: 98)

The more recent 2015 study fleshes out these distinctions in much more detail. D'Arcy & Tagliamonte first note that "in historical linguistics, language change is viewed as a contrast between *endogenous* and *exogenous* – that is, internally versus externally triggered. In variationist sociolinguistics, language change is framed in terms of *above* and *below*" (2015: 257), before describing these in more detail as follows:

> Change from below (or *from within*; Labov, 2006: 203) is the "normal type of internal change," originating within the linguistic system … Because actuation is internal, change from below is *evolutive*. This means that it is explicable with reference to the community-based linguistic system (e.g., Andersen, 1973), emerging from the inherited structure of grammatical systems (i.e., via adult to child transmission; cf. Labov, 2007). … The key attribute of change from below is the point of actuation (system internal) and the trajectory of development (evolutive). Although the etiology of endogenous change is discernable with reference to language-internal factors alone, the diffusion of change in social context must be motivated by speaker-based factors …. Change originates in speakers, not languages …, necessitating a distinction between the conditions that give rise to a change and those that have to do with its diffusion … . As an innovation moves from speaker to speaker or from group to group, its diffusion is exogenous, propelled by influences outside the community grammar, what Andersen (1973) referred to as *adaptive* change. Change from above (or *from without*; Labov, 2006: 203) refers to the importation of elements from other systems (Labov, 2010: §51.2). It is sporadic, conscious, and "usually recognize[d] … by the fact that it involves high-prestige features" (Labov, 2010: §9.1). (D'Arcy & Tagliamonte 2015: 257–258)

We find this recent emphasis on making explicit the similarities and differences among various terms to be helpful and a positive trend. It is important for the field to understand where it has come from as it continues to develop, and balancing the need to minimize terminological competition and confusion with the desire to maximize the ability to convey importance nuances by using different terminology is a vital (though challenging) part of that.

6. Conclusion

Even though we have presented the terminology and notions here in dichotomous terms, it is fair to ask – and we do so by way of concluding – whether it is necessary to conceive of the relevant territory they cover in terms of a dichotomy. That is, there are several ways in which dichotomizing does a disservice to the complexities of actual changes.[3]

As discussed above (§2.2), for instance, throughout much of the development of the study of language change in the 19th and especially the 20th centuries, the basic division was not into internally motivated versus externally motivated changes, but rather into the "triad" of sound change, analogy, and borrowing, and it was only in Hockett (1958) that the dichotomous division of change into internal and external begins to be found. Since then, this dichotomy has become more evident in the relevant literature, aided no doubt by the prominent mention in the oft-cited and highly influential work by Thomason & Kaufman (1988), and seems to be the current standard – and it is often a very helpful distinction.

Nonetheless, it is a matter of debate whether dichotomizing is the right way to proceed. For instance, it is important to note that there are documented cases in which language contact, i.e. an external force, leads to tendencies already present in a language, i.e. an internal force, being enhanced and brought out more in the language. Friedman (2006) has argued that such is the case with the spread of evidentiality into Balkan Slavic under Turkish influence; contact with Turkish, he claims, accentuated existing characteristics emerging in the languages at the time. Thus in such an instance of enhancement, it is not so much a matter of a dichotomy of causal factors as instead an additive effect.

More generally, there are cases of multiple causation, where various internal and external developments conspire, as it were, to bring about a given change. For example, Sapir (1921) discusses the loss of case-marking on the relative/interrogative pronoun in English, with *who* being generalized at the expense of *whom*, in

3. See also Dorian (1993) for a discussion of the problematic nature of this dichotomy.

those terms, and Joseph (1982, 1983: Chapter 7) attributes the loss of the infinitive in the languages of the Balkan sprachbund to a multiplicity of causative factors converging to bring about change.

Even more generally, the lesson to be drawn from our consideration of ADC and the notions *evolutive change* and *adaptive change* that ADC has contributed to our understanding of language change is that a focus on terminology per se should not be our goal. Rather, just as Andersen gave a detailed account of developments underlying the changes with palatalized labials in Czech, our emphasis should be on the concepts behind the terms and the particular phenomena they are being employed to describe.

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