DEVELOPMENTAL LINGUISTICS

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For a decade or so, scattered groups of linguists, first in America and now even more so in Europe, have found that so far as their own interests are concerned, there are insurmountable contradictions with the reigning view of the structuralists, transformationalists, etc., that the proper object of linguistic investigation is the *idiolect*. They have consequently looked in other directions for a more realistic approach. Among such scholars have been those whose goals require them to *compare* constructs, sounds, or meanings: sociolinguists, dialectologists, creolists, historical linguists, investigators of child language, foreign-language teachers, language-planners, therapists, and theoreticians of a sort to be discussed below. It is recreant to their goals to adopt models which were invented for idiolectal analysis, for these exclude comparative and temporal (developmental) analysis: Thus, the *phoneme* is defined as a relational unit that is *not comparable* with a superficially similar unit in a *different* (relational) system, or idiolect.[1] In what follows, *minilect* is used as a theoretically neutral term for either the static *idiolect* or the comparative-developmental *isolect* (cf. BAILEY 1973).

When it was said above that linguists have been looking in other directions for an adequate approach, it was implied that various proposals have been made, only some of which have been provided with models and methodologies adequate for doing developmental and comparative analyses. In fact, new proposals have sometimes been mixed with some of the most contradictory aspects of older frameworks. As with previous approaches, the newer ones have been subject to differing ideologies (see BAILEY 1981a). Some of the most promising approaches have given up autonomous linguistics for reasons to be clarified later on. All of this has been going on

pari passu with quite respectable innovative approaches within the minilectal frameworks.

Aside from historical linguists, dialectologists, etc., whose work was shunted over to the fringe of linguistics because they were doing something that violated the premises of minilectalism — viz. comparing different varieties — it was the Labovian glotto-metrists that first made the problem of minilectalism salient. Even changing one's styles would require a multiplicity of "grammars" in a single head on the old telling. And the developmental differences peculiar to different social parameters — age, class, sex, ethnic grouping, regional grouping, etc. — cannot be compared, let alone integrated, in minilectal approaches. Indeed, it is easy to see that minilectal approaches are descriptions of non-natural languages, if one considers that only new-born but not yet natural-ized (i.e. not yet having native-speakers) languages like pidgins and dying languages even approach monostylism; natural languages are polystylistic unities. Child language is very dynamic (change-able) and comparative; and foreign-language pedagogy is essen-tially comparative.

Since the purpose of this note is to call readers' attention to a certain development in linguistics which has had less publicity than either minilectal or glottometrist approaches, and since devel-opmental linguistics is too complex to characterize in detail within the scope of a note, a willingness to consult at least BAILEY 1981a, and to appear b, on the part of those who wish to understand matters merely alluded to here has to be assumed.

Both the positivistic ideology of structuralism and the Platonic ideology of Chomskian linguistics led — by opposite routes — to the same result: the "synchronic" study of timeless idiolects or minilects; this is the study of competence. *Parole* or performance, which includes things temporal, is relegated to psychology or some other discipline. Communication is merely a "contingent fact" about language. For minilectal approaches, linguistics is autono-mous in the sense that *langue* or competence does not make room for the study of extralinguistic causes of linguistic phenomena; explanation, if at all aimed at, is "formal". In retrospect, it does not seem strange that the extreme minilectal approaches referred to in the foregoing, despite every conceivable opportunity, have failed to win the permanent allegiance of linguists generally. Given the many idiolects in every language that any native-speaker

commands, the minilectal approach is simply incommensurate with the goals of linguistic analysis. Paradoxes arise whether we assign the various styles of a given speaker to *parole*/performance or to *langue*/competence. On the other hand, the statistical approach that rejects minilectalism — glottometry — rejects much of former approaches that others would like to see kept (so as not to throw out the baby with the bath water). Statistics point to but do not yield explanations; they entail a host of further problems which lack of space forbids my discussing here (see BAILEY 1976, to appear a).

The basic notions of developmental linguistics are twofold: (1) linguistic analysis is not "synchronic" or timeless, as claimed in other approaches, but always timeful (developmental); and (2) linguistics is *not autonomous* in the sense that an explanatory and predictive theory can achieve its aims without going outside of linguistics proper to the (a) social-communicative and (b) bio-neurological causes of linguistic developments. As a result of these premises, the models employed are necessarily different from others. They are generally *gradient*, generating *implicational* patterns; naturalness is a basic (and, in contrast with other approaches, well-defined) notion (see below). Finally, analyses in this framework embrace whole languages, not simply an arbitrarily chosen minilect, as is necessarily and so always the case in all but one of the other approaches: Analyses in this framework are *polylectal* — embracing the differing styles of an individual and the various class, sex, age, and regional variants handled competently by native-speakers of a language. Let us discuss these items in turn.

The key points to be gotten across here are that an explanatory and predictive theory must (1) study development because it is developments that explain states, not vice-versa, and (2) go outside of language to the extralinguistic causes of change. Some causes of change (or development) are social, as stated above. New Yorkers, as LABOV has shown, began (in certain styles and classes, expanding progressively in time to others) to pronounce "r" in *murder*, *barter*, etc. To explain why this happened when it did, we need to know certain facts from social history. While these could not be predicted as such, an adequate theory should be able to make *if . . . then* predictions — like the meteorologist's prediction that *if* one seeds clouds under certain conditions, *then* it should rain. Explaining and predicting why the changes occurred first in certain

linguistic environments (in unstressed syllables, before consonants, etc.) requires knowing facts from anatomy, acoustics, and neurobiology — the *other* kind of causation and explanation in linguistic theory. Since the Saussurian distinction between *langue* and *parole* and the Chomskian distinction between *competence* and *performance* are essentially (more patently in SAUSSURE's writings, less so in CHOMSKY's) distinctions between the synchronic or timeless work of the linguist and the timeful work of psychologists or others, such a distinction is otiose in an approach in which everything is timeful.[2]

The concepts of *gradience*, *naturalness*, and *polylectal patterns* may be now briefly characterized in turn.

Linguistic changes begin in very circumscribed environments and later get generalized to progressively wider environments; if they do not stagnate in mid-development, as sometimes happens, they eventually operate across the board. Thus, the change of German //s//[3] to [z] operates before vowels: At first, the environment preceding //s// must be a vowel or sonorant consonant (e.g. *Gläser*, *bremsen*); later, the pre-environment is generalized (in some lects) to include a word boundary (e.g. *See*), a sequence that can be predicted from the formalizations used in variation theory (BAILEY 1973). In a yet more general development seen in some lects,[4] input //š// is changed to [ž] by this rule (as in *mischen*). The next predictable development would apply to //š// in *Schuh*. Since newer developments (other than replacements) implicate older ones, it can be predicted that speakers who have any of the foregoing developments will also have those less general ones that precede it in time. Gradient feature values like $>$ and $<$ formalize such implicational patterns. Since, therefore, the unstressed syllables spelled "or" in English *fáctory* and *corróboràte* are (under given conditions) more likely to be deleted as the stress of the nucleus that follows is less — i.e. according as the syllable is [$<$stress] — any style that exhibits deletion of the first syllable of *corróboràte* will also exhibit deletion of the third syllable of this word, and any style deleting both syllables in this word will also be deleting the second, unstressed syllable of *fáctory*. (See further in BAILEY 1981a, where syntactic and morphological analyses are also illustrated.)

Naturalness — an idea excluded in positivistic frameworks and very vaguely defined in most others — is characterized develop-

mentally (temporally and comparatively) in terms of J. GREEN-BERG's (i) dynamic (processual) principle and (ii) his typological (relational) principle, which I have formalized in the following manner in various writings:

(i) $\overset{\smile}{m} \rightarrow \overset{\frown}{m}$ (the more marked changes to the less marked),[5]

(ii) $\overset{\smile}{m} \supset \overset{\frown}{m}$ (the presence of the more marked implicates the presence of the less marked).

Principle (i) creates the patterns formalized by (ii); and the up-setting of (ii) through borrowing and other abnatural developments causes natural change to begin.[6] With these principles, phonetolog-ists can establish which values of a feature like [stress] are more marked and less marked in each environment. Such values are dynamic, at least the marked ones are; unlike static plusses and minuses, they are *leaning toward the changes* formulated in prin-ciple (i). Since mixture is a fundamental cause of language origins and development and is the cause of much in languages that is abnatural (though quite normal), the primary goal of develop-mental linguistics is not simply to ascertain all and only the aspects of languages, but rather those that arise by natural development; it may soon be possible to establish the secondary goal on solid ground by making *if . . . then* predictions about developments due to language contact. It is now believed that languages do not have enough inner resources to adapt to every new circumstance: their resources must be supplemented by borrowing. The crossing of strains accounts for some linguistic, as well as genetic, develop-ments.[7] Where this is massive enough — and only then — a new linguistic system emerges; thus, Middle English is a system quite distinct from its Old French and Anglo-Saxon parents.

The third aspect of developmental analysis mentioned earlier was polylectal patterns. These are the implicational patterns described under gradient models and principle (ii) of natural patterns. It is not a goal of developmental linguistics to describe what are by definition discrete minilects, arbitrarily chosen out of the multitude of separate styles that every speaker commands, but rather the patterns as a whole. This is why the comparative models of developmental linguistics (e.g. the *phoneteme*) are required; the (by definition) noncomparative models of minilectal approaches (structuralist or Chomskian) are rejected by developmentalists as

comparable to phlogiston in physics (indeed, it is maintained that they explain less than phlogiston did).

To explain and predict are evidently not the same thing, despite the contentions of some philosophers of science. We can explain why New Yorkers at a certain time began to become "r-ful" in certain styles on the basis of known sociohistorical events; but since we cannot predict history, we cannot predict these *simpliciter*.

The developmental approach to polylectal analysis begins with collating bundlings of phenomena as they are attested in data that embrace as many of such bundlings as can be found in a language community.[8] Developmentalists do not begin from outside language, in the manner of dialectologists and Labovian sociolinguists, but with the comparison of the patterns found *in* the language itself. The resultant overall pattern is unaffected by how the packagings of the phenomena are distributed in society and space, which are regarded as the function of a component *superadded* to the grammar, whose formulation is a job that belongs to geographers and to sociologists or ethnologists.

The main center for one kind of developmental approach to language universals, child language, and historical, creolistic, and sociolinguistic analysis is Stanford University, where outstanding scholars like Joseph GREENBERG, Charles FERGUSON, and Elizabeth TRAUGOTT, as well as a number of developmental psychologists are at work. It should be noted that developmental linguistics looks on developmental psychology, developmental neurobiology, etc., as natural allies. Major contributions to developmental linguistics especially in morphology and bioneurolinguistics, have been made by Willi MAYERTHALER (in Klagenfurt, Austria). The developmental approach to creolistics is represented in outstanding work by Peter MÜHLHÄUSLER at Oxford, where the linguistic chair is occupied by a semioticist and historical linguist of this point of view — Roy HARRIS. Markey, in a number of papers, especially MARKEY 1981, has adopted the developmentalist point of view, and GIVÓN 1979 advocates a number of positions also held by developmentalists. Other work is carried on in the author's Institute at the Technical University of Berlin. Some of the assumptions of developmentalism have been adopted by dialectologists like Walter HAAS in Switzerland. Scholars in Australia, Taiwan, Sweden, and elsewhere are making contributions. To these should perhaps be added the proponents of processual linguistics in Ru-

mania and Belgium. The movement is at present small and *anything but homogeneous* enough to be denominated a "school". But its successes have already lent it a certain credibility among a number of younger linguists. Its holistic balance of concrete data and abstract models and of theory and empirism seem to fortify it against some of the most salient problems that have weakened the case for extremist orientations. Whether it will fill the vacuum created by the present philosophical crisis in linguistics of course remains to be seen.

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NOTES

[1] The contradiction noted here has not prevented dialectologists, historical linguists, pedagogues, and some analysts of child language from employing models which are by definition not amenable to comparison. See further BAILEY 1980, 1981a.

[2] Some applied linguists have misunderstood the distinction, treating it as a set-subset distinction of potential and actualization (which it is not) or as a distinction between substance and function (pragmatics) — which is a bit closer, but still a long way off the mark. Developmentalists are of the opinion that Chomskians separate things that should not be distinguished — timelessness and time, the result being that we have discontinuous grammars for the many styles that we command — and that the Labovians combine what should be distinguished — substance and function, as well as social and non-social (bioneurological, etc.) causes and explanations. (See further at the end of note 8 below.)

[3] Symbols enclosed in double slants are *phonetemes* — established not only with the method of internal reconstruction (accepted by generative phonologists) but also with the comparative method (which structuralists and generativists disallow).

[4] According to variation theory, //s// is subject to lenition before the other fricatives are.

[5] The unmarking of feature values can be over-ruled by higher-level unmarkings like the assimilation of one segment to another, polarization, rule-generalization, possibly telescoping, and so on, as shown in BAILEY 1977, to appear a.

[6] When a natural generalization of the word-internal change of //s// to [z] in German created word-initial [z] (as in *See* in the relevant varieties), there resulted a violation of the natural pattern (principle ii) requiring *s* to be implied by *z* in the word-initial position. It was possible to alter this *z* by some natural change (principle i) or to create a new word-initial *s* to restore the natural pattern. Berlin German "renaturalized" by changing word-initial //tᵉ// (as in *zu*) to *s*! — a simple unmarking change.

[7] Just as cross-breeding has assumed the role formerly assigned to mutation in genetics, so the selection of child-originated changes by adolescents fulfills

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the role attributed in biology to the survival of the fittest. Where the old historical linguistics rightly found it paradoxical that languages so often remain little changed during migratory periods and change a great deal when their users settle down, these phenomena require no comment in the developmentalist framework. And the old idea that linguistic change is not corruptive but rather adaptive for survival receives a clearer grounding from the newer vantage-point.

[8] As defined in other writings, a *language community* comprises the native-users of a language. A *speech community* is characterized by the evaluations set on given variants in a language; thus, "r-fulness" will be favored here and disfavored there in English. Labovians speak only of *speech communities*; their rules combine linguistic and social factors, instead of (as in developmental linguistics) treating the latter in a super-added manner. See note 2 above.

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