Underlying the present discussion of some aspects of sound change is the notion that language not only, as energēia, (or, explicitly, as a set of largely automatized processes definable in more or less accurately phrased rules), is susceptible to formal analysis of some degree of descriptive adequacy and explanatory power but that, in addition, it can be conceived of as an inherent and integral part of human thought and imagination. Adopting the latter point of view, language can be said to form a conceptualized (verbalized) mirror image of mental activities (cf. the notion of language as the primary modeling system, elaborated in Soviet semiotics). The former approach, concerned with building models of linguistic structure (or parts thereof), views language as a — particularly sophisticated — semiotic subsystem (operating within the parameters set by its specific neurophysiological premises) and strives to explain its functioning in this capacity. The other kind of inquiry into the nature of verbal communication places the chief emphasis on language as a cultural manifestation of the human mind (in the sense of Geisteswissenschaft) and seeks to understand its performance in society. The former approach may be termed generative (in the broadest meaning), the latter hermeneutic. Both, if applied pragmatically and without any ad hoc constraints, have a sociolinguistic dimension.

It is a fairly common view that sound change takes place gradually in a series of minimal, barely noticeable adjustments and modifications at the phonetic (subphonemic) level and that it is only at the functional or semantically distinctive (phonemic) level of sound production and, in particular, perception that the impression of abrupt sound change obtains.

Some years ago, Andersen (1973), while critical of 'standard' TG phonology but adopting a broadly generative approach to linguistic inquiry in terms of positing specific speaker/hearer 'grammars', i.e., sets of rules generating acceptable sound sequences (utterances), proposed an intriguing model of phonological change. In addition to induction and deduction, he introduced, following Peirce, a third mode of inference termed abduc-
tion. Applying deduction and abduction specifically to sound change, Andersen (1973, 777, fn. 13) points to the "unique role of abduction ... vis-à-vis the other modes of inference, which merely test what has been arrived at by abduction" and suggests that "one can evidently describe the process of encoding as essentially deductive, and that of decoding as abductive". In closing, he submits (1973, 791) that while early structuralism (Jakobson) "could insist only that every phonetic innovation be interpreted in terms of the system that undergoes it ... it is (now) possible to interpret every phonological innovation — abductive or deductive — in terms of the system that gives rise to it".

In a subsequent paper, Andersen (1974, esp. 25-6, 41), in discussing and summarizing his typologies of innovation in the content and expression systems of language, distinguishes between adaptive and evolutive innovations, with the former subclassified, on the expression plane, into remedial and contact innovations; the evolutive innovations are subdivided into deductive and abductive, with the abductive innovations of the expression plane further specified as pertaining either to the phonemic system (a) feature valuation, (b) segmentation, (c) ranking), or to pronunciation rules. In a more recent study, with his theoretical reasoning again firmly grounded in Slavic diachronic and dialectal data, Andersen (1978, section 4.2) arrives at the conclusion that we must "acknowledge that conceptual factors take precedence over perceptual or articulatory ones in determining how a phonological system may be changed as it is transmitted from generation to generation ... and recognize that it is the structuring principle of linguistic form — the fact that the speech signal must be segmented, that distinctive features are binary, and that they must be ranked — and not the articulatory or acoustic or perceptual substance that shapes its historical development. We are led to conclude that the ultimate source of dialect divergence — and of linguistic change in general — is the process of language acquisition, in which the speakers of a language impose form on the fluctuating and amorphous substance of speech." Novel and incisive though these formulations are, they not only allude to Jakobson's views about DF analysis and language acquisition, but in their reference to form and substance, content and expression also echo some of the basic tenets of glossematic theory. Yet, essential-
his theoretical framework by adding the crucial requirement: "The model that is needed must show how phonological innovations can arise in a homogeneous speech community ..." While the broadly generative (and logic) premise sketched seems most useful indeed, the formulation of the sociolinguistic condition is somewhat questionable (his reference to Labov's definition notwithstanding). What, in fact, is a homogeneous speech community? And what exactly is meant when Andersen (like Hetzron) speaks about the transmitting of a phonological system (or a set of data) from generation to generation? As I had an opportunity to caution (Birnbaum, 1977, 30): "... the transmission of a linguistic system or subsystem (or a grammar or grammatical component generating this system or subsystem) from one generation of speakers to the next must not be conceived of in all too rigid, mechanistic terms since the distinction of successive generations in any real speech community is never very clear-cut and easily ascertainable." Put differently, even though sound change in reality — on the phonetic level, accessible to physical scrutiny and measurement — occurs gradually and it only on the more abstract phonemic level that one sound, at some point, simply replaces another, it is nonetheless a fact that, given the passage of time, an actual sound shift (e.g., $e > o$, $au > u$; $d > t$, $k > s$) is ascertainable also at the phonetic level. How do such phonological changes come about? Surely not as a result of any simultaneous gradual adaptation by each entire membership of a number of clearly definable consecutive generations. Obviously, a real speech community is never truly homogeneous, nor does it consist of a limited set of neatly separable generations.

Considering the interpenetration of synchrony and diachrony — in phonology, ongoing sound change — it would seem more realistic not to posit a limited set of coexistent generations at any given time (as is implied in Andersen's abductive model as well as in Hetzron's informal reasoning) but rather to assume the continuous pattern-setting effect of parents on children, teachers on students, leaders on followers, older on younger playmates and fellow workers, more prestigious on less prestigious population groups, etc., all interacting at various ages and stages of their development. While such a view of society and language does not vitiate the validity of Andersen's abductive model of sound change altogether, it certainly makes his scheme more problematic; also, given these complicating factors, his technique for describing, analyzing, and explaining actual phonological innovation is in need of further refinement.

Here one more point should be briefly discussed. It has become customary to attribute great significance to the process of acquiring language, i.e., the mastering of one's native tongue in early childhood, also when it comes to explaining certain basic facets of sound change. (The partial or complete acquisition of a foreign language presents analogous but also additional problems.) Andersen's abductive model, in this respect influenced by Jakobson's work on child language, is but one example of this conception. However, it seems worth considering whether, precisely as regards modifying one's pronunciation habits, i.e., introducing incipient or, occasionally, even full-fledged phonological innovations, it is actually in early childhood (say, before the completion of the fifth year) that the definitive articulatory profile of a person is usually formed and stabilized. Rather, I would submit, that is the age when growing-up speakers, by imitating their elders, attain the same or nearly same pronunciation as their models. True, in the process they may very well, by 'misreading' (i.e., slightly incorrectly perceiving) the phonetic output of 'grammar 1', internalize, initially at least, a somewhat deviant 'grammar 2' (or, rather, its phonological component) producing following Andersen's reasoning — a phonetic 'output 2' not fully identical with 'output 1' of their model. Yet, very often (if not as a rule) most of the misperceived pronunciation is subsequently noticed and rectified except, perhaps, where the resulting differences in pronunciation are so minimal as to be considered insignificant even by the maturing child; it is only their cumulative effect over a longer period of time that ultimately may give rise to a genuine sound change. However, it appears that attitudes at a somewhat older age, especially in the teens, may more directly, noticeably, and lastingly affect pronunciation habits and cause partial or even full sound shifts (or, rather, sound substitutions) to occur within one generation. I am referring here to the fashionable pronunciation or talking fads which, particularly in our day and age, so markedly leave their imprint on the speech habits of the teenage generation. It
is my impression, based on observations from several languages, that the modification of the articulatory manners and preferences affecting these young people are more radical, since they are deliberate, than are the difficulties in imitation and pronunciation adjustment encountered in early childhood. If Andersen's abductive model of phonological innovation is to be applicable also to currently observable sound change — and not only to interpreting and elucidating instances of historically attested or reconstructed phonological shifts — these sociolinguistic and psycholinguistic considerations will somehow have to be accounted for in his model.

Viewing sound change primarily as a sociolinguistic phenomenon, best studied while in progress, it must be said — with all due respect to Labov's 'integrated' explanation — that we are still far from genuinely and fully grasping its causes. So far, there has not been much more than a general realization of the permanent and highly creative interplay between, on the one hand, language's striving for economizing (ultimately tending toward ellipsis while preserving a measure of redundancy as a safety valve to ensure comprehension and information transfer; cf. Martinet 1955) and, on the other, its making for diversity of expression to distinguish among even the finest shades of meaning. Though sound, at the phonemic level, does not by itself carry, but merely distinguishes meaning, it and its modification are crucially affected by this dialectic tension characteristic of language as a semiotic system.

References