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Aspects of a Neo-Peircean Linguistics: Language History as Linguistic Theory

1. Introduction

This essay is an attempt to capitalize and improve on earlier work of mine (esp. 1983 and 1991) aimed at founding what I have variously called a (neo-)Peircean or neo-structuralist linguistics, the main conceptual cast of which is semeiotic or sign-theoretic. In sketching just what Peirce's whole philosophy, but particularly his theory of signs, contributes to the modern study of language structure, perhaps a useful heuristic is the comparison of crucial differences between Peirce and Saussure, as in the following table (cf. Short 1989).

	SAUSSURE	PEIRCE
1.	'semiology': the study of "the life of signs within society" [man-made signs]; language as a model for other sign systems	'semeiotic': the study of all sign phenomena [signs of all sorts, including natural signs]
2a.	sign: union of material signifier and the concept it signifies [signified is essential to signifier only by being *part* of signifier]	sign: signifier and sign are identified [object is not part of sign, no more than a mother is a complex of woman + child]

	SAUSSURE	PEIRCE
2b.	denial of logic of relations; return to scholastic metaphysics of substance and attribute	something can be what it is because of its relation to *another*
3.	only one sign: material signifier—a general type of articulated sound (*not* concrete use in speech)	legisign: not only sign; also qualisign and sinsign, i.e., qualities and singular entities that are signs
4.	signified = concept [Cartesian inheritance, i.e., every sign must be associated with a mental entity]	signified = sign requiring interpretation, i.e., interpretant rather than conceptual content
5.	dyadism, with 'sign' as basic concept of theory	triadism, hence 'semeiosis' not 'sign' as basis of theory
6.	change is "fortuitous and blind"; synchrony is severed from diachrony	change is an aspect of continuity (growth); all synchrony is dynamic product of end-directed processes

While this is not the place to explain in detail the basic principles of Peirce's theory of signs, the right-hand column of the above table can be amplified by the following main points.[1] Significance is a triadic relation of sign, object, and interpretant. A sign is something non-arbitrarily interpretable as signifying an object (real or unreal). A sign has two objects, one immediate and the other dynamic. The immediate object is the object as the sign (rightly or wrongly) portrays it as being. The dynamic object is that same object as it is, independent of how it is signified (even a fiction or a dream can be misrepresented). So far as the sign does not misrepresent its dynamic object, its immediate object IS its dynamic object, though it will normally not be the whole of it. A sign has two interpretants that can remain unactualized potentialities; in addition, it can—but need not—have one or more actual interpretants. The immediate interpretant is the way a sign would be interpreted by anyone who understands it: it apprehends the sign's immediate object. Dynamic interpretants are the ways a sign is actually interpreted. These are actualizations of the immediate interpretant, with such additions and qualifications as are suggested by the collateral experience of the sign's dynamic object. A dynamic interpretant can include a correction of the sign if

the sign misrepresents its dynamic object. No dynamic interpretant need be formed at all, and in most cases any number of dynamic interpretants may be formed. Some or all of these may incorporate errors; normally, all fall short of the full truth about the sign's dynamic object. The final interpretant is the ideally complete and accurate interpretant to which inquiry (collateral experience of the dynamic object) would eventually lead interpreters were they to continue this process long enough. In some cases, the final interpretant is an ideal that may be approached but never reached; in other cases, it is within reach, i.e., it can be actualized in a dynamic interpretant. Interpretants themselves can be signs, and the dynamic object of a given sign is the immediate object of that sign's final interpretant.

Peirce's semeiotic is unintelligible without a knowledge of his phenomenological categories—his phaneroscopy, i.e., with Firstness, Secondness, and Thirdness. With the application of Peirce's semeiotic to linguistic structure in mind, his categoriology can be used to clarify the relation between the three levels of patterning in language. Applying Peirce's terms to those used so productively by Coseriu, they are:

FIRST	**system**, i.e., everything functional that is productive in the language, including usage that exists *in potentia;*
SECOND	**norms**, i.e., usage that is historically realized and codified in the given language community;
THIRD	**type**, i.e., the specific Bauplan or underlying design of a language.

This scheme is coordinate with the categories expressed as modes of being, which in the case of language are expressed not in the familiar, dyadic form of *langue* and *parole*, but expanded to reflect their proper triadic form (Andersen 1991:291):

FIRST	**grammar**—language as TECHNIQUE (*dúnamis*)
SECOND	**speech**—language as ACTIVITY (*enérgeia*)
THIRD	**text**—language as PRODUCT (*érgon*).

I want to shift now from preliminaries and generalities to the main point of my presentation, namely, the matter of language history as linguistic theory (a topic developed at greater length in Shapiro 1991), specifically as it involves TELEOLOGY and the formation of ICONS OF RELATION, or DIAGRAMS.

2. The Telos of Linguistic Change

It may be difficult, or even wrong, to speak of *the* telos of linguistic change: teleological behavior usually encompasses several goals at once because of its complexity. Furthermore, there are short-term and long-term goals (cf. Itkonen 1982); and there may be minor goals which conflict with each other and stand to be eliminated or subordinated in favor of one or more major goals.

Long-term teleology is what Edward Sapir called 'drift'. Since drift (as we shall see in greater detail below) is an end-directed process spanning generations, centuries, and even millennia, it is not easy to identify the goals precisely. It has been suggested, moreover, that drift differs from short-term teleology in having goals that are specific to individual languages or language families, rather than an overarching or universal goal (Itkonen 1982: 97). But as we shall see, this is not so: all tele of linguistic change are of the same type; hence all teleological change in language, whether long- or short-term, conforms to the same principle.

It is not at all clear, actually, how short is short. Diachronic changes that are clearly more pronounced than mere tendencies can go on for hundreds of years. When the history of whole language families is involved, the seeds of change may be isolable at a given historical point, but the growth of the individual daughter languages may proceed at different rates and with diverse geographical extension. Moreover, a language may be of a specific type which predisposes it to develop in a certain direction. But the structural traits that manifest themselves subsequently may "not necessarily [be] directly reflected in the overt categories or surface regularities of a given language state" (Andersen 1978: 2). Also, these traits are liable to be evaluated in different ways by different segments of a speech community; in effect, they "determine what possible deviations from the norms will be acceptable to the members of the speech community and, hence, what innovations will occur" (ibid.).

In order to assess how the issues of teleology, drift, and type are interrelated, let us begin by considering how drift was construed by Sapir in the context of his far-ranging investigations of language and culture. This procedure will give us a quick entree to the entire range of questions associated with the goals of change.

The word 'drift' seems to have originated in Sapir's writings as a term of linguistics and cultural anthropology (see Malkiel 1981). A modern textbook of historical linguistics defines drift "in language

change [as] an observable tendency toward a goal" (Anttila 1988: 194). Sapir used drift in this general sense, as applied to cultural history rather than to language specifically, as early as 1917 (Malkiel 1981: 537). Of course, the locus classicus within Sapir's whole oeuvre is chapter 7 of his book *Language*: "The drift of a language is constituted by the unconscious selection on the part of its speakers of those individual variations that are cumulative in some special direction" (1921a: 155). Rather less well known is Sapir's later (1933) reformulation of the definition as it appeared in his entry on "Language" in the *Encyclopaedia of the Social Sciences* (reprinted in Sapir 1949: 23):

> The enormous amount of study that has been lavished on the history of particular languages and groups of languages shows very clearly that the most powerful differentiating factors are not outside influences, as ordinarily understood, but rather the very slow but powerful unconscious changes in certain directions which seem to be implicit in the phonemic systems and morphologies of the languages themselves. These "drifts" are powerfully conditioned by unconscious formal feelings and are made necessary by the inability of human beings to actualize ideal patterns in a permanently set fashion.

Although language is certainly the chief focus of Sapir's remarks involving the concept of drift, it is clear that he thought of this process as informing *all* behavior over the long term; witness the following excerpt (1931) from his entry on "Fashion" in the *Encyclopaedia of the Social Sciences* (reprinted in Sapir 1949: 376): "Under the apparently placid surface of culture there are always powerful psychological drifts of which fashion is quick to catch the direction. In a democratic society, for instance, if there is an unacknowledged drift toward class distinctions fashion will discover endless ways of giving it visible form." All of these Sapirian loci taken together contribute to the notion that has arisen about drift as tantamount to what Itkonen calls "long-term teleology" (1982: 85) and distinguishes from "short-term teleology." The sorts of goal-directed changes that may have a very long run were also singled out by Meillet, for instance, the tendency in the Indo-European languages for inflection to be reduced, if not lost (Meillet 1921: 28). Meillet's actual attempts to work out the mechanisms by which drift is effected (1938: 110–11) are not convincing, and in fact bear out Sapir's assessment (1921a: 183) that "these psychic undercurrents of language are exceedingly difficult to understand

in terms of individual psychology, though there can be no denial of their historical reality."

Although there appears to be no cross-fertilization between Peirce and Sapir, Sapir (1927) sees the action of teleology and final causation in a way that is eminently compatible with Peirce's thought: "[S]ocial behavior is merely the sum or, better, arrangement of such aspects of individual behavior as are referred to culture patterns that have their proper context, not in the spatial and temporal continuities of biological behavior, but in historical sequences that are imputed to actual behavior by a principle of selection" (reprinted in Sapir 1949: 545).

The mention of final causation now requires some special consideration of its role in semeiosis.

3. Semeiosis and Linguistic Change (Efficient and Final Causation)

Peirce's distinction between legisigns and replicas can be used to good account in lifting some of the confusion that surrounds linguistic change, which is the end-directed evolution of a system of legisigns.[2] Replication is the end-directed use of already developed legisigns. In this process, the legisigns (or rules of replica-formation) do not function as efficient causes precisely; indeed, it is doubtful whether a rule or general type could ever be an efficient cause. But neither are they tele of replication. The purpose of replication is communication (conveying information, issuing commands, expressing emotions, etc.). Thus, legisigns are not replicated simply for the sake of being replicated. They could be efficient causes of acts already explained by final causes—except for one thing. They could be efficient causes because final causes require the cooperation of efficient causes. Suppose I want Jones to close the door. I look around for means to do so. One means is replicating the English sentence, "Jones, close the door!" If that were the only means, then, given my purpose, one can suppose that the availability of that legisign causes me (like a mechanical push) to replicate it. (But this is wrong—why in a moment.) However, the availability of alternative legisigns (e.g., "For God's sake, Jones, close the door!" or "Jones, dear fellow, I feel a draft.") means I must *choose*, and so those legisigns are not efficient causes. Legisigns cannot be efficient causes at all. In the first place, the efficient causes that must cooperate are those motor

reflexes, etc., that make my tongue wag, my mouth open and close, or my hand type these words. Second, legisigns are general types and hence can never be efficient causes. The upshot of this is that legisigns both exist for a purpose (they have evolved to make communication possible or to facilitate communication that was already possible) and are *used* when *we act* for the purpose of communicating. Thus, already existing legisigns are subsidiary final causes: we make such-and-such sounds or marks *in order to* replicate certain legisigns, and we replicate those legisigns *in order to* communicate something.[3] There is, therefore, an important difference between (1) legisigns developing and (2) legisigns being used.

Talk about final causation is often accompanied by contrasting references to efficient causation. An efficient cause is a particular event or condition that compels its effect. The effect follows the cause in accordance with a general law (a law of efficient causation). A final cause is not a particular event or condition and does not compel its effect. Suppose a man is seen bounding down a steep incline. Why? Possibly because the man was pushed. That would be an efficient cause. But perhaps the man acted in order to catch a goat. 'To catch a goat' is the final cause; it is not a particular event and did not compel the behavior.

Final causation is consistent with efficient causation—indeed, requires it. Men cannot bound goat-wards if their muscles do not relax and contract, compelling movement of limbs. Presumably, then, the two types of cause explain different phenomena—or complementary aspects of the same phenomenon.

To explain something by a final cause is teleological explanation. Teleology is the doctrine that teleological explanations are sometimes legitimate, that some phenomena can only be explained teleologically, and that final causes exist. Teleological explanation was introduced deliberately by the Greek philosophers, primarily Plato and Aristotle, in explicit contrast to already well-established conceptions of causation—those that Aristotle identified as 'efficient' and that we can identify as 'mechanistic'. And already with Plato, it was recognized that this new form of explanation would be rejected by those who think (a) that everything can be explained by causes that compel or (b) that nothing that does not compel its effect could explain it.

In particular, what teleology was invented to explain is the existence of order—in human affairs, in individual actions, in plant and animal life, in the cosmos—wherever that order is inexplicable

mechanistically. The point of teleology is to explain the emergence of order out of chaos. By contrast, the mechanistic world-view of modern science admits none but efficient causes. However, not all forms of explanation in modern science conform to the mechanistic idea, even in its broadest and most up-to-date sense, but do approximate to the Aristotelian idea of explanation by final causes. Teleological theories are thus the best, or only, explanations of certain important classes of phenomena. Hence, we have good reason to suppose that final causes exist.

If this sounds too apodeictic for every reader's taste, it is evidently due to the fact that teleology is poorly understood.[4] An aid in dispelling some of the mist surrounding teleology is Peirce's idea of certain processes as 'finious', a neologism he coined for fear that "teleological is too strong a word to apply to them" (7.471).[5] These are non-mechanistic processes that "act in one determinate direction and tend asymptotically toward bringing about an ultimate state of things" (ibid.). The importance of non-teleological finious processes is that they explain how teleological phenomena are possible. One might say that they remove the mystery from teleology. Operating with the notion of finiousness imposes an obligation on the analyst—a hierarchical ordering of non-mechanistic explanations, some of which are merely finious and some of which are teleological.

If one is to arrive at such an ordering following Peirce's conception, then it will be necessary to take into account his definition of final causation: "[W]e must understand by final causation that mode of bringing facts about according to which a general description of result is made to come about, quite irrespective of any compulsion for it to come about in this or that particular way; although the means may be adapted to the end. The general result may be brought about at one time in one way, and at another time in another way. Final causation does not determine in what particular way it is to be brought about, but only that the result shall have a certain general character" (1.211; cf. 1.204).

Any finious process is the result of fortuitous variation plus a principle of selection. These processes are everywhere observable in populations of individuals, whether molecules or living things. Other processes, equally finious, might be found within the actions of a single individual (not necessarily human).[6] It is the nature of finious processes that their particular outcomes cannot be predicted; all that we can predict is their general tendency.

4. Diagrams and Diagrammatization in Language

Sapir's treatment of drift does not include a discussion of explicit goals and ends, but actually, there is one extended passage in Sapir (1921b) that seems to indicate a nexus of thoughts along explicitly teleological lines: "As one passes from ideographic system to system and from alphabet to alphabet perhaps the thing that most forcibly strikes one is that each and every one of them has its individual style. In their earlier stages there is a certain randomness.... The historian has no difficulty in showing how a starting-point gives a slant or drift to the future development of the system.... Wherever the human mind has worked collectively and unconsciously, it has striven for and often attained unique form. The important point is that the evolution of form has a drift in one direction, that it seeks poise, and that it rests, relatively speaking, when it has found this poise" (reprinted in Sapir 1949: 382).

Sapir goes on (383) to mention the Chinese writing system as one which "did not attain its resting-point until it had matured a style, until it had polished off each character into a design that satisfactorily filled its own field and harmonized with its thousands of fellows." Although writing systems may not seem to be of central importance to a consideration of drift, they actually provide ample evidence that changes in writing (like those in spoken language) "are in a sense prefigured in certain obscure tendencies of the present and that these changes, when consummated, will be seen to be but continuations of changes that have been already effected" (Sapir 1921a: 155).

It is useful to juxtapose Sapir's ideas with those of Peirce and see how they converge. For instance, take the following passage from the *Collected Papers*: "[U]nderlying all other laws is the only tendency which can grow by its own virtue, the tendency of all things to take habits.... In so far as evolution follows a law, the law or habit, instead of being a movement from homogeneity to heterogeneity, is growth from difformity to uniformity. But the chance divergences from laws are perpetually acting to increase the variety of the world, and are checked by a sort of natural selection and otherwise ..., so that the general result may be described as 'organized heterogeneity,' or, better, *rationalized variety*" (6.101; emphasis added). The idea of a "rationalized variety" is supported by Peirce's comments about the foundational role of diagrams: "A concept is the living influence upon us of a diagram, or icon, with whose several parts are connected in thought an equal number of

feelings and ideas. The law of mind is that feelings and ideas attach themselves in thought *so as to form systems*" (7.467; emphasis added).

Given enough time to work itself out, even an apparently arbitrary system (such as an orthography) will tend toward diagrammatization. Its drift is, in other words, determined by a movement with an explicit telos. In Sapir's words (1921a: 150, 155): "Language moves down time in a current of its own making. It has a drift.... The linguistic drift has direction. In other words, only those individual variations embody it or carry it which move in a certain direction, just as only certain wave movements in the bay outline the tide."

When the question of the reality of tendencies (drift) is raised, it is often cast in terms of predictability; but the focus on prediction might be misplaced, at least in part. Linguistics has taken over from the philosophy of science a preoccupation with predictability (of linguistic rules, particularly), forgetting that in the case of language (as in all human domains) the best we can do is to assert an overarching rationality and constrain the range of possibilities as much as we can based on our empirical knowledge of actual changes. The explanation of change as an instantiation of drift is, therefore, retrodictive, not predictive, in the time-honored manner of all philological (read: hermeneutic) explanations. We make sense of accomplished cognitions ("re-cognize"). Nothing follows from this understanding of change as a matter of necessity. Of course, since drift involves the immanent or inherent structure of the language, further instantiations of this structure will be favored and those that go against it will not.

A priori one could, of course, make the claim that a trend once started could simply continue of its own accord, that the drift itself is the ultimate fact. A riposte to this would be to claim (with Aristotle) that every working out or process is a working out of something else—that "something else" being an *arche* or organized whole. Plot is the working out of character; the speech chain is the elaboration of the simultaneously given phonological system; drift is a process by which the type manifests itself gradually over time.

That still leaves the question: How does type determine drift? The answer suggested by the discussions in my earlier work (1991) is unequivocal: type determines drift by diagrammatization. When a language changes in a direction that demonstrates its conformity to type, it achieves a higher degree of diagrammatization than it had before the drift was completed. If this line of thinking

is correct, then drift is explained by a kind of goodness (of fit). When the cumulative result of a series of changes makes a vocalic language more vocalic or a consonantal language more consonantal, the developments are teleological in that the goal is greater diagrammatization between the facts of the language and the type of language that it is. The type is the ideal for that of which it is a type. Being vocalic is no "better" than being consonantal, or vice versa, but conformity to type is a better realization of structure and the changes it comports than disconformity. We might say that each type of language reveals new values, to be fully realized in the further drift of that language toward a fuller realization of those values, i.e., of its type. The only overarching value, then, is fuller realization (alias diagrammatization) of the values specific to one's type. This is evidently what is meant by the genius or 'beauty' of a language. If we use some of the same words to describe values specific to different types, e.g., the 'beauty' of French and the 'beauty' of English, we have only to admit the caveat that 'beauty' does not mean the same thing in the two cases.

Apart from some such notion as diagrammatization (= goodness of fit), type would not explain drift. Talk of type would not seem to add much by way of explanation except to provide terms for the classification of drift: this language changes in that direction (type), that one in another direction (type). If, on the other hand, type explains drift because of its goodness, then even if type is evident only in drift, the mention of type helps us understand why drift occurs. The explanation in that case may fall short of the scientific ideal of predictive power, but it would still be like any other historical explanation, i.e., be couched in terms of circumstances that made the actual outcomes plausible as against alternative possibilities.

Conscious choice or preference is not involved here. When diagrammatization occurs over long stretches of historical time, we cannot talk about the intent or desires of language users, because of the discontinuity of the generations that all participate serially in the drift. Here we are face to face with the less familiar, Peircean kind of final cause, not with final causes that are purposes. The final causes that are operative in long-term drift are the kind that influence human choices but are not conscious (or are consciously made but not for reasons of which one is conscious; cf. Keller 1985).

Pushing diagrammatization this way to account for drift is to move the sense of the concept in the direction of the crystallization

of values. Although it might seem that as far as language is concerned, the crystallization of values might be just one kind, evidence from the way that synchronic rules cohere as the historical tendencies that underwrite such coherence make isomorphism the most likely goal of change. Specifically, the isomorphism is between markedness values as the epitome of diagrammatization. It is to a discussion of this point that we can now proceed.

Diagrammatic correspondences between form (expression) and meaning (content) are instantiations of the principle of isomorphism. There is another, equally fundamental sense in which isomorphism can be said to pervade the structure of language, namely, the sense in which rules at the core of grammar are not merely statements of regularities but are coherent. The notions associated with the terms 'rule' and 'coherence' need to be discussed separately. Although the concept of rule was not prominent among the theoretical advances of the early European structuralists, it is nonetheless clear that its ubiquitousness today owes much to an understanding of grammatical relations as patterning and regularity that goes back to pre-war discussions (principally in Prague and Copenhagen) of the foundations of linguistic theory. What is missing from both pre- and post-war theorizing, however, is the notion of the coherence of linguistic relations, and as a corollary, the precise means whereby coherence is to be expressed in the practice of linguistic description.

All along, the potential for making coherence an explicit principle in the understanding of language structure existed unexploited among the many overt achievements of early structuralism, specifically in the idea of *markedness*. Coherence obtains when rule relations signify the mirroring of markedness values across content and expression levels, or between different aspects of expression (as in the case of some morphophonemic congruences). The latter case—an *automorphism*—will once again be the focus here. Since patterning is present at all levels of grammar, to the extent that the rules of language structure expressing this patterning reflect congruences of markedness values, we can attribute their coherence (their raison d'être) to such cohesions. What is more, we can do this uniformly in virtue of the isomorphism of grammar. Nothing proves the validity of this universal notion of coherence better than the evidence of linguistic change. The drift of a language involves the actualization of patterns that are coherent in just this sense and the rejection of those that are not (Andersen 1980: 203 and 1990: 13ff.).

Rules are more than mere generalized formulas of patterns when they embody specifications of coherence between linguistic elements, namely, cohesions between units and contexts. This criterion of rule coherence remains true and valid but practically vague without the necessary involvement of markedness because it is markedness that provides the explicit means of expressing coherence.

While there may be several goals of language change, I wish to argue (anew) that the overarching telos of linguistic change is the establishment of a pattern—not just any pattern but specifically the semeiotic kind Peirce called a 'diagram'.[7] Since diagrams are panchronic signs, it is not surprising that they subtend both linguistic synchrony and linguistic diachrony. Diagrammatization can be seen as one species of the process by which unconformities in language are reduced or eliminated over time. These dynamic tendencies can be couched in Coseriu's terms: system is brought into conformity with type, while norms are brought into conformity with system.

Diagrams and diagrammatization in language are states, resp. processes, whereby relations mirror relations, as between form and content (isomorphism) or between form and form (automorphism). They are states in synchrony and real tendencies in diachrony. As a corollary, I am claiming that all language states are the cumulative results of preceding states (ontogeny recapitulating phylogeny?). Moreover, there is no telos in language 'beyond' diagrammatization: (1) conformity to a pattern is diagrammatic in itself; and (2) language conforms to nature by diagrammatizing content in form. (These two positions effectively put an end-stop to the Cratylistic debate.)

In expanding on these postulates, it will be useful first to outline some familiar types of diagrammatization in language history:

I. **Synaesthesia**: Phonological oppositions in their perceptual dimensions are associated with and diagram other perceptual dimensions.

II. **Onomatopoeia** and **Ideophones**: Similarities between phonological perceptual dimensions and other experiential dimensions can be utilized to form iconic lexical signs.

III. **Word Affinities**: Direct association between phonological signs and lexical content is effected through diagrammatization of partial identity between signifiers and signifieds.

IV. **Morphophonemic Alternations**: Diagrams involve indexing signifiers and/or signifieds of contiguous morphemes; or suprasegmentals (prosody).

Here are some examples of the fourth category, drawn from languages of which I am a native/near-native speaker.

1. Morphophonemics of composition (compounds), incl. prosody:

Russian

	króv'	'blood'	krov-o-podt'ók	'bruise'
			krov-o-smeßénie	'incest'
			krov-o-Ωádnij	'bloodthirsty'
cf.	grúd'	'chest'	grud-o-br'úßnij	'thoraco-abdominal'
	kúdr'i	'tresses'	çern-o-kúdrij	'black-tressed'
	bróv'	'eyebrow'	gust-o-bróvij	'beetle-browed'

Japanese

fúufu + kenka	fuufugénka	'husband & wife + fight' 'family quarrel'	
ánpo + jooyaku	anpojóoyaku	'security + treaty'	'security pact'
mé + tátu	medátu	'eye(s) + stand'	'stand out'

		VERBAL	NOMINAL
English		rént a cár	rént-a-càr
		fíll ín	fíll-in
	cf.	frequént	fréquent
		envélop	énvelope
		reject	réject

In the case of the Russian compound adjectives, the constituent with a palatalized (= marked) stem-final segment in its uncompounded form appears in the compound with a non-palatalized (= unmarked) stem-final segment. I interpret this as an unmarking. The unmarked alternant is to be explained as a sign of the subordination of both constituents to the marked compound; hence the compound appears with reversed markedness values.

In the Japanese case, assuming (contrary to the standard treatment; see Shapiro 1974) that protensity is distinctive in Japanese rather than voicing, the tense (marked) stem-initial segment of the second constituent is replaced by its lax (unmarked) counterpart.[8]

English nominalization and verbalization are typically accompanied by a shift of stress. In the first case, the nominalized form

retracts the stress to the initial—unmarked—syllable, mirroring the unmarked status of nominals vis-à-vis marked verbals. In the second case, stress shifts from the unmarked initial syllable of the nominal form to its rightmost neighbor, the marked syllable of the verbal form.

2. Formal vs. informal style (honorific language in Japanese):[9]

	INFORMAL	FORMAL	
Verb	yobu	o-yobi ni náru	'call'
Verbal noun	soodan suru	go-soodan ni náru	'consult'
Adjective	isogasíi	(o-)isogasikute irassyáru	'busy'
Adjectival noun	génki da	(o-)génki de irassyáru	'is well'
Precopular noun	byooki da	(go-)byooki de irassyáru	'is ill'
Noun	senséi da	senséi de irassyáru	'is a teacher'

The diagrammatization here is between the markedness values of grammatical complexity, on one hand, and stylistic level, on the other: in each example, marked grammatical complexity is coordinate with marked stylistic level.

4. Conclusion

Peirce understood a final cause as being a possibility—sometimes he said "idea," but that is not to be understood in a subjective sense as existing in some person's thought—that has a tendency to become actual, one way or another: "[E]very general idea has more or less power of working itself out into fact; some more so, some less so" (2.149).

It is in this sense that markedness must be viewed as a final cause in linguistic change.[10] When the question of causation is posed in terms of efficient and final causes—and teleological processes distinguished from finious—then the claim that, rather than markedness principles, it is "perceptual factors and processing strategies [that] may influence the development of linguistic structures" will be seen for what it is—a category mistake.

This mistake results from the apriorism that underlies how contemporary linguists commonly understand markedness (e.g., in Optimality Theory, but not only). On this view, markedness is simultaneously conflated with and pitted against notions like 'sentence processing' or 'perceptual strategies', as if markedness

were an efficient cause, i.e., categorically of a piece with the latter. Lending support to skepticism regarding the relevance of markedness (and emanating directly from what I would now call the Apriorism Fallacy) is the perceived difficulty of assigning universal or immutable markedness values, even though markedness is invariably context-sensitive and dependent on the existence of choice between variants.

The question Why? as applied to linguistic change does not have a homogeneous answer. The problem of assigning markedness values is not solely the burden of linguists; it falls on language users, as well. Linguistic data always contain the germ of ambiguity, of differing interpretations, and it is only by trial and error that the finious process of reaching a definitive markedness assignment proceeds. This process is necessarily always historical and not given a priori because at any given time linguistic habits, like all other habits, have a structure, and this structure is always *in statu nascendi.* But the important thing is that *an assignment will be reached.*

Language users do not need to wait for linguists to decide what is marked and what unmarked in order to be influenced by markedness considerations in making innovations and (tacitly) agreeing that some innovations qualify for the (social) status of full-fledged changes: they do it willy-nilly because they are impelled to by the power of the idea. Or as Peirce put it: "[I]t is the idea that will create its defenders and render them powerful" (1.217).

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Notes

1. In this résumé, I follow T.L. Short's interpretation of Peirce's semeiotic, as set forth in numerous publications, e.g., (most recently) Short MS. See also the concise characterization of the flaws of Saussure's semiology by comparison with Peirce's semeiotic set out in Short 1996: 511–12.
2. Conceptual change is the end-directed evolution of the rules of interpretation of symbols, sometimes with concomitant changes in the symbols themselves. Conceptual change then determines linguistic change, but in general this is not necessary to linguistic change.
3. Notice that when we say things just for the sake of saying them, then legisigns may be truly final causes. But we need to distinguish three cases. The availability of certain meanings (= rules of interpretation of symbols) might intrigue me: so I want simply to express those ideas. Or it might be the legisigns themselves that intrigue me: poets (like the Russian futurist Mayakovsky)

and composers (like Mozart) are said to be fond of repeating certain (nonsense/foreign-language) words simply for the sake of their sound rather than their sense. Or it might be the truth we wish to state for *its* own sake, and in that case the final cause is the *agreement* of certain legisigns with an independent reality. In any case, replication of legisigns can be an end in itself, and in that case the legisigns are essential to one's ultimate purpose in speaking. That is to say, we would have a different purpose or none at all if we did not have those legisigns.

4. Perhaps especially by linguists—like Lass (1997) and Labov (1994); see Short 1999 for a demolition of the former's anti-teleological stance. As for the latter, his "Plan of the Work as a Whole," set out on the book's very first page, already betrays a fundamental misunderstanding of causation: it presents the organization of a projected three volumes into (respectively) "Internal factors," "Social factors," and "Cognitive factors—as if these "factors" were categorically distinct from each other (they are, of course, all "internal").
5. Citations in this form (volume and paragraph separated by a dot) are to Peirce's *Collected Papers*.
6. With respect to the deliberate conduct of human beings, the principle of selection is a type of outcome they have in mind and which they consciously apply in choosing among the alternatives available to them. In other words, what we have in this case is purposefulness. Since an analysis of purpose would take us even farther afield, I refer the reader to the admirably clear exposé in Short 1999.
7. Here I part company with Short 1999.
8. Here is a literary parallel from Italian. In Giorgio Bassani's *Gli occhiali d'oro* (from his *Storie ferraresi*) the very name of the hero, Dr. Fadigati, connoting *(af)faticat(i)* 'tired', evokes an age-old tiredness, a lurking familiarity with the perennial 'question' to be faced atemporally by homosexuals vis-à-vis heterosexuals, and in Bassani's analogy, by Jews vis-à-vis non-Jews in a Fascist society. Fadigati's name otherwise contains his fate: the lenition of the consonants *t* and *c* (*k*) to *d* and *g* shows an unmarking (as regards Standard Italian) that corresponds to or diagrams the gradual unmarking of his personality and the disintegration of his being. [NB: In a language like Italian, with phonemic tenseness in the system of obstruents, tense consonants are marked and lax consonants unmarked.] I am indebted for this example to my wife, Marianne Shapiro.
9. The acute designates high pitch.
10. In the event, I understand Andersen's conception of markedness to be compatible with this view. For a discussion of final and efficient causes in linguistic change that takes part-whole relations into account, see Shapiro 1991: 16ff.

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