Sapir's concept of drift in semiotic perspective*

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Edward Sapir was not only a great linguist and anthropologist; he was also a writer of great power and elegance. A stylistic trait of Sapir's prose is his eschewal of terminological coinages in favor of ordinary speech. But there is one word directly associated with Sapir that can be considered to have originated in his writings as a term of linguistics and cultural anthropology: that word is *drift* (see Malkiel 1981).[1] A modern textbook of historical linguistics defines drift 'in language change (as) an observable tendency toward a goal' (Anttila 1972: 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 VII 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 sense. (1921a: 155)

Rather less well-known is Sapir's later 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

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informing *all* behavior over the long term — witness the following excerpt 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 — millenia, even — 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: 110–111) 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'.

Since the early 1920s, when Sapir wrote these words, work in historical linguistics has proceeded more or less oblivious to the problem of teleology, with the Prague Linguistic Circle and its chief protagonist, Roman Jakobson, constituting the most significant exception. But even the Prague School emphasis on teleology for the proper understanding of linguistic change has remained largely a programmatic desideratum, 'in part because it has not been sufficiently clear what change is, in part because the concept of teleology itself has been poorly understood' (Andersen 1973: 789).

Sapir was actually in a better position than his European counterparts to take advantage of a source of insight into teleology that was firmly anchored to peculiarly American currents of thought even as it remained tragically obscured from general intellectual view. I am thinking of Charles Sanders Peirce, the founder of pragmatism and the modern theory of signs (semiotic). Jakobson discovered Peirce, for himself and for linguistics, only after emigrating to the United States. Sapir, on the other hand, had numerous opportunities to drink at the Peircean well, which he apparently ignored or overlooked.[2]

The most curious instance of this sort can be inferred from Sapir (1923). Although this review of Ogden and Richards (1923) contains some interesting and valid strictures on the substance of the book, no mention is made of one of the appendices (Appendix D, pp. 432–444), which

contains an excursus on Peirce and his theory of signs. This is an important publication in the history of Peirce studies, because it includes the first public exposé of excerpts from Peirce's correspondence with the British semanticist Victoria Lady Welby, an exchange that became a vehicle for the elaboration of Peirce's mature view of semiotic (see Hardwick 1977, which largely supersedes Lieb 1953). Given Sapir's lifelong interest in symbols and symbolism, it is puzzling why he took no note of Peirce, for whom the study of symbols as the epitome of human semiosis was an almost daily enterprise from 1867 until his death in 1914.[3]

Another missed opportunity for intellectual cross-fertilization came in connection with Sapir's interest in psychiatry. It is known that Sapir was a close friend of the father of interpersonal psychiatry, Harry Stack Sullivan (Perry 1982: 242–250), whose concept of self goes back through Mead, Dewey, and James to Peirce (Green 1962).[4] Moreover, one of Sullivan's teachers, Adolph Meyer, knew Peirce's work and valued it highly (Lincourt 1976: 44, note 11). The intellectual ambience of Chicago and the Chicago School during his six years there (1925–1931) makes it difficult to understand how Sapir could have overlooked Peirce, but apparently he did.

The importance of Peirce to a consideration of drift emerges from a scrutiny of his ideas about final causation, which occupy a central position not only in his semiotic but also in his cosmology, his philosophy of mind, and his theory of inquiry.[5] For our task the natural starting point is Peirce's definition of a symbol as 'essentially a purpose' (Peirce 1976: 261). Peirce does not intend thereby to restrict his own understanding of final causes to purposes since, as he himself observes, 'a purpose is merely that form of final cause which is most familiar to our experience' (*CP* 1.211).[6] 'Purpose is the conscious modification' (*CP* 1.253) of final causation; to the extent that conscious modification is lacking, but goals and ends are not, Peirce's operational definition (explicating Aristotle) is as follows:

> we 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 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. (*CP* 1.211)

In other words, Peirce is arguing (like Aristotle) that final causes are observable, specifically in processes that 'exhibit striking empirical pat-

terns which would be too improbably coincidental if there were no final causes that explained them' (Short 1981: 370). The difficulties attendant upon discerning final causes should not obscure the fact that where we are able to identify '*the* goal ... which must be cited in a true explanation of the process' (Short 1983: 312), we will have arrived at an etiolgocial analysis of a teleological process.

Even though (human) purpose is a variety of final causes involving consciousness and control, purposes are not particular psychological events, and no final cause is actual. Just as every final cause is a general type, so every purpose is the ideal type that someone 'wills to actualize' (Short 1981: 369). No particular act(s) of will can be counted as a purpose, since the latter as a variety of final cause is a general type. This is another way of saying that the final cause is never reducible to its particular instances, or that the end is limited, in its influence on the means by which it is achieved, to specifying 'what means are appropriate in a general, not necessarily in a particular way' (Potter 1967: 112). Like Aristotle, therefore, Peirce recognizes the distinctness and irreducibility of final and efficient causation, which is not to say that final causation can dispense with the cooperation of efficient causes. On the contrary, 'final causality cannot be imagined without efficient causality; but no whit less on that account are their modes of action polar contraries' (*CP* 1.213). The relation between final and efficient causes is characterized by Peirce in a way that is especially relevant to language: 'efficient causation is that kind of causation whereby the parts compose the whole; final causation is that kind of causation whereby the whole calls out its parts' (*CP* 1.220).

The mention of parts and wholes, and of the directionality obtaining between them, is closely linked to Peirce's concept of a 'natural' or 'real' class — which bring us yet again to the essence of linguistic structure. A natural class, in Peirce's provisional formulation (*CP* 1.204), is 'a class of which all the members owe their existence as members of the class to a common final cause'. Although 'every class has its definition, which is an idea' (*CP* 1.214), it is only a natural class that confers existence on its members by an active causality of the defining idea of the class.

Since it is often erroneously thought that final causation is 'backward causation' (that is, that the future exerts a causal influence on the present), it is appropriate to emphasize that Peirce follows Aristotle in construing a final cause as a present possibility, not a future actuality. From a mechanistic point of view it might seen equally paradoxical to attribute causal potency to present possibilities, since this would endow mere possibilities with the power of influencing what actually occurs. But Peirce's argument is based on the assertion that some possibilities are more likely to be actualized just because they are the sort of possibilities

that they are: 'every general idea has more or less power of working itself out into fact; some more so, some less so' (*CP* 2.149).

Final causation can be identified with the tendency toward order. A genuinely teleological process describes a movement from a state of disorder to a state of order and can be distinguished in this respect from those Peirce called 'finious' — processes, including physical ones, that are irreversible and 'tend asymptotically toward bringing about an ultimate state of things' (*CP* 7.471). In this analysis, then, a final cause is a principle of selection (Short 1981: 380, note 3). The operation of this principle 'appears to be at the core of teleology and purposeful activity wherever they occur' (Wimsatt 1972: 13). The actuation of a particular principle of selection (final cause, general type) varies from case to case, but 'in each case, its operating explains why the process tends toward that type of result' (Short 1981: 380, note 3).

Sapir (1927) sees things in a similar way:

> social 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)

In order to see how such a teleological principle works in practice, I would like to analyze a concrete example from the history of Russian (the data are from Kolesov 1972: 9–10). Until about the seventeenth century (that is, during the Old and Middle Russian periods) the word for 'lip' (*guba*, which is of Common Slavic origin) was stem-stressed throughout its paradigm. In the seventeenth century the word appears for the first time with stress on the ending in the singular and the plural and competes as a variant with the older stem-stressed forms. In the subsequent two centuries, although there is some vacillation, the word shifts stress types and comes to be accented like *ruká* ('hand'), which has stress on the ending in all but the accusative singular and the non./acc and genitive plural forms. Finally, in the twentieth century, *guba* makes a minor shift, abandoning stem stress in the acc. sg. for columnar end-stress throughout the singular. Table 1 recapitulates this development schematically. On the face of it, the change from a fixed stem-stress to a mobile end-stress paradigm seems capricious — until the appropriate principle of selection can be discovered. The first step in finding an explanation is to realize that the word for 'lip' enters into a semantic class defined by parts of the body that come in pairs (eyes, ears, nostrils, cheeks, hands, legs, feet, etc.), reflecting its bilateral symmetry. Actually, such words were commonly

Table 1.

	ORuss	17th-c.	18th-c.	19th-c.	20th-c.
Nom Sg	*gubá*	*gúbá*	*gúbá*	*gúbá*	*gubá*
Gen Sg	*gúby*	*gúbý*	*gubý*	*gubý*	*gubý*
Acc Sg	*gúbu*	*gúbú*	*gúbu*	*gúbu*	*gubú*
Nom Pl	*gúby*	*gúbý*	*gúby*	*gúby*	*gúby*

used in the dual while that number still existed in Russian. At any rate, upon inspection feminines of the second declension in this semantic class (like *guba*) all turn out to be end-stressed in the nom. sg. and to have been so from Common Slavic times. This means that *guba* changed its stress in order to conform with the rest of the members of its class.

If one were to stop right there, this 'explanation' would be tantamount to stating that *guba* changed 'by analogy'. But this sort of statement could hardly satisfy someone who wishes to know the precise lineaments of the drift in question — in what sense the individual variations preceding the change, as Sapir has it, 'are cumulative in some special direction' (1921a: 155). The answer is to be sought in the formal grammatical relations which are the context for the accentual properties of *guba* and its congeners.

Leaving aside all but the nom. sg. and the nom. pl. as not immediately relevant, the differentiation in stress between the latter forms hinges on the values of the two positions of the stress, on one hand, and the values of the stems (sg. and pl.) on the other. (By 'values' I mean markedness values.[7]) Starting with the stem, since these words are defined by their designation of paired objects, the sg. stem is marked, while the plural is unmarked. With respect to positions of stress, then, unstressed syllables are marked (which accounts, incidentally, for vowel reduction in Russian) while stressed syllables are unmarked. In the case before us, therefore, what we have is an alignment (coherence, congruence) of markedness values: marked stress falls on marked stem, unmarked stress on unmarked stem.

This sort of congruence between two aspects of form in terms of markedness is the *telos* of the change that brought *gubá* into alignment with *ščeká* ('cheek'), *nozdrjá* ('nostril'), *nogá* ('leg/foot'), *ruká* ('arm/-hand'), etc., in the respect under discussion. In terms of Peirce's semiotic, it is a *diagrammatization*, or formation of a diagram — the main species of icon — between two elements of form, the segmental and the suprasegmental, in which relations are mirrored by relations.

Here we see in palpable terms just what is meant by saying (with Peirce

and Aristotle) that the final cause (*telos*) is a present possibility which has greater or lesser power to be actualized. The mere fact of a present possibility in the prosodic system of Old Russian did not endow it with causal potency; rather, it was its membership in the general type — here the semantic class consisting of paired parts of the body — that gave it the power to be actualized.

Sapir's treatment of drift does not include a discussion of explicit goals and ends, but in the history of Western linguistics the notion of an overarching *telos* of change has been recognized by many writers under different labels (Anttila 1972: 107). All of them point toward the recognition of a striving or impulse in language change which 'aim[s] to eliminate purposeless variety' (Wheeler 1887, cited in Anttila 1972: 107) and has been called more recently the 'principle of isomorphism' (Itkonen 1982: 90). It is this principle that is at work in bringing about the changes in Russian morphophonemics described earlier. The *telos* in that example is the formation of what mathematicians call an automorphism.[8]

Actually, there is one extended passage in Sapir that seems to indicate a nexus of thoughts along explicitly teleological lines. It occurs in Sapir (1921b):

> 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 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 thousand 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).

There is, to be sure, a tendency to regard systems of writing — particularly alphabetic ones — as largely lacking in the (relationally)

motivated character that pervades the structure of natural spoken language. Alphabets are invariably additive systems, like the Morse code, and the graphic shape of any one letter tends to be basically independent of and unrelated to that of any other. It would be incorrect, however, to suppose that because the shapes of letters are unmotivated, everything else about the written varieties of speech is as well. Quite the contrary is true, and this can be demonstrated in a number of ways. In the case of alphabetical systems (to which the present discussion is limited), the printed forms of letters organize themselves into sets which might be said to serve 'stylistic' ends (Vachek 1979), although we shall see that this term is actually too narrow. More appropriately, within the totality of means available to render speech in writing (printing) there are subsets or particular sub-systems which are used in specific contexts and have a specific value. In English, for instance, capitals and small letters occur in essentially complementary contexts. With certain exceptions capitals are used at the beginning of sentences and of words which are proper nouns, small letters elsewhere. Both contexts of the use of capitals — sentence beginnings and the initials of *nomina propria* — are special: they are the marked terms of the oppositions into which they enter as members. Sentence-initial position is opposed to all other positions; its marked character is reflected in the occurrence of capitals in this position. Small letters, correspondingly, occur in unmarked positions — in words other than proper nouns and in other than sentence-initial positions.

One way of characterizing the marked term of an opposition is *emphasis*, just as in this sentence the word to be emphasized has been printed in italics. The marked term is the conceptually more complex one and is more narrowly defined than the corresponding unmarked term. In the case of the capital versus small letter opposition, the conceptual focus of scope can be seen in the value of the two kinds of letters. In English, capitals have a particularizing or individualizing significance, while small letters are correspondingly generic or generalizing. Note moreover that solid capitals occur in marked uses: for (1) emphasis, (2) abbreviation (such as acronyms), and (3) prominence (as in graphic materials, particularly advertising, traffic signs, etc.). Each of these uses has its unmarked counterpart, where small letters may or may not occur. The unmarked term, being generic, may occur everywhere that the marked term occurs, but the converse is not true. The marked term is restricted to specific contexts and uses corresponding to its particularizing or individualizing significance.

The marked/unmarked value attaching to terms of oppositions affects not just kinds of letters but entire type styles as well. In English, as in many other languages, roman characters are opposed to all other fonts —

but particularly to italic — as unmarked to marked. Italic type is used to convey emphasis or foreignness, both of which are obviously marked statuses. Occasionally, as more frequently in German or Czech (Vachek 1979: 209), a fairly sizable span of text can be printed in italic type, such as a foreword, an epilogue, or even a short essay by way of introduction to or as commentary on some more substantial or primary text included in the same publication. Note that in such longer spans of italic text emphasis can be conveyed by resorting to roman characters, which is to say that in the marked context of italic type the sign value of the normally unmarked roman type is reversed, and it functions as a marked sign. Naturally, other marked fonts and characters are available to printers (such as bold face or small capitals), and the use of roman type within italic 'islands' is far from being strictly regulated. Similarly, in printing book titles, an included reference to yet another title is optionally signalled by roman type. This markedness reversal is invariably context-sensitive. When the use of a sign is dominated by a marked context, the sign may apply with opposite value.

The difference between roman and boldface fonts is iconic: emphasis is rendered materially by a darker concentration of ink. Another case of iconicity is the difference between print sizes correlated with degrees of importance. Small print is reversed for subordinate information, such as is typically relegated to footnotes. No such iconic significance is manifest in the opposition of roman to italic.

The development of graphic marks is typically a process of increasing conformity to pattern. Present-day English punctuation provides several telling examples of the diagrammatic thrust governing the distribution of certain signs, particularly the hyphen/dash and the apostrophe.[9] The difference in meaning between a hyphen and a dash is a matter of extent or scope. A hyphen is placed between the constituents of compounds, at the ends of lines, and to indicate grammatical omissions or ligatures, as in the case of prefixes or suffixes. A dash, on the other hand, which may be thought of as the sum of two hyphens, is used to indicate lexical omission or separation of matter more extensive than single constituents. In printing (but not in handwriting), a difference may also be made between long and short dashes, the latter being slightly longer than a hyphen and used to indicate 'to and including', as in dates (*the decade 1951–1960*), other numerical matter (*pages 40–98*), or distances (*the New York–London plane*). It is not difficult to see that there is a gradation of extent associated with the progression from hyphen, via the short dash, to the long dash. The longer stroke indicates a greater extent of independence of the matter on either side of it.

Progression along this scale of dependency is likewise at the bottom of

the difference between spacing, hyphenation, and solid writing in printing. When words are separated by no overt mark, only space, as in *end game* or *black bird*, they are maximally independent of each other in the relative dependency series at issue. The next mode, hyphenation, is an indication of overt mutual dependency and of a delineated constituent structure, as in *end-game* or *black-bird*. Finally, the solid writing of the constituents is an indication of the complete integration — hence, the maximal degree of mutual dependency and loss of independence — as in *endgame* or *blackbird*. The combination of spacing and hyphenation articulates a continuum whose nodes correspond diagrammatically to grades of grammatical significance.

The case of the apostrophe is even more instructive. The English apostrophe is used exclusively to punctuate items belonging to grammatically or lexically marked categories (cf. the use of quotation marks in direct discourse, unusual words, irony, slang, etc.), namely possessives (*John's*), contractions (*o'er*, *let's*, *sec'y*), and the inflected or derived forms of marked substantives or verbs: proper nouns (*the Johnson's*), nominalizations (*no if's or but's*), numerals (*Boeing 747's*), abbreviations of all sorts (*IQ's*, *AWAC's*, *GOP'er*, *he OK'ed it*). Spellings of the type *the Johnson's* are not acceptable to all writers, most preferring the form without apostrophe. It is clear, however, that the apostrophized variant continues to spread at the expense of the unapostrophized variant because it conforms to the *general type of meaning* of this orthographic mark; that is, the *marked value*. The question of whether or not to use an apostrophe in the plural of *propria*, therefore, comes down to whether or not *propria* are evaluated as belonging to a marked lexical category where punctuation is concerned. The directionality of the movement is clear: toward the use of the apostrophe.

> 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. (Sapir 1921a: 150, 155)

With these familiar words, Sapir can be considered to have placed himself early on the side of those linguists who came to see language design as 'constant systematization' (Coseriu 1974: 236) or 'a system of diagrammatization' (Jakobson 1971: 357).

This tendency toward the fulfillment of a pattern is what Peirce called 'rationalized variety' (*CP* 6.101). Peirce went further, however, by espousing a much more general idea, 'that underlying all other laws is the only tendency which can grow by its own virtue, the tendency of all things to

take habits ... this same tendency is the sole fundamental law of mind' (*CP* 6.101). Perhaps if Sapir had been aware of Peirce's statement that 'the law of mind is that feelings and ideas attach themselves in thought *so as to form systems*' (*CP* 7.467; emphasis added), he might have agreed that Peirce's was the 'more general psychology than Freud's' that he hoped would be 'as applicable to the groping for abstract form, the logic of esthetic ordering of experience, as to the life of the fundamental instincts' (Sapir 1921a: 157, note 12).

Notes

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1. The reexamination of Sapir's concept experienced a small surge in popularity in the late 1960s and early 1970s, which has been chronicled (with characteristically flatulent prolixity) by Malkiel; see also Anttila 1977: 122–126, Itkonen 1982: 99–104, and Preston 1981.
2. As Richard Preston and Victor Golla have pointed out to me, Sapir was not in the habit of making explicit reference or systematically acknowledging all of the other authors whose work had had an influence on his thinking. But this does not mean that Sapir was unaware of Peirce, even though there appears to be no trace of Peirce in his personal correspondence (at least that part of it to which Professor Golla has had access). In this regard, students' class notes from Sapir's courses and seminars may prove helpful when they are published in *The Collected Works of Edward Sapir*, Philip Sapir et al. (eds.), currently in preparation as a multi-volume undertaking by Mouton de Gruyter (the first of 16 planned volumes is expected in 1987).
3. At the AAAS meeting in Los Angeles, Philip Sapir very kindly showed me his father's own copy of the Ogden and Richards book. It contains no penciled marginalia at Appendix D, although many other pages do.
4. I have been unable to find any explicit references to Peirce by Sullivan. Could this be a case of deliberate suppression? For a comparison of Peirce and Sullivan, see Lincourt and Olczak 1974.
5. For a more extended treatment of linguistic change in a Peircean mode, see Shapiro 1985b (which takes Short 1981 as its chief guide in understanding and applying Peirce's concept of final cause). A full discussion of Peirce's semeiotic (the spelling Peirce himself apparently preferred) can be found in Shapiro 1983.
6. The standard way of citing from Peirce's *Collected Papers* is the use of the abbreviation *CP*, followed by volume and paragraph number separated by a period.
7. The theory of markedness underlying the discussion to follow is detailed in Shapiro 1983.
8. Patterns like this, where one morphophonemic alternation mirrors another, were first explicitly described in Shapiro 1969.
9. The data for this section are drawn from Webster 1961: 50a–51a. For a broader semiotic view of graphic elements, see Shapiro 1985a.

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