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Language as semiosis: a neo-structuralist perspective in the light of pragmaticism

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Abstract: Presented is an analysis an analysis of language structure in the round incorporating the elements of Charles Sanders Peirce's pragmaticism and his apothegm "My language is the sum total of myself" together with a program for reorienting linguistics in the twenty-first century. Postulated as a fundamental principle is the idea that the locus of linguistic reality is the *act*, the *creative moment of speech* – a moment made possible by the existing structure of language with its general rules but which transforms that structure, so that linguistic structure is itself always in flux, always being modified by acts of speech. Adduced in illustrative support are data and analyses drawn from the author's blog (www.languagelore.net) and from his recent book, *The speaking self: Language lore and English usage* (2nd edn., 2017). Included in Appendices form are fundamental concepts of Peirce's semeiotic as summarized from Max Fisch's classical description.

Keywords: C. S. Peirce's pragmaticism; grammar; language structure; semiotic principles of language

Recalling the singular appearance of the word *hermeneutic* in the title of any article published over the multi-year history of the journal *Language* (Shapiro 1980), and relying anew on Charles Sanders Peirce's pragmaticism and his apothegm "My language is the sum total of myself," my goal herein will be to sketch a program for reorienting linguistics in the twenty-first century, prompted by the conviction that the prevailing conception of language as rule-governed behavior *tout court* has driven linguistics into barren byways which are powerless to *explain speech as it is manifested in nature* (in the spirit of the *physis* versus *thesis* debate in Plato's *Cratylus*). This sterility can be overcome by postulating as a fundamental principle the idea that the locus of linguistic reality is the *act*, the *creative moment of speech* – a moment made possible by the existing structure of language with its general rules but which transforms that structure, so that linguistic structure is itself always in flux, always being modified by acts of speech.

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I begin by providing in outline form some postulates for what I call a "neo-structuralist" perspective.[1]

Language: seven postulates

1. Language is like a piece of music or a poem – i.e. a made (aesthetic = L *formosus*) object, a ***work*** that unfolds in time (unlike an artwork, which is static), always dynamic, while remaining changeable and stable simultaneously.
2. Linguistic competence can only transpire in performance, and in ensembles of performances, and is not a work.
3. The ***ecology*** of language is constituted by ***discourse*** rather than structural relations.
4. The lexica (vocabularies) of speakers are discontinuous: no two speakers of a language have the same lexicon despite considerable overlap.
5. Multilingualism (unlike diglossia, pidgins, or code switching) introduces a new dimension in the discontinuity of lexica.
6. Linguistic theory is immanent in the concerted – i.e. syntagmatic – data [=performance] of language in its *variety*, not merely in its paradigmatic structure.
7. Hence the goal of theory is ***the rationalized explication of linguistic variety.***

In coming to an encompassingly stereoscopic view of language – both ontologically and experientially – the above seven points are to be juxtaposed to the following two sets of three each (Figure 1):

A. Levels of patterning in language
   - **type** (the specific *Bauplan* or underlying design of a language)
   - **norms** (usage that is historically realized and codified in the given language community)
   - **system** (everything functional that is productive in the language, including usage that exists *in potentia*)

B. Modes of being of language
   - **TEXT** (language as PRODUCT – *érgon*)
   - **SPEECH** (language as ACTIVITY – *enérgeia*)
   - **GRAMMAR** (language as TECHNIQUE – *dúnamis*)

Speaker's point of view		Hearer's point of view
III TEXT	strategy ↑	GRAMMAR
II SPEECH		SPEECH
I GRAMMAR		TEXT

1 The designation "neo-structuralist" has come to mean slightly different things to different people. For an explication of the way in which it is being used herein, see Shapiro 2002.

C. Communicative context (speaker's point of view)

Orientation	Function
CONTACT	Phatic
CONTENT	Referential
CODE	Metalinguistic
ADDRESSEE	Conative
ADDRESSER	Emotive
MESSAGE	Poetic

D. Typology of context (by addressee)

PUBLIC SPEECH
(impersonal/formal)

1. self (thought)
2. intimates
3. familiars
4. subordinates
5. peers
6. superiors
7. anonymous

PRIVATE SPEECH
(personal/informal)

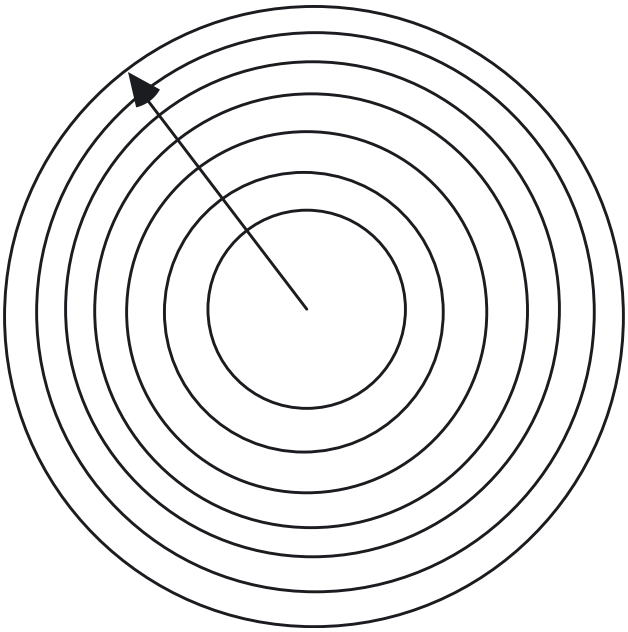

Figure 1: Typology of context represented as concentric circles from private to public.

E. Epistemic repertoire (linguistic competence)

I. Phonology/phonetics

monolingual

multilingual

A. “native” (unaccented/authentic) sounds (“one’s own” speech)
B. “non-native” sounds (speech of “others”)
1. allolects
   a) regional (incl. other countries)
   b) social
   c) ethnic
2. foreign speech

II. Lexis, incl. derivation

fixed

free

A. Semantics (vocabulary)
   1. native (differentiated by size and depth)
   2. foreign (use of foreign words and locutions)
B. Doxastics (beliefs, presuppositions)
   1. proverbs
   2. quotations (incl. literary references)
C. Ludics
   1. paronomasia (puns, tropes, neologisms/nonce words)
   2. jokes, anecdotes, stories
   3. citations of others’ utterances

III. syntax, incl. inflection

simple

complex

A. Simple (declarative) sentences
B. Complex sentences (modes, subordinate/embedded constructions)
C. Linked discourse

IV. Stylistics (appropriateness, incl. pragmatic and aesthetic)

fixed

A. Normative
  1. social
    a) sex
    b) age (infant/adolescent/young adult/adult/elder)
    c) status/rank (superior/equal/inferior, compatriot/foreigner)
  2. contextual (adequacy of linguistic expression to context, incl. "cultural baggage")
B. Axiological (judgments of worth)
  1. aesthetic (incl. phonostylistics and speech production)
  2. evaluative (approval)

free

V. Paralinguistics

A. Speaking
  1. [visible] gestures (hand and body movements, smiles)
  2. [audible] noises (intakes of breath, laughs, snorts)
  3. fillers/hesitation phenomena [other than 1. & 2.] ("y'know," "get it," etc.)

B. Listening [in addition to A. 1. & 2.]
  1. silence
  2. phatic phenomena ("mm," "haa," "ehh," etc.)

VI. Additional considerations

1. Eloquence and tongue-tiedness
2. Error and imperfect learning
3. Differentiated competence over user's life-span

Because he was a practicing scientist in the modern sense, Peirce is *the* one great philosopher who escapes my definition of a philosopher as someone who only solves problems of his own devising. This makes him also a proto-structuralist (a structuralist *avant la lettre*).

The essential concept of structuralism, whether applied to physics or linguistics or anthropology, is that of invariance under transformation. This makes theory, following Peirce's whole philosophy and his pragmaticism in particular, the rationalized explication of variety: "[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" (CP 6.101).[2] Or, translating law and habit into the appropriate phenomenological category: "Thirdness […] is an essential ingredient of reality" (EP 2:345).

Once we properly understand structuralism not as the putatively debunked epistemology that originated in Geneva with Saussure, but rather as the revised, essentially correct version originating with Jakobson in Prague and Hjelmslev in Copenhagen, we can recognize the patterning of Thirdness and Secondness in language – the so-called "passkey semiotic" – for what it is. Consequently, the fundamental notion of alternation between basic form and contextual variant becomes understandable as immanent in theory, and not merely a construct or an artifact of description. The importance of this notion cannot be overestimated.

A child learning its native language, for instance, is exactly in the same position as an analyst. It has to determine which linguistic form is basic, and which is a contextual variant. Take a simple example from English, that of the voiceless stops.

English voiceless (actually, tense) stops are aspirated when they are word-initial or begin a stressed syllable, as in *pen*, *ten*, *Ken*. They are unaspirated when immediately following word-initial s, as in *spun*, *stun*, *skunk*. After an *s* elsewhere in a word, they are normally unaspirated as well, except when the cluster is heteromorphemic and the stop belongs to an unbound morpheme; compare dis[t] end vs. dis[t?]aste. Word-final voiceless stops are optionally aspirate.

This variation makes aspiration non-distinctive (non-phonemic) in English, unlike, say, in Ancient Greek or Hindi, where aspirated stops change the meaning

2 The use by Peirce of the form "rationalized" (rather than "rational") as a modifier of "variety" in the quotation above should be taken advisedly. This use of the participial form, with its adversion to process, should serve as a caveat that when Peirce talks about "object*ive* idealism," what he ought to have said is "object*ified* idealism." This slight grammatical change puts the meaning of the phrase (and the doctrine!) in a whole new – and completely acceptable – light.

of words by comparison with items that have their unaspirated counterparts *ceteris paribus*.

I think it is only by taking such variation for what it is, i.e. the working out of Thirdness in the context of Secondness, that we can we understand what Peirce had in mind with his version of pragmatism.

Since talk of Peirce's phenomenological categories as applied to grammar necessarily brings in a discussion of linguistic oppositions, this is the place to reconsider traditional conceptual distinctions in semiotic terms, as follows.

What needs underscoring first is the role of *asymmetry* in the manifestation of linguistic signs, specifically in its conceptual bond with complementarity and markedness. The unequal evaluation of the terms of oppositions in language has been an important notion of linguistic theorizing since at least the heyday of the Prague School's chief Russian representatives – Trubetzkoy, Jakobson, and Karcevskij. The clearest early expression of its role is in Jakobson (1971 [1932]: 15), when he characterized the asymmetry of correlative grammatical forms in morphology as two antinomies: (1) between the signalization and non-signalization of A, and (2) between the non-signalization of A and the signalization of non-A. In the first case, two signs referring to the same objective reality differ in semiotic value in that the signatum of one of the signs specifies a certain "mark" A of this reality, while the meaning of the other makes no such specification. In the second case, the antinomy is between general and special meaning of the unmarked term, where the meaning of the latter can fluctuate between leaving the content of the "mark" A unspecified (neither positing nor negating it) and specifying the meaning of the unmarked term as an absence.

In focusing on the paradigmatic asymmetry of linguistic signs expressed by the polar semiotic values of marked and unmarked (superimposed on oppositions in phonology, grammar, and lexis), the early structuralists appear to have glossed over a cardinal syntagmatic consequence of markedness: complementarity. If the conceptual system which underlies and informs grammar (and language broadly conceived) consists of opposite-valued signs and sign complexes, then whatever syntagmatic coherence linguistic phenomena have in their actual manifestation must likewise be informed by principles of organization diagrammatic of this underlying asymmetry. The only aspect of the asymmetric nature of linguistic opposition that allows access to structural coherence is the complementarity of the terms of the asymmetry, the markedness values. The systematic relatability of the complementary entities and of their semiotic values is assured by the binary nature of all opposition, which balances the asymmetry of the axiological superstructure by furnishing the system of relations with the symmetry needed for the identification and perpetuation of linguistic units by learners and users.

Moreover, in explaining the cohesions between form and meaning, complementation of markedness values is seen to be the dominant mode of semiosis – so much so that replication is confined to the structure of desinences and the expression of further undifferentiated members of the hierarchy of categories. Given the common understanding of undifferentiated contexts, statuses, and categories as marked in value (Brøndal's principle of compensation, as in Brøndal 1943), it is clear that replication is itself the marked (more narrowly defined) principle of semiosis, vis-à-vis its unmarked (less narrowly defined) counterpart, complementation.

Complementation actually has two aspects or modes of manifestation, which are semiotically distinct and need to be understood as such. The more usual effect of complementation, well-known in linguistic analysis, is the distribution of phonetic properties in complementary but mutually exclusive contexts. This widespread fact of language structure serves as a diagnostic in the determination of the non-distinctiveness of a particular feature, so that, for example, the complementary distribution of short and long vowel realizations in English before obstruents indicates the non-phonemic status of quantity (Andersen 1979). The general effect of variation rules is augmented by their correlation of complementary phonetic properties with specific contexts. More significantly, it has been discovered (Andersen 1972: 44–45) that the assignment of particular properties to particular contexts is governed by a universal semiotic principle of *markedness assimilation*, which assigns the unmarked value of an opposition to the unmarked context and the marked value of an opposition to the marked context. Complementary distribution can thus be understood as the semiotic instantiation of markedness assimilation.

It is not difficult to perceive that this first, familiar sense of complementation is a manifestation of symmetry, since "variation rules […] transform relations of similarity – equivalence in markedness – into relations of contiguity in phonetic realization" (Andersen 1979: 379). What has not been perceived, however, is that this form of complementation is peculiarly characteristic of the expression system of language (phonology, phonetics). By contrast, the morphophonemic system of a language largely eschews the symmetrical, replicative patterns of semiosis which are favored by phonology. Indeed, morphophonemics systematically exploits a second, less-studied form of complementation; this is antisymmetrical in its effects, as an inversion, and can accordingly be called *chiastic*. The predominant use of chiastic complementation is perfectly consistent with the semiotic nature of morphophonemics, which is the part of grammar that is constituted by the "relations between the contextual variants of the same linguistic sign(s)" and is contrasted with morphology, constituted by the "relations between [basic] linguistic signs" (Andersen 1969: 807). The fact that morphophonemics permits

chiasmus is, in other words, in complete alignment with its function: the manifestation of morphological alternation.

Conversely, the prevalence of symmetrical modes of semiosis in the specification of the basic signs of morphology (cf. Shapiro 1972: 356–361) accords with the semiotic status of morphological units. Thus, when the constitution of hierarchically independent (invariant) entities in grammar is at issue, correspondences which reflect relations of the content level (grammatical meaning) in the relations of the expression level (sounds) function as *iconic signs*. More precisely, they are a variety of *icon* (or *hypoicon* in Peirce's trichotomous classification), which Peirce called *metaphors* and defined as "those which represent the representative character of a representamen [= sign] by representing a *parallelism* in something else" (CP 2:133, emphasis mine). This idiosyncratic understanding of metaphor, reflected in Peirce's typically crabbed diction, seems to imply that the more familiar kind of hypoicon – the *diagram* (*image* being the third) – is a more general species of sign which subsumes parallelistic semiosis (replication of relational values) and chiastic semiosis (alternation of relational values) as variants. If this is so, then the metaphoric relations of parallelism entail the characterization of the relations contracted by chiasmus as *metonymic*, because of the status of antisymmetry as a species of metonymy via its negational quotient (cf. Shapiro and Shapiro 1976: 10–11).

The invocation of a framework based on markedness, to explain the coherence of linguistic entities syntagmatically, also implies the ineluctable and necessary consideration of these entities as signs, as parts of a semiotic. Heretofore, things like verb stems and desinences, including their positional shapes and alternants, have been looked upon simply as artifacts of description which facilitate an economical, mutually consistent statement of distributional facts; but the semiotic analysis presented here rests on the fundamental assumption that all these linguistic units have values – markedness values – which vary coherently and uniformly in alignment with contexts and the values (hierarchy) of contexts. The fusion of stems and desinences owes its coherence, its semiotic raison d'être, to the form of the meaning on both sides of the expression/content "solidarity," to what Hjelmslev (1969: 54–56) so astutely called "content-form" and distinguished from "expression-form."

The coherence of linguistic units among each other is by no means a static one, for we have incontrovertible empirical evidence that languages change over time. But the fact of change must be correctly understood as a dynamic based on teleology, where the telos is greater goodness of fit (iconicity, coherence) between underlying structure and its overt manifestation in speech (cf. Anttila 1974: 19–25). For example, the picture of contemporary Russian conjugation and of its system differs strikingly little from that of Old Russian (Bulaxovskij 1958: 250–253; cf. Kiparsky 1967: 180), i.e. from the state of the language with respect to verb

inflection dating as long ago as 900–1000 years! Given such a long span for testing, encompassing vast upheavals in the morphophonemics of Russian occasioned by the sound change known as the "jer shift" (cf. Isacenko 1970), we have every reason to suppose that present-day conjugation has a teleological coherence which has given shape to it diachronically, and which enables it to subsist in its present form synchronically.

Finally, note should be taken of the prominence given here, covertly in the title and explicitly in the analysis itself, to the hermeneutic aspect of linguistic theory, and its application as explanans of concrete data. In the face of continued assessments of Jakobson's "Russian conjugation" as an "epoch-making" contribution to the "complete *scientific description* of the language" (Halle 1977: 140; emphasis added) and the explicitly pedagogical aim of Jakobson himself (1971 [1948]: 128), the present study and its predecessor (Shapiro 1974) argue in detail for the view that explanation cannot be achieved by the prevailing self-confinement to goals that are fundamentally (if unwittingly) non-explanatory. The rule-formalism approach of transformational-generative grammarians may or may not demonstrate anything about "a fluent Russian speaker's knowledge of his language" (Halle 1977: 140). It is fundamentally irrelevant for linguistic theory whether it does or does not, because a theory of grammar is not a theory of knowledge but a theory of *habit* (in the sense of Peirce; cf. Shapiro 1976). Explanation must focus on why the data cohere as signs, and not on the mechanisms by which grammatical forms can be derived by the judicious choice and application of rules. This requirement removes predictability-via-rules from the agenda of theory. The entire recent history of linguistics shows with great clarity the feasibility of kneading data into a wide number of mutually compatible formalized configurations ("notational variants"). What is needed, however, is an *attitude* toward the object of study which matches the structure of that object.

Language is a system, both in its diachronic and synchronic aspects, that is informed by a pattern of inferences, deductive and abductive (cf. Andersen 1979, 1984). The role allotted to interpretation in language as a structure – to its very nature and function as a hermeneutic object – demands that the methods of inquiry into and the theory of language be homologous with the principles of its organization (cf. Itkonen 1978; Anttila 1976, 1977).

It is this very nature of language itself, the inherent organization of grammar as a patterned relationship between form and meaning, that necessitates transposing the theoretical enterprise of linguistics to another dimension, one defined by the subsumption of all linguistic analysis under the rubric of meaning or hermeneutic. As Jakobson himself put it:

> Any linguistic item, from speech sounds and their constituents to discourse, partakes – each in its own way – in the cardinal, viz. semantic, tasks of language and must be interpreted with respect to its significative value. (Jakobson 1977: 5; cf. 1972: 76)

Appendices

Appendix A: Two examples of a neo-structuralist linguistics (from Shapiro 2017: 149–150; 376–78)

1. Disfluent *like*: toward a typology

In the contemporary American English of adolescents and young adults (typically, females), the word *like* is a constant presence, mostly as a disfluent filler or discourse marker. Observation *viva voce* of raw speech specimens yields the following typology of functions of the word, in rough order of frequency:

(1) **Ticastic**: for many speakers, the word is a verbal tic (whence the nonce adjective "ticastic"), replacing "you know" and its congeners, and having no other function than as a meaningless filler;
(2) **Phatic** (perhaps as a sub-species of the ticastic): keeping the channel of communication open, sometimes for no other reason than to forestall a response from one's interlocutor(s);
(3) **Quotative**: as a prefatory marker before the report of someone else's utterance(s) or inner speech;
(4) **Approximative**: as a means of qualifying the extent or validity of the word or phrase immediately following, including its literal meaning;
(5) **Anaesthetic**: as a way of deflecting the assertory force of anything following, usually as an apotropaism.

At bottom, all these modern-day extensions derive from and are parasitical on the word's original meaning and its membership in the grammatical categories of adverb, preposition, and conjunction. What unites these originary uses is the fundamental sense of *similarity* underlying them. While it might be ontologically defensible to assert that some degree of similarity is characteristic of all relations, in this case what is being undermined is the very concept of *identity*. More precisely, the promiscuous extension of *like* in contemporary speech can be seen as yet another manifestation – here, linguistic – of the general historical tendency in American culture toward the *leveling of all hierarchies*.

Prompted by new specimens of raw speech overheard *viva voce* into thinking further about the distribution of approximative and quotative *like*, I now suspect that the latter may be derivative of the former. The logic behind this relation resides

in the implied judgment that no report of direct or indirect speech can ever be precise because only the speech act itself – and not its retelling – can ever authentically stand for itself. By this logic, no statement of anything that contains figurative expressions can ever be considered verisimilar. With respect to the use of the word *like*, this would then have the advantage of accounting as well for the currently ticastic British qualifying phrase (pre- or post-posed), *if you like*.

2. *Twits, twitters, and tweaks* (sound–sense parallelism as explanans)

In the last 20 or 30 years, particularly in American English, there has been the curious ascendance of the word *tweak* in the meaning 'to make small adjustments in; *especially*: fine-tune,' deriving from the primary meaning 'to pinch and pull with a sudden jerk and twist'; cf. the *OED* version: 'to seize and pull sharply with a twisting movement; to pull at with a jerk; to twitch, wring, pluck; *esp.* to pull (a person) *by* the nose (or a person's nose) as a mark of contempt or insult; to press (the lips) *together* so as to pinch.' This verb takes its place in a whole inventory of words whose initial sounds are *tw-*, i.e. the voiceless (properly, tense) dental stop *t* plus the bilabial glide *w*: cf. *twit*, *twitter*, *twitch*, *twaddle*, etc.

Among this rather long list, if one compares, at random and for example, the meanings of *twit* 'a fool; a stupid or ineffectual person; to blame, find fault with, censure, reproach, upbraid (a person), esp. in a light or annoying way; to cast an imputation upon; to taunt' with *twaddle* 'senseless, silly, or trifling talk or writing; empty verbosity; dull and trashy statement or discourse; empty commonplace; prosy nonsense'(<*OED*), one detects a semantic thread of a rather abstract sort that binds them, namely the meaning of QUANTITATIVE OR QUALITATIVE SUBSTANCE, a connotation of partiality or diminutive weight. Thus the sound denoted by *twitter* is small in volume and can only be attributed to a diminutive bird; a *tweak* is but a small adjustment; and a *twit* is a lightweight fool; and so on.

The question that needs to be asked is: What is it about the word-initial sequence *tw-* that renders it fit for use (built up over the entire history of English) in words that all share this abstract sense of partiality or small quantity? The answer lies in the structure of the English syllable.

The structure of the syllable is composed of what are called onset, nucleus, and coda. The optimal English syllable consists of the sequence CVC, i.e. consonant (= onset) + vowel (= nucleus)+ consonant (coda). Where in the word and at what boundaries a syllable occurs in English is important because only certain combinations of sounds are allowed by the syllable structure rules. In word-initial position, more to the point of this post, one can have, for instance, the combination *sl-* (as in *slide*, *slip*, etc.) but not **sr-*, even though both *l* and *r* are liquids. Similarly, the onset *tw-* (obstruent + bilabial glide) is allowed but not **tj-* (obstruent + yod).

Linguists have long identified the group consisting of words like *slide*, *slink*, *slither*, and *slip* as sharing the meaning of a certain kind of movement but have never been able to identify the link between the particular syllable onset and the meaning of the group as a whole. But in the case of words beginning in *tw-* the sound–sense parallelism can now be understood as a case of *iconicity* (relations between sounds mirrored by relations between meanings) once the character of the onset in these words is recognized as a partialization of the optimal onset. In other words, the combination *tw-*, consisting of a cluster (complex) rather than one sound, constitutes a reduced version of the optimal combination (simplex) of obstruent + vowel. This partialization or reduction at the level of sound is mirrored at the level of sense by its alignment with words whose abstract general meaning is DIMINISHED SUBSTANCE. That is what explains the tropism of *tweak* in contemporary English.

Appendix B: Background material on Peirce (adapted from Fisch 1986: 324–326)

The first published sketch of Peirce's semeiotic was in a paper "On a new list of categories," which he presented to the American Academy of Arts and Sciences on May 14, 1867. Forty years later, he described this paper as the outcome of "the hardest two years' mental work that I have ever done in my life" (*CP* 1.561). He first establishes, in place of Aristotle's 10 categories and Kant's 12, a new list of three: Quality, Relation, Representation. He then uses these categories to distinguish: (i) three kinds of representations [i.e. SIGNS] – likenesses (which he will later call icons), indices, and symbols; (2) a trivium of conceivable sciences – formal grammar, logic, and formal rhetoric; (3) a general division of symbols, common to all three of these sciences – terms, propositions, and arguments; and (4) three kinds of argument, distinguished by their three relations between premises and conclusion – deduction (symbol), hypothesis (likeness), induction (index) (W 2:491–459; CP 1.545–559).

Peirce is a logician, and he concerns himself with semeiotic only so far as is necessary to place logic within the larger framework of that one of the three most general kinds of science that Locke, following the ancient Greeks, had distinguished. To that objection, however, it may fairly be replied that at no time of his life did Peirce set any limit to the intensity of cultivation of the larger field of semeiotic that would be advantageous for purposes of logic, even if the cultivating had to be done by logicians themselves because, for the time being, they were the only semeioticians.

In any case, it was not enough in Peirce's eyes for semeiotic to provide a pigeonhole for logic in the classification of the sciences. This became fully apparent in 1868–1869 in a series of three articles in the *Journal of Speculative Philosophy*: "Questions concerning certain faculties claimed for man," "Some consequences of four incapacities," and "Grounds of validity of the laws of logic: Further consequences of four incapacities" (W 2:193–272; CP 5.213–357).

The first two papers are there for the sake of the third. The upshot of the series is a theory of the validity of the laws of logic, including those of the logic of science (that is, of hypothesis and induction) as well as those of the logic of mathematics (that is, of deduction). Yet the first paper is in the form of a medieval *quaestio*, a disputed question, and the second begins with a four-point statement of "the spirit of Cartesianism," followed by an opposed four-point statement of the spirit of the scholasticism that it displaced. In respect of these four antitheses, "modern science and modern logic" are closer to the spirit of scholasticism. The first paper was "written in this spirit of opposition to Cartesianism." It was meant to illustrate as well as to commend the "multiform argumentation of the Middle Ages." It resulted in four denials:

1. We have no power of Introspection, but all knowledge of the internal world is derived by hypothetical reasoning from our knowledge of external facts.
2. We have no power of Intuition, but every cognition is determined logically by previous cognitions.
3. We have no power of thinking without signs.
4. We have no conception of the absolutely incognizable. (*CP* 5.265)

These propositions cannot be regarded as certain, Peirce says; and the second paper puts them to the further test of tracing out some of their consequences. The third paper then constructs a theory of the validity of the laws of logic in the form of "further consequences" of these "four incapacities."

The central positive doctrine of the whole series is that "all thought is in signs" (5.253). Every thought continues another and is continued by still another. There are no uninferred premises and no inference-terminating conclusions. Inferring is the sole act of the cognitive mind. No cognition is adequately or accurately described as a two-term or dyadic relation between a knowing mind and an object known, whether that be an intuited first principle or a sense-datum, a "first impression of sense" (5.291). Cognition is a minimally three-termed or triadic relation (5.283). The sign-theory of cognition thus entails rejection not only of Cartesian rationalism but also of British empiricism. The sign-theory of cognition leads into a semeiotic theory of the human self, "the man-sign" (5.313), and thence into a social theory of logic. "When we think, then, we ourselves, as we are at that

moment, appear as a sign" (5.383); "the word or sign which man uses is the man himself" (5.314). "Finally, no present actual thought (which is a mere feeling) has any meaning, any intellectual value; for this lies not in what is actually thought, but in what this thought may be connected with in representation by subsequent thoughts; so that the meaning of a thought is altogether something virtual" (5.289). "Accordingly, just as we say that a body is in motion, and not that motion is in a body, we ought to say that we are in thought and not that thoughts are in us" (5.289n1).

"The real, then, is that which, sooner or later, information and reasoning would finally result in, and which is therefore independent of the vagaries of me and you. Thus, the very origin of the conception of reality shows that this conception essentially involves the notion of a COMMUNITY, without definite limits, and capable of an indefinite increase of knowledge" (5.311). "So the social principle is rooted intrinsically in logic" (5.354).

Along the way, with the help of his three categories, Peirce's doctrine of signs is worked out in greater detail in these three papers, and especially in the second of them. The semeiotic thus founded was semeiotic as viewed from the standpoint of logic and studied for the purposes of logic, and more particularly for those of the logic of science rather than for those of the logic of mathematics. But it was a semeiotic that included logic.

References

Andersen, Henning. 1969. A study in diachronic morphophonemics: The Ukrainian prefixes. *Language* 45. 807–830.

Andersen, Henning. 1972. Diphthongization. *Language* 48. 11–50.

Andersen, Henning. 1979. Phonology as semiotic. In Seymour Chatman (ed.), *A semiotic landscape: Proceedings of the First Congress of the International Association for Semiotic Studies*, 377–381. The Hague: Mouton.

Andersen, Henning. 1984. Language structure and semiotic processes. *Arbejdspapirer fra Institut for Lingvistik ved Københavns Universitet* 3. 33–54.

Anttila, Raimo. 1974. Formalization as degeneration in historical linguistics. In John M. Anderson & Charles Jones (eds.), *Historical linguistics: Proceedings of the First International Conference on Historical Linguistics, Edinburgh 1973*, vol. 1 (North-Holland Linguistic Series 12), 1–32. Amsterdam: North-Holland.

Anttila, Raimo. 1976. The reconstruction of Sprachgefühl: A concrete abstract. In William M. Christie (ed.), *Current progress in historical linguistics* (North-Holland Linguistic Series 31), 215–231. Amsterdam: North-Holland.

Anttila, Raimo. 1977. *Analogy* (Trends in linguistics, state-of-the-art reports 10). The Hague: Mouton.

Brøndal, Viggo. 1943. *Essais de linguistique generale.* Copenhagen: Munksgaard.

Bulaxovskij, L. A. 1958. *Istoriceskij kommentarij k russkomu literaturnomu jazyku* [Historical commentary on the Russian literary language], 5th edn. Kiev: Radjans'ka Škola.
Fisch, Max H. 1986. *Peirce, semeiotic, and pragmatism.* Bloomington: Indiana University Press.
Halle, Morris. 1977. Roman Jakobson's contribution to the modern study of speech Sounds. In Daniel Armstrong, Morris Halle & C. H. van Schooneveld (eds.), *Roman Jakobson: Echoes of his scholarship*, 123–143. Lisse: de Ridder.
Hjelmslev, Louis. 1969. *Prolegomena to a theory of language*. Trans. by Francis J. Whitfield. Madison: University of Wisconsin Press.
Isačenko, Alexander V. 1970. East Slavic morphophonemics and the treatment of the Jers in Russian: A revision of Havlík's Law. *International Journal of Slavic Linguistics and Poetics* 13. 73–124.
Itkonen, Esa. 1978. *Grammatical theory and metascience* (current issues in linguistic theory 5). Amsterdam: Benjamins.
Jakobson, Roman. 1971. *Selected writings*, *II*: *Word and language.* The Hague: Mouton.
Jakobson, Roman. 1972. Verbal communication. *Scientific American* 227(3). 72–80.
Jakobson, Roman. 1977. Meaning as the fundamental question on all linguistic levels. In Wolfgang U. Dressler & Wolfgang Meid (eds.), *Twelfth International Congress of Linguists: Abstracts,* vol. 5. Vienna: Interconvention.
Kiparsky, Valentin. 1967. *Russische historische Grammatik, II: Die Entwicklung des Formensystems*. Heidelberg: Winter.
Shapiro, Michael. 1972. Explorations into markedness. *Language* 48. 343–364.
Shapiro, Michael. 1974. Morphophonemics as semiotic. *Acta Linguistica Hafniensia* 15. 29–49.
Shapiro, Michael. 1976. *Asymmetry: An inquiry into the linguistic structure of poetry*. North-Holland Linguistic Series 26. Amsterdam: North-Holland.
Shapiro, Michael. 1980. Russian conjugation: Theory and hermenutic. *Language* 56. 67–93.
Shapiro, Michael. 2002. Aspects of a neo-Peircean linguistics: Language history as linguistic theory. *The Peirce Seminar Papers* 5. 108–125.
Shapiro, Michael. 2017. *The speaking self: Language lore and English usage*. 2nd edn. New York: Springer Nature.
Shapiro, Michael & Marianne Shapiro. 1976. *Hierarchy and the structure of tropes*(Studies in Semiotics 8). Bloomington: Indiana University.

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