Beyond I-You-Me: An Empirically Supported Formulation of the Triadic Self

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Abstract This applied semiotics intends to show that the richness and complexity of Charles S. Peirce need not be lost through an empirical application to psycholinguistics, but instead enables the latter to make better informed hypothesis testing. It is proposed that Peircean semiotics can be used to ground a taxonomy of linguistic representations of the self in English, which is parsed not on the basis of semantics, but rather according to the triadic structure of the self as formulated by Peirce. This taxonomy was implemented by a language analysis computer program, SSWC (Sundararajan-Schubert Word Count), and applied to an analysis of language use in emotionally expressive writings. Results of two studies are reported to demonstrate the heuristic value of this applied approach to semiotics.

Keywords Charles S. Peirce · Applied semiotics · Triadic structure of the sign · Psycholinguistics · Sundararajan-Schubert Word Count (SSWC)

Introduction

The semiotics of Charles Sanders Peirce commands a perspective on the self far more sophisticated than current psychological theories of self and identity. As a tribute to the seminal contribution of Wiley's work on the semiotic self, we offer to extend this line of research to a psycholinguistic application of Peirce. Wiley's (1994) I-you-me formulation of the triadic self is a continuation of the vision as well the problem found in George Mead's approach to the self (1962/1934). The vision is that there ought to be a connection between the world of natural language (A) and theoretical constructs of the self (B); the problem lies in forging a relation

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between the two by borrowing terms from A to build models of B. Due to its conflation of A and B, Wiley's (1994) I-you-me formulation can lead to confusion in both the everyday use of personal pronouns as well as theoretical constructions of the self.

This paper intends to show that Peirce's semiotics offers a better alternative to the I-you-me formulation of Wiley/Mead, on the one hand; and on the other, fulfills Mead's vision of establishing a connection between natural language (A) and theoretical constructs of the self (B). It is proposed that a viable relationship between A and B consists of two separate steps, model building and applied semiotics. In model building, a clear boundary between life and theory is drawn by keeping the vernacular of A out of the scientific terminologies of B; and in applied semiotics, Peirce's triadic model of the sign is used to ground a taxonomy of linguistic representations of the self. Accordingly, this paper consists of three parts. In part one, a semiotic model of self representations is proposed that shows how not all internal conversations are dialogical, nor are all self representations triadic in structure. Part two is applied semiotics, in which a taxonomy of linguistic representations of the self is derived from the proposed semiotic model and implemented by a language analysis program, SSWC (Sundararajan-Schubert Word Count). Part three provides empirical evidence of the construct and external validity of the taxonomy of self representations in SSWC.

Toward a Semiotic Model of Self-Representations

From I-You-Me to Self-Other-Self

The "I" in Mead's framework (1962/1934) refers to the present self, which is the locus of freedom. This does not tally with the linguistic "I" which actually has much to do with the conventional, habitual self, more akin to the self referred to by Mead as "me." By contrast, the mature Peirce dropped personal pronouns all together, and generalized his very early use of I into the extra-personal notion of "firstness" (Wiley 1994: 25). Indeed "firstness" would be an appropriate translation of Mead's "I". This translation makes it clear why the linguistic "I" is an inappropriate metaphor. Experiences designated by firstness are not cognitively accessible, hence not amenable to semantic representations such as "I". Mead's "me" is equally misleading. As the object of other's action such as "he hits me" (Wiley 1994), "me" is immersed in the ongoing experiences of the present, rather than a past self as Mead made it out to be.

Keeping the vernacular out of the terminology of theoretical constructs, formulation of the triadic self as self-other-self would be a better choice. Embodied in this formulation are two essential properties of the sign–reflexivity and openness to the other. Reflexivity refers to the self to self recursive loop in the time honored notion of thinking as thought talking to itself (Wiley 1994). Another essential property of the sign is its openness to the other. A metaphor used by Peirce for this openness to the other is "you." Peirce used "you" in a twofold sense: "as the future self and as some other person" (Wiley 1994: 49). In his own words, "all thought is addressed to a second person or to one's future self as to a second person" (cited in

Fisch 1982: xxix). The common denominator between a second person and the future self is the other, for which "you" is the place-holder.

Contrary to the Cartesian notion of self introspection as having direct access to private subjective experiences of the self—as if all one has to do is to take a peek inside one's own soul, the self-other-self formulation insists that the vertical self to self transaction (reflexivity) has a horizontal self to other dimension. While the reflexive self to self transaction has been referred to as internal conversation, not all internal conversations are dialogical. Presence or absence of an other—known as alterity or Other in the dialogical self literature (Salgado and Gonçalves 2007)—may be a differentiating factor between monologue and dialogue. In monologue, otherwise known as closed dialogue, such as ruminative self talk (Nolen-Hoeksema et al. 2008), the two parties of a conversation are tightly coupled to form one fixed mode of processing that recycles *ad nausea* as if one were breathing in and out of a brown bag. In the context of neuroscience, the dyadic interaction between two systems of the brain is rightly referred to by Lewis as "internal monologue" (2002: 182). What keeps the dialogue open is the insertion of the third term—an other in the sense of a new element outside the system, from another brain or from the world outside brains, for instance—into the flux of a conversation.

It is the presence of the other that underscores the importance of intelligibility of representations, a requirement that is not necessary in self to self transactions. To the extent that the self to self talk that does not strive toward intelligibility is practically a monologue, some of Wiley's (1994) examples of internal conversations, such as sleep talk or the absent-minded self talk that ranges from complete lack of intelligibility to semi-intelligibility, are properly speaking monologues rather than dialogues.

Higher and Lower Dimensional Self Representations

The two essential properties of the sign—reflexivity and openness to the other—correspond to two dimensions of self transactional states: vertical and horizontal. The vertical dimension concerns the self to self transaction, whereas the horizontal dimension, the self to other transaction. As a result of the integration of these two transactions, the triadic structure of the sign entails a higher dimensional self. To elaborate on this point, a distinction may be drawn between two types of self representations: Lower and higher dimensional self representations—the former refers to representation of the self by one dimension only—either vertical or horizontal self transactions; the latter to an integration of vertical and horizontal self transactions.

The lower dimensional self representations reside in what is referred to by Peirce as Secondness, which is under the sway of the subject and object dichotomy—the self is either subject that acts, or object that is acted upon. This difference between agent and patient can be cast in the framework of two opposite poles of consciousness (Lambie and Marcel 2002)—detachment versus immersion. Self representation in Secondness is in either one of these two consciousness states, detachment from or immersion in experience: Self as agent manages to be distant and independent from experience by capitalizing on the vertical transaction with itself; self as patient is immersed in experience in a horizontal transaction with the other, from which it cannot extricate itself.

Higher dimensional self representations, known as the triadic self, reside in what is referred to by Peirce as Thirdness, in which dichotomies give way to integration, and monologue of subject versus object to dialogue between subjects. The essential properties of this triadic self are summed up by the word "dialogue." As Archer (2000) points out rightly, Peirce has replaced introspection with internal conversation. This entails a paradigm shift from the perception model that invariably posits the subject and object polarity to the dynamic model of dialogue in which the subject-object polarity becomes different phases of a single continuous movement of thought.

In triadic self, the two dimensions—vertical and horizontal—of self representation are integrated, an integration that is best understood in terms of the bipolar feedback (Sabelli 2005), characterized by mutual synergy and antagonism between two vectors—centripetal and centrifugal—of the sign. These two vectors of the sign are referred to by Peirce as "two infinite series, the one back toward the object [centripetal], the other forward toward the interpretant [centrifugal]" (Peirce cited in Parmentier 1994: 10). Mutual constraint, or bipolar feedback, between these opposite movements of the sign—a centrifugal movement from self to other, from experience to interpretation, on the one hand; and a centripetal, reflexive movement back to self and experience, on the other—results in proper psychological distance from experience, neither over-distance (detachment) nor under-distance (immersion) as is the case with lower dimensional self representations in Secondness.

As an integration of two dimensions of self transactions—vertical and horizontal, the triadic self is de-centered, a self that resides not in self identity (an "I" or "me"), so much as in self as other. Corresponding to the two vectors of the sign—centrifugal and centripetal—the triadic self can be divided into two sub-types: the detached self, and the reflexive self. In detached self, the centrifugal movement toward the other is dominant, resulting in the other as a dissimilar other; in the reflexive self, the centripetal movement toward the self is salient, resulting in the other as a similar other—a token for the former is "they"; that for the latter is "we."

Toward an Applied Semiotics of Self Representations

On the basis of this proposed model of self representations, a taxonomy of linguistic expressions of the self can be derived. One assumption behind this taxonomy is that representations of the self are not confined to the first person pronoun "I" but extend to pronouns in general (it, they, he/she, and so on). This assumption is supported by neuroimaging results which showed that self-relatedness evaluation involves a wide cerebral network, such that a subjective perspective is not intrinsically self evaluative, but rather relates any represented object to the representing subject (Legrand and Ruby 2009). A taxonomy of self representations, along with a dozen or so categories of affective lexicon, is implemented by a language analysis program, SSWC (Sundararajan-Schubert Word Count), which parses categories of language use not on the basis of semantic content of words, but rather according to the triadic structure of the sign as formulated by Peirce. Skipping the categories of emotion lexicon, only the categories of self representations in SSWC are presented below.

Lower Dimensional Representations of the Self

In lower dimensional representations, the self is either over-distant or under-distant from experience:

Over-distance from Experience

Focal Self (I, myself, my own) Janet makes the astute observation that two things are involved in the "I feel": "a small, new, psychological fact, a little flame lighting up-'feel'-and an enormous mass of thoughts already constituted into a system-'I'" (1907: 304–305). The linguistic use of "I" is indicative of focal attention to the self system, which is referred to by Kihlstrom, et al. as "an organized knowledge structure that stores what one knows about oneself. This would include semantic knowledge about one's physical and personality attributes, social status, and the like" (Kihlstrom et al. 2000: 67, note 1). This self system is referred to by Robinson and Oishi (2006) as the semantic self, which is a generalized belief structure independent of momentary experiences. Antithetical to the experiencing self, the semantic self is hypothesized to entail direct access to semantic memory (Forgas 2001), thereby detracting resources from online processing of emotional information. Thus the counterintuitive prediction is that when one is under the sway of the semantic self with its heavy freight of the "I" system, one is far removed from online processing of emotions. Due to its distance from experience, the *Focal Self* is theoretically located at the far end of the detachment pole, in contrast to the "me" which is hypothetically located at the immersion end of consciousness (Lambie and Marcel 2002), to be explained below.

Under-distance from Experience

Affected Self (me/him, "making me/her . . .") This category indexes the perception of the self not as doer, but as being done to. It reflects an immersed state of consciousness with a dual foci such that "what one experiences is an affected self or an affecting world" (Lambie and Marcel 2002: 244). The passive self can also be indexed by Mehrabian's (1966a, b) "passivity" category which includes expressions of "making me . . ." or "have to. . .". Unlike the *Focal Self* which is confined to expressions of the "I," the *Affected Self*, as well as the rest of the categories of self representation in SSWC, goes beyond the "I" to include other pronouns, such as "him, her, them" and so on, in order to reiterate the notion that self related evaluation and representation is a diffuse phenomenon (Legrand and Ruby 2009), over which the first person pronouns do not have monopoly.

Higher Dimensional Representations of the Self

The higher dimensional, triadic self is a de-centered process such that it can only be represented indirectly, via the other, or more precisely, via the self and other relation. We may recall that this self and other relation in the triadic self representations

results from the integration of two dimensions of self transaction—vertical and horizontal. Depending on the salience of either the horizontal or vertical dimension of self transactions, the higher dimensional self representation admits of two sub-types—*Detached Self* and *Reflexive Self.*

Detached Self (they, everyone) This category reflects a centrifugal self and other relation, in which the self either has its referential focus on the dissimilar other—a "they", or becomes part of a generalized other—"everyone". This type of representation can be contrasted with *Reflexive Self*, in which the self becomes part of the similar other—a "we."

Reflexive Self (itself, ourselves) This category reflects a centripetal self and other relation, in which the vertical, reflexive dimension of the self is predominant. Reflexivity is indexed by pronouns that are self-referential, such as "itself" or "himself." "Myself" however is excluded from this category, because the reflexive self is not an atomic self (an "I"), so much as an extended self that includes the other, a "we" (Wiley 1994). Characteristic of the *Reflexive Self* is the self-other-self triadic structure (Wiley 1994), which can be indexed by expressions—such as "ourselves"—that evince a looping of the self through the other, resulting in an extended self, a "we." Terms of mutuality or reciprocity such as "together" or "each other" are also included as expressions of this we-ness.

Empirical Evidence

Two studies utilizing SSWC (Sundararajan-Schubert Word Count) are reported here. The first study (Sundararajan and Schubert 2005) tested the construct validity of the categories of SSWC; the second study (Sundararajan et al. 2010) explored the health consequences of language use as measured by SSWC.

Study 1

This is a correlational study to explore the overlap and affinity between SSWC and a standard language analysis program, LIWC (Linguistic Inquiry and Word Count) (Pennebaker et al. 2001). These two language analysis programs were utilized to analyze the emotionally expressive writing of three sample populations: Sample1 consisted of 69 college undergraduate and graduate students; Sample 2, 42 inpatients from a psychiatric hospital; and Sample 3, 65 psychiatric prison inmates from a published study (Richards et al. 2000). Correlations between SSWC and LIWC across three samples are presented in Table 1, and detailed below.

Focal Self (I, myself, my own) This category showed strong and positive correlations with the LIWC category of "I" across three samples. In addition, the Prison sample showed three negative correlations: with WE, reference to others (OTHREF), and body states (BODY). This profile is consistent with the hypothesis that *Focal Self*

Table 1 Study 1: SSWC and LIWC Correlations across three samples (A, B. and C)

SSWC Categories		Relevant LIWC Categories						
		I	We	OTHREF	POSEMO	NEGEMO	BODY	SWEAR
Focal self	A	.79***						
	B	.85***						
	C	.88***	−.39***	−.30*			−.26*	
Affected self	A	.62***		.31*				
	B	.36**		.40***				
	C	.31**		.73***		.40***		.30**
Detached Self	A			.56***				
	B			.50***	.24*			
	C				.26*	.30**		
Reflexive Self	A		.75***	.46**				
	B		.52***	.35**				−.25*
	C	−.34*	.56***	.40***			.26*	

A = psychiatric inpatients (*n*=42); B = college students (*n*=69); C = prison inmates (*n* = 65).

SSWC = Sundararajan-Schubert Word Count (Sundararajan and Schubert 2005); LIWC = Linguistic Inquiry and Word Count (Pennebaker et al. 2001).

OTHREF = reference to others; POSEMO = positive emotion; NEGEMO = negative emotion.

*p<.05; **p<.01; ***p<.001, two-tailed; empty cells = no significant correlations.

entails a preoccupation with the atomic self—the "I" not the "we"—and tends to be experience distant, as evidenced by its negative correlation with the body states.

Affected Self (me/him, "making me/her...") As can be expected, this category in all samples showed positive correlations with the LIWC categories of "I" and reference to others (OTHREF). In addition, the prison sample showed positive correlations with negative emotions (NEGEMO), and use of profanity (SWEAR). This protocol of negative emotions and acting out tendencies (SWEAR) is consistent with the hypothesis of a passive self, which is at the mercy of contingencies of the environment, lacking psychological distance for self control.

Detached Self (they, everyone) Across samples, this category was positively correlated with reference to others (OTHREF), and positive emotions (POSEMO). The prison sample alone showed a positive correlation with negative emotions (NEGEMO). The contrast with *Affected Self* is illuminating in regard to affect: Consistent with the construct of these self representations, *Detached Self* with its mental distance from contingencies tends to have more association with positive emotions (with the exception of the prison inmates) than the situation dependent *Affected Self* which is shown to be primarily associated with negative emotions.

Reflexive Self (ourselves, itself) Across all three samples, this category was found to be positively correlated with the following categories of LIWC: WE and OTHREF

(reference to others). In addition, the Prison sample showed negative correlation with I, and positive correlation with bodily states (BODY). It is interesting to note that in the prison sample, the *Reflexive Self* protocol is the very antithesis of that of *Focal Self*: The former was not an individual "I", so much as an extended self (WE, and reference to others), with a bodily awareness, as can be expected from the "self reflexive undertow" (Wiley 1994); the latter, by contrast, was an atomic self that capitalizes on semantic self knowledge rather than ongoing experience, as evidenced by negative correlation with BODY. Lastly, the student sample showed negative correlation between the *Reflexive Self* and SWEAR. This protocol is consistent with the construct of *Reflexive Self* as a de-centered, extended self, characterized by a self-reflexive consciousness that helps to inhibit acting out behaviors (such as swear), as can be predicted by the connection, made by Peirce, between self-reflexivity and self control (Colapietro 1989).

In sum, these differential, positive and negative, correlations with the relevant LIWC categories are consistent with the theoretical underpinnings of each of the self-related categories of SSWC, thereby supporting their construct and discriminant validity.

Study 2

This study explores the relationship between self representation and mental and physical health. The prediction is that higher dimensional self representations are less likely to be associated with psychological and physical reactivity and symptomatology than lower dimensional ones. We used SSWC to re-analyze the data from two studies of emotional expressive writing, one based on the adult, the other on the child sample.

The adult sample is based on an unpublished study (Graybeal 2004: Study 2), which recruited 86 college undergraduates whose parents were divorced and who were randomly assigned to a control or experimental group ($n=43$ each), both wrote for 2 days, 30 min each, on time management or their experiences of parents divorce, respectively. Participants were also interviewed about the most upsetting aspects of their parents' divorce, 1 week before writing and again 1 month after writing, in order to assess their reactivity to provoked stress (for the connection between language and reactivity, see Burbridge et al. 2005). To measure the participants' reactivity to provoked stress, a comprehensive battery of tests were used in the original study (Graybeal 2004: Study 2), including measures of physiological arousal (such as heart rate), self reports of emotional upset (such as questionnaires and mood scales), measures of physical and psychological health (self reports of illness, and symptom checklist), and measure of cognition (working memory tests). In addition, we included health center data as an objective measure of the frequency of doctor's visits pre- and post-writing.

The child sample is based on a published study of children's expressive writing (Fivush et al. 2007), in which 9 to 13-year old children engaged in three consecutive days of writing, for 15 to 20 min each day, on emotional (expressive writing group) and non-emotional topics (control group) ($n=56$ each), respectively. Outcome measures of symptomatology were completed by the children 1 day before writing, and again 2 months after writing.

Controlling for pre-writing scores, we computed the correlation between language use as measured by SSWC and outcome measures. The results of adult and child samples are presented in Figs. 1 and 2, respectively, and combined in the discussion below.

Higher Dimensional Self Representations

Detached Self (they, everyone) In both adult (Fig. 1, left panel) and child (Fig. 2, left panel) samples, no significant correlations with reactivity were found at follow up for this type of language use.

Reflexive Self (ourselves, itself) Across both child (Fig. 2, left panel) and adult (Fig. 1, left panel) samples, no significant correlations with reactivity were found at follow up for this type of language use, with one exception. The exception is the Control group of adult sample (Fig. 1, left panel), in which the use of this type of self representations was associated with decrease in frequency of illness at follow up, as measured by both self-reported frequency of being sick for the last 2 months post writing, as well as health center visits, 2 months to a year post writing.

Lower Dimensional Self Representations

Focal Self (I, myself, my own) In the adult sample (Fig. 1, far right panel), for the Expressive Writing group, the more one made use of this type of self representation, the less likely was one to perform well on working memory at follow up. No significant correlation of this variable with outcome measures of reactivity was found for the Control group. In the child sample (Fig. 2, right panel), no significant correlation with outcome measures of symptomatology was found for the Expressive Writing group. For the Control group, the more the child used "I" across three writing days, the more likely was the child to report depression at follow up.
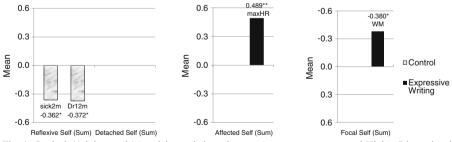

Fig. 1 Study 2 (Adult sample), partial correlations, between outcome measures and Higher Dimensional Self (*left panel*) and Lower Dimensional Self (*middle* and *right panels*) representations, respectively, in SSWC (Sundararajan-Schubert Word Count), for Control (*gray bar*) and Expressive Writing (*black bar*) groups. Note. sum = weighted mean across the writing days (Day1+Day2). sick2m = self reported frequency of being sick for the last 2 months. Dr12m = frequency of doctor's visit post writing, 2 months to a year, based on health center data. maxHR = difference in maximum level of heart rate from baseline. WM = working memory (reversed scale such that improvement is shown as *downward bar*; impairment as *upward bar*). *$p<.05$, **$p<.01$, ***$p<.001$
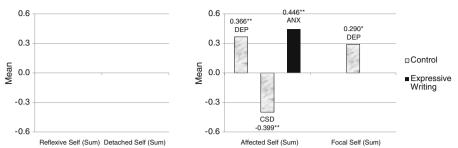
Fig. 2 Study 2 (Child sample), partial correlations, between outcome measures and Higher Dimensional Self (*left panel*) and Lower Dimensional Self (*right panel*) representations, respectively, in SSWC (Sundararajan-Schubert Word Count), for Control (*gray bar*) and Expressive Writing (*black bar*) groups. Note. sum = weighted mean across the writing days (Day1+Day2+Day3). DEP = outcome measure of depression. CSD = overall difficulties reported by the child. ANX = outcome measure of anxiety. *$p<.05$, **$p<.01$, ***$p<.001$

Affected Self (me/him, "making me/her . . .") In the adult sample (Fig. 1, middle panel), for the Expressive Writing group, the more one used this type of expression across two writing days, the more likely was one to show reactivity, as evidenced by increased heart rate, at the follow up interview. For the Control group this category of language use had no significant correlations with outcome measures of reactivity. In the child sample (Fig. 2, right panel), for the Expressive Writing group, the more this type of expression was used across three writing days, the more likely it was for the child to report anxiety at follow up post writing. For the control group, the frequency of use of this type of expression across three writing days was correlated positively with depression at follow up, but negatively with difficulties in functioning as rated by the child.

In sum, consistent with the prediction that higher dimensional self representations are more adaptive than lower dimensional ones, empirical data from both adult and child samples showed that the use of higher dimensional self representations, such as "everyone" or "ourselves," had either negative or no significant correlation with reactivity and symptomatology at follow up, in contrast to lower dimensional self representations, such as "I" or "me/him," which were mostly positively correlated with various indications of reactivity and symptomatology at follow up.

Conclusion

This applied semiotics has demonstrated the possibility that the richness and complexity of Charles Peirce need not be lost through an empirical application to psycholinguistics, but instead enables the latter to make better informed hypothesis testing. The findings support our claim that the triadic self as formulated by Peirce can serve as theoretical grounding for a taxonomy of linguistic representations of the self. But there is more, beyond the scope of this paper. In developing the program of SSWC, Sundararajan and Schubert (2005) have also parsed the semantic space of affect in a similar manner, using Peirce's triadic structure of the sign as basis for a taxonomy of affective lexicon. The findings reported in Study 2 are consistent with

results found in the domains of affective lexicon (Sundararajan et al. 2010), and syntax structure (Zinken et al. 2006 August). Thus across the board, verbal expressions of self and emotions seem to have physical and mental health ramifications.

This conclusion is consistent with Heidegger's dictum that "Man lives in language, as language" (cited in Ott 1972 169). Peirce has made a similar claim that the sign user and the sign coalesce at a deeper level: "the word or sign which man uses *is* the man himself . . . . Thus my language is the sum total of myself" (Peirce 1931-58 Vol. 5 paragraph 314, emphasis in the original). This semiotic perspective leads us directly to the question concerning the relationship between language, emotion, and health, a question that normally falls under the purview of psychology. In the final analysis, semiotics is inherently interdisciplinary—if one starts with Sociology, one may end up with Psychology, and vice versa. This is the way things should be—true knowledge requires border crossing, as Wallner and Jandl (2006) have argued persuasively on the basis of their interpretation of the interpretant (cf. Hoopes 1991; Lee 1997; Deacon 1997), a key notion in Peircean semiotics which underscores the importance of translation from one domain of knowledge to another.

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