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Donna E. West

Department of Modern Languages, State University of New York at Cortland, Cortland, New York, USA

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RESEARCH ARTICLE

Deictic use as a threshold for imaginative thinking: a Peircean perspective

Donna E. West*

Department of Modern Languages, State University of New York at Cortland, Cortland, New York, USA

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This investigation traces the ontogeny of the use of “I” and how its symbolic use promotes imaginative thinking. Peirce’s triadic system is contrasted with Vygotsky’s binary system to highlight the import of Thirdness in characterizing the ontogeny of person deictics within conversational roles. Person deictics, such as “I”, are first indexes. Later when their social function/meaning is apprehended, they serve as symbols as well; still later they are used psychologically in self to self monologues, and acquire distinctive interpreants when used unconventionally. Early indexical uses of “I” are non-symbolic – “I” referring to self only absent recognition of conversational roles. “I” is employed symbolically when its referent shifts and when its invariant meaning (speaker) is apprehended. Person deictics enhance the emergence of imagination when the symbolic use transcends their inter-psychological regulation through human to human conversation to their intra-psychological function in self to self discourse. Extension of functional roles (speaker/listener) to dolls/puppets (in representational play scenarios) constitutes an extended use of the symbolic function because inanimates cannot assume conversational roles; and such use triggers the association of different interpreants to the category of deictic use. The symbolic use of “I” as speaker facilitates apprehension of self as object, which is a major determinant of when in ontogeny children extend the use of person deictics from Dynamic to Final interpreants.

Keywords: Thirdness; Peirce; Vygotsky; symbol; interpretant; deictics; imagination; self; index

Introduction

This inquiry seeks to demonstrate the need for triadic-based systems of semiotic analysis to illustrate children’s psycho-social ontogeny. Children’s qualitative advances from social/cultural interchanges to psychological ones, according to Vygotsky’s scheme, can be explained using a Peircean-based paradigm as opposed to a Vygotskian/Jakobsonian-based binary system. The advantage of a Peircean triadic approach to account for the transcendence from social to more psychological influences on the child’s perspective of what constitutes legitimate points of view has implications for a theory of mind. Tracing children’s advances in the use of person deictics whose legitimate referents shift from use to use is an ideal forum for the application of Peircean triads, especially his contribution to the role of interpretant
in the sign–object association. While Vygotsky’s (1962, 1978) and Jakobson’s (1990) theories propose a binary connection between sign and object, in that they focus on the association between object and representamen, they do not consider the changing character of the interpretant. Peirce’s claims regarding the pivotal role of Thirdness in a theory of mind are especially critical to children’s advances in perspective legitimacy, within and across cultures, since a legitimate perspective is another illustration of Thirdness in that it represents a distinctive interpretant. While other semioticians (Delledalle-Rhodes 2007; Theleffsen 2000) recognize the import of Thirdness to social and cognitive systems by their analysis of the function of Interpretants, this inquiry attempts to trace dynamic meanings of types of Interpretants from social to more individual, to imaginative ones. The dynamic nature of interpretants accounts for the progression from “I” as ego only, to “I” as objective speaker, and later to “I” as unconventional producer of the message. The evolution of socially based interpretants to more individually based interpretants does not abruptly conclude; it only provides the foundation for children’s later recognition that beyond perspectives of self and other is a universe of potential others assuming distinctive points of view, however unconventional. The ontogeny of person deictics via use of “I” and “you,” in English, provides a vehicle to measure when children apprehend the legitimacy of speaker roles for themselves as individuals and for inanimates beyond conversational role conventions.

Peirce’s triadic semiotic theory is explanatory of the dynamic character of children’s thought – it begins with interpretants of the social conventional, extends to interpretants of the individual, and continues developing far beyond the perspectives found in their local milieu. While Theleffsen (2000) has noted that Peirce’s theory of interpretant applies to and enhances our understanding of culture, it stops there. Theleffsen (2000) fails to account for a primary attribute of Thirdness, which pervades Peirce’s theory: namely, how interpretants are virtually never static, especially in the context of interaction with speakers of other cultures and other worlds; and how their dynamic character accounts for qualitative advances in perspective-taking. The quality of children’s interpretants as illustrated by legitimizing diverse speaker perspectives is not static but remains open to other interpretants; that is, other meanings of speaker and speaker role that are gleaned from other individuals, as informed by other speakers of the same and other cultures, thus objectifying children’s cognitions of the role of speaker. Peirce’s doctrine of fallibilism (CP 1.149)\(^1\) is that ultimate truth via perspectives/opinions/propositions never reaches completion, and may be unascertainable, but still sought after; hence, children grasp at the ever-alluring and ever-changing perspectives of speaker, which constitute Peirce’s Final interpretant. Peirce’s triadic theory is superior to more dualistic Vygotskian-based renditions of the ontogeny of self as speaker among other speakers in its incorporation of Thirdness in the mix. Vygotsky’s account provides a valuable description of inter-psychological to intra-psychological development, but lacks explanatory adequacy of why and how children’s cognitions develop. Vygotsky’s theory characterizes how the child proceeds from the inter-psychological (social) to the intra-psychological, but Peirce’s emphasis on the integral function of Interpretants accounts for the non-finite nature of intra-psychological communication into self creating the unconventional and the imaginative. Use of person deictics to refer to conversational roles, in their symbolic sense, beyond their indexical sense, is pivotal to the shift from social to psychological regulation and beyond. Peirce’s triadic semiotic
transcends Vygotsky’s dualistic system of tool use from social to psychological. It illustrates how the application of Thirdness to the representamen–object relation develops the internal psychological tool extending beyond self-regulation to imagination of other applications/perspectives.

Ontogeny of linguistic functioning toward self-regulation: a Vygotskian perspective

According to Vygotsky, three types of tool use exist to bring the child to self-regulation: physical, social, and psychological. Physical tools are developed pre-linguistically during the “chimpanzoid age” (Vygotsky 1962, 42; Vygotsky and Luria 1993, 71). They consist of the child’s use of an object to attain another and thus demonstrate some control over the physical environment. The child during the first year might attempt to attain a favorite teddy not by direct prehensile grasping alone with the hand, but rather by vigorous attempts to cover and pull it with a blanket. This manipulation of physical objects is not yet social; it does not involve any partner to partner exchange, either conversationally or otherwise. Social tools likewise are developed pre-linguistically within “patty-cake” or “peek-a-boo” exchanges. Within these scenarios, social tools consist of the quality of the child’s participation to affect the character of an exchange with the partner; for example, readily turn-taking or failing to do so. Children’s pre-linguistic conduct can serve as a social tool to alter the response of their partner. If one partner was to miss his or her turn, the other could accommodate or could withdraw from the exchange altogether. Once language has developed, it likewise becomes a social tool to control/modify responses on the part of conversational participants. A response of “No, I no wanna go!” on the part of a two year old is likely to result in a series of imperatives on the part of an adult, together with a decline in speaker role opportunities thereafter for the child. Both adult and child as speech partners can affect each other as conversational participants such that unwillingness on the part of one conversational participant can estrange him or her from the other and may preclude ongoing speaker role taking during a social exchange.

To this point, language – specifically conversational shifters – functions as a social tool to facilitate recognition of roles within event structures. Children’s production of soliloquies/monologues typically illustrates passage from language as a social tool to language as a psychological tool. Vygotsky characterizes the child’s monologic performance as “egocentric speech,” and claims that the proportion of egocentric speech increases during problem-solving events, especially in the face of the need to reconstruct novel remedies when old remedies fail (Vygotsky 1962, 16–17). These egocentric monologues consist of audible (often whispered) discourse in which the child hears himself/herself for the benefit of self. In these self-articulated, self-listening discourses, children are speaker and hearers simultaneously; hence children can begin using language to influence their immediate conduct. Children’s monologues often accompany problem-solving tasks; and according to Vygotsky their function is to direct children’s performance toward a goal and to facilitate success toward that end. In anticipation of gaining access to the mother’s cell phone, a three-year-old child expresses some contrived schemes aloud: “I wonder where mommy was earlier?” “I ‘member she was in the kitchen chair, but I no ‘member where mommy had her purse.” “Might be on the chair too.” (After looking) “Not dere.” “Might be in bafroom.” “Oh, wow, it is in the bafroom!” “I open mommy’s purse for phone.” The child’s repeated reference during
the monologue to his role as speaker and agent directs the sequence of problem-solving behaviors, creating novel conduct when success is not immediately forthcoming. The function of language in the process of egocentric speech very obviously guides performance and even alters the quality of the performance to reach a goal. Had the child been silent the sought-after forbidden object is likely to have been less attainable because an alternative direction is unexpressed. Absent of linguistic directives, conduct implementing those directives is far less likely to materialize. Furthermore, the child’s use of “I”, addressed to self, is likewise for self; and his role as agent is more defined toward solving the problem (phone access). Absent the articulation of “I” classifying the child as speaker and agent and absent the child as hearer of this classification, redirection of new means (when old means fail) toward accessing the sought after object is unlikely. Use of “I” within egocentric speech scenarios illustrates that the child assumes two roles simultaneously; thus self affects self as speaker to hearer within the child’s role as event agent.

For Vygotsky egocentric speech does not extinguish altogether; rather, it becomes inaudible, amplifying its self-regulatory function in “inner speech” (Vygotsky 1962, 14). Inner speech is considered by Vygotsky to be thought without syntactic form but carries semantic viability: “Inner speech is to a large extent thinking in pure meanings. It is a dynamic, shifting, unstable thing, fluttering between word and thought” (1962, 149). Because language is stripped of its external attributes, syntactic form and the like, it becomes one with thought, but is not synonymous with it. As in egocentric speech, language is still distinct from thought, but given its advancement to an inaudible character it shares with thought a vital role in the development of problem-solving direction. Both egocentric and inner speech, given their role of facilitator in problem-solving events, have a self-regulatory function:

the function of egocentric speech is similar to that of inner speech: it does not merely accompany the child’s activity; it serves mental orientation, conscious understanding; it helps in overcoming difficulties; it is speech for oneself, intimately and usefully connected with the child’s thinking. (Vygotsky 1962, 149)

Inner speech is likewise inaudible speech for oneself, and like egocentric speech, inner speech serves as a device toward the same immediate end – redirection in a failed problem-solving scenario. Consequently, inner speech, like egocentric speech, still functions to facilitate the success of problem-solving events toward self-regulation.

The inaudible nature of inner speech appears to de-emphasize the focus on conversational roles. Since “I” and “you” are unexpressed, the nature of the participation in the shifting conversational event/s becomes immaterial. Inner speech concerns itself with roles within non-speaker events only. In inner speech, children never take any role in a conversation with self because there is no conversation. It is the child’s role in the non-conversational event only that is maintained. Self is still agent and self can still affect self during inner speech but self is no longer speaker or addressee to self. The role of “I” and “you” during egocentric speech scenarios is the impetus for characterizing and representing self in its other roles in non-social, more psychological event use, in which self affects self in a non speech event. But for the use of “I” and “you” in egocentric speech, apprehension of other non-speech functional roles necessary for self-regulation may well be thwarted. Essentially, the use of “I” and “you” in egocentric speech scenarios
is the precursor to the advancement of inner speech in which conversational roles are no longer necessary.

The function of person deictic shifters undergoes several revolutions. Prior to inner speech, their role is purely social since the referent of “I” and “you” shifts with exchanges with other. During egocentric speech “I” and “you” acquire a psychological role. Children recreate the original social scenario between self and other, but extend it to self only. Self becomes other in that it is subjective and objective. Receiving self as subject and object (speaker and addressee) simultaneously allows for self-regulation. This lays the groundwork for the development of inner speech and thought, especially imaginative thinking, whose emergence requires an understanding of self as object.

**The role of objectification toward self-regulation**

Use of psychological tools (self affecting self) requires a rudimentary concept of self as object. To objectify means first to consider an entity to be distinct from the self. Perceiving a distinction between two entities is insufficient; apprehension of participation in social interactions, and classifying the nature of the participation are paramount. Inherent in the process of objectification is the recognition that the self and other can have a reciprocal relationship to one another in terms of their role in events. To assume a role in an event, on a literal plane, one must have the capacity to be an initiator as well as a receiver. The child must learn that self can take the role of other as legitimately as other can take the role of self. In interaction the child can in one instance be the initiator of an exchange and within the same series of exchanges can become the receiver or can become excluded from the exchange as a non-participant. Early in development children learn to affect the outcome of an event and its participants by modifying their degree of and quality of participation therein. In other words, a child can withdraw, partially or fully, from being an agent or a receiver, thus changing the outcome of the event and the roles that others assume. The child as subject becoming objectified can reassume his or her role as initiator, as can others.

These turn-taking interactions illustrate the socio-cultural basis for the psychological discovery of self as object. Objectification is initially dependent on social interactions (inter-psychological) in that distinction of self versus other as initiator and receiver in exchanges is critical to recognizing other as object (intra-psychological). The participants in an activity impose a sociocultural interpretation of relational exchanges. Such exchanges can consist of interactions with objects or with others or with both. It is this element of social intent and control in participant exchanges that provides the impetus toward regulation of other and self; this theoretical orientation evidences the sociocultural foundation of self-regulation: “It is the social process itself that is responsible for the appearance of the self” (in Mead 1974, 142). Moreover, self-regulation requires the apprehension of self as object (in Mead 1974, 136). While regulation/control of other relies on participation in social exchanges, self-regulation/control entails the additional skill of objectification; in particular, the awareness of the equal legitimacy of self and other when assuming shifting conversational/non-conversational roles. Whether the awareness of self as object in social and psychological interactions is conscious is not entirely determined. Although use of “I” in social/conversational exchanges, or in self to self exchanges,
appears to be unconscious at first glance, certain psycho-linguistic skills militate in favor of the presence of conscious use. It is obvious that the child at three or four years of age, or perhaps earlier, does not provide spontaneous or elicited definitions of “I” (demonstrating meta-linguistic knowledge) during monologic egocentric speech. Nonetheless, children possess some means to employ “I” metaphorically when they apply socially motivated speaker/listener roles to themselves as psychological agents; that is, self-regulation is evident when children become their own agent. This metaphorical extension of linguistic roles implies some conscious knowledge of the meaning of “I” in its original social and literal function – “I” and “you” between distinct persons as opposed to “I’ and ”you” as distinct perspectives of the same person. Independent of whether the use of conversational deixis is conscious, or unconscious, it nonetheless facilitates the use of language from a purely social to a more psychological function. Perhaps, as Bruner points out in vague terms, language functions as “a raiser of consciousness” (1986, 143). In specific terms, person deictic shifters expressing conversational roles from the inter-psychological to the intra-psychological, are responsible for an emerging awareness of self as object, self affecting self. Self rises out of our capacity to reflect upon our own acts, by the operation of metacognition (Bruner 1986, 67).

The influence of self on self constitutes internal mediation, in that an utterance/thought controls/modifies one or more other thoughts/behaviors within the same individual. For the child to self affect, an internal sharing of perspectives must take place such that the child considers more than one outcome in an event and can control the quality of his or her own contributing behavior. Such internal control constitutes the very essence of self-regulation. It remains challenging to ascertain when and to what degree the child is self-regulating, given the covert nature of intra-psychological regulation. There exists little, if any, overt non-linguistic manifestation of control exerted from self to self; this type of regulation transcends social exchanges and experiences in the physical world. Difficulties interpreting covert cues that measure/influence the self-regulation process underscore the need for linguistic cues toward that end. In fact, given their overt character, linguistic cues constitute not merely the primary facilitators toward self-regulation but an indispensable measure of intra-psychological development.

 Ontogeny of speaker signifiers

Peirce regards the speaker and listener pronouns, and speaker demonstratives, to be indexical legisigns such that the symbolic, or invariant, meaning of “I” is speaker (general type) while the indexical meaning of “I” refers to the particular user of “I” at any one point in time (token) (CP 2.287, 292–293, 298–299). The demonstrative “this” in its contrastive sense is indexical in that it directs the interlocuter to an object near to or focused on by the speaker, while “that” refers to an object further from the speaker. The demonstratives are symbolic in that they refer to any proximate or more focused on object from speaker’s perspective. The indexical meaning, which emerges earlier in development than does the symbolic meaning, is extracted by associating the pronoun (sign) with its particular user at different points in time (Clark and Clark 1977, 313; Clark 2003, 95). The sign “I” or “this” is in an existential relationship with that which it signifies such that it points out its referent in the same spacio-temporal environment. “I” is articulated by the
referent person, illustrating the contemporaneous relationship between the indexical use of “I” or “this” and its particular referent. The onset of the indexical use of the conversational deictics “I” and “you” takes place from its earliest productions in the second year of life until the productive use of the symbolic function of “I” at approximately age three (West 2010, 9; 1986, 139; 1987, 138; 1988, 44); whereas the contrastive sense of “this” and “that” is not fully mastered until after mastery of person deictic use (Tanz 2009, 125).

Means to objectify the self from social participant to psychological participant is a primary determinant in productive use of the symbolic function of “I.” The symbolic meaning classifies participants by applying “I” to different persons who have a particular conversational role. It does not refer to the child or to other alone, as might a proper name (Lyons 1968, 337–338); nor is its primary function to classify participation in the narrated situation (as agent, receiver and the like). The purpose of the symbolic use of “I” is to objectify, highlighting membership in the speaker class as the person producing the utterance. The indexical use may facilitate the symbolic toward such objectification. For the child, the indexical use of “I” (repeated exposure to and use of “I” applied to shifting referents within distinctive contexts) can serve as a catalyst toward objectification with mastery of the symbolic use of “I.” In sum, apprehension of the symbolic meaning of the grammatical category, speaker “I,” is necessary for full fledged objectification – the scaffold from social toward self-regulation.

Paramount to full-fledged objectification is the understanding that individuals are not inherently connected to a particular role/pronoun; that is, the particular speaker does not define the role nor does the role define the particular speaker. The subject – namely, ego (the self) – does not define “I,” nor do others. It is the nature of the participation within the speech event that defines the role. Children’s use and comprehension of terms which connote shifting social and linguistic roles permits them to depart from self as subject only and to view self as symbol, as object. This inter-psychological to intra-psychological progression illustrates how the grammatical category of person is particularly influential in the shift from self as a social agent to self as a psychological agent or receiver. It is only when the child can view self as subject and object apprehending the symbolic nature of the speaker role that self-regulation via egocentric and inner speech is possible.

Application of Peircean theory to deictic use

Peirce constructs his theory of Phenomenology on triadic properties; his categories of signs are referred to as “Firstness (possibility, spontaneity, and feeling), Secondness (action and reaction, experience), and Thirdness (law, thought, mediation, habit)” (Delledalle-Rhodes 2007, 237; CP 1.525). Peirce’s division of signs, developed in 1903, is likewise triadic:

first, according as the sign in itself . . . secondly, according as the relation of the sign to its object . . . thirdly, according as its Interpretant represents it as a sign of possibility or as a sign of fact or a sign of reason. (CP 2.243)

Later, Peirce modifies and extends his division of signs to include 10 within which the 1903 triads are directly/indirectly incorporated (EP 2:483). The 10 trichotomies as set
forth in Peirce’s letter to Lady Welby, dated 24–28 December 1908, include his most developed taxonomy; Icon, Index, and Symbol, constituting the fourth trichotomy and the focus of this inquiry.

The earliest signs that children use from among Peirce’s triadic categorization of Firstness, Secondness, and Thirdness appear to be Secondness (CP 1.533, 1.527). Peirce establishes that Firstness (like Secondness and Thirdness) cannot exist independent of the other sign categories since it is a quality/affect that is unrealizable apart from its existence in Secondness (CP 1.530). Secondness, for Peirce, consists of individual facts having a “determinate state of affairs” and affecting the interpreter with “brute force” such that they impose themselves on the interpreter (EP 2:268). As mentioned previously, Secondness cannot stand alone without Firstness and Thirdness – for example, an experience is accompanied by, and gives rise to, some affect (Firstness), and is interpreted/classified with other experiences as a type (Thirdness). Peirce considers thought/concepts to be a form of Thirdness (CP 1.420). Thoughts are Thirdness in that they are general: they refer to “all possible things, and not merely to those which happen to exist” (CP 1.420). Secondness characterizes the foundation of the child’s early experience, but Secondness cannot be disentangled from the element of Firstness in such experience since the child’s preferences and motives are propelled by idiosyncratic affect, the essence of Firstness; nor is children’s experience wholly disentangled from Thirdness, in that other experiences which are likely to give rise to a similar consequence, or which contain similar actions/states, are grounded in Thirdness. Children choose which experiences to focus on; and their choice is governed by personal unmanaged preference (Firstness). When children’s use of gestural indicators materializes, both Secondness and Firstness operate together in non-deictic uses to differentiate one object of focus/preference from others (West 2010). The advent of Thirdness, with respect to deictics, characterizes the segue into the literal, social application of linguistic index enriched by symbolic meaning, especially when Thirdness draws upon instances of Firstness. Once children apprehend that all instances of deictic use coalesce in an invariant/general meaning; for example, speaker, addressee/proximal, distal object from an Origo, shifting conversational roles and orientational placements can legitimize the reciprocal nature of conversational experience, thus index and symbol as Secondness and Thirdness coalesce.

Children first do this when ego/self has an iconic First and enters into an actual experience as a Second and indexical application. “I” refers to the self when “I” is speaking, but “I” may not yet refer to others when they are speaking, until the issue of Thirdness, in its symbolic meaning, is apprehended.14 “I” is a Third when anyone, self or other, can take the speaker role. This embodiment of “I” as a Third becomes even more poignant when it is coupled with Firstness and/or Secondness applications; for example, “I” as the child self in pretense of being another as speaker (mother, father, etc.) or the child’s use of “I” when speaking through an inanimate play object. In these illustrations the child’s experience of speaker (a form of Firstness) is imported to others; and self speaker experiences/concepts become more objectified, giving them a Thirdness quality. This symbolic use of “I” as an empowered Third together with its secondary qualities of Firstness and Secondness enables children to transcend the literal, static use of self as speaker to a dynamic, more objectified notion of the nature and unboundedness of all the perspectives that
speaker can assume, and all the possible speakers that can exist. Peirce’s concept of Thirness bridges the gap from the literal to the more imaginative.

Peirce’s notion of interpretant\(^{15}\) likewise illustrates how Thirness underlies more advanced representations in deictic use, in that it illustrates the nature of the shift among \textit{origos} and among orientations to those \textit{origos}. Peirce supplies three interpretant types: the Immediate, Dynamic, and the Final – and within the Dynamic type he further distinguishes three subtypes: the Emotional, the Energetic, and the Logical. The separation of the interpretants into subtypes does not preclude overlaps/dependencies between and among each. Short (2007, 259) emphasizes this connection/dependency, claiming that Immediate interpretants establish the boundaries for what can be Dynamic and Final interpretants. While the primary character of Interpretants is that of Thirness, Firstness and Secondness likewise are features of the Immediate interpretant in that their very nature is an amalgam of constructed images. Peirce explains that “the schema in [our] imagination, i.e. the vague Image of what there is in common to the different images of a stormy day” (EP 2:498) epitomizes the Immediate interpretant. The essence of the Dynamic Interpretant alters as orientations and points of orientation shift. Since the essence of Interpretant is an effect on the interpreter, the Immediate Interpretant, on the pre-linguistic level, characterizes all the effects arising from children’s interaction with objects; when language emerges, the Immediate Interpretant (potential effect) arises from exchanges between children and others; whereas with less literal, egocentric uses, the Immediate Interpretant results from the influence of all potential internal operations upon the self. With respect to Peirce’s 10-fold division of signs, the Immediate interpretant is represented in the Fifth trichotomy: Hypothetical, Categorical, and Relative (EP 2:489). (An explanation of the development of the Fifth trichotomy within Peirce’s 10-fold division of signs can be found in Short [2007], 207–262.) The first member of this triad, the Hypothetical, appears to express the quintessential Immediate interpretant in that a hypothetical characterizes a reaction that is not “immediate” (EP 2:500) and which may never take effect. The second member of this triad, Categorical, likewise is instrumental in characterizing the Immediate interpretant, since to know what a sign is “fit to produce” (EP 2:500) entails a categorization/classification that can have the effect under consideration. Relative, the third triadic member, likewise is an element of the Immediate interpretant – to recognize the parameters/extent of the category determined to be “fit to have an effect,” the similarity/analogy across those potentially included is implicit. The hypothetical component is operational both in the literal and more imaginative uses of deictics in that possible referents for “I” such as unknown humans/play objects that resemble humans, and even the self as object can serve. The categorical element emphasizes the set of effects of uses/experiences of “I” by any speaker; while relative obviates the similarities across the range of potential uses of “I.” Furthermore, in representational play scenarios the Immediate Interpretant extends the latter operation; namely, perspective shifting between human-like inanimates, or between the self and a single inanimate. When anthropomorphized, inanimates can illustrate distinctive perspectives of the same child implemented to resolve a possible thought incongruity; and the character of the immediate interpretant, at more advanced developmental levels, is either congruity or more profound incongruity. If the interpretant confirms or clearly disconfirms previous
assumptions, some conformity can be reached; but if the interpretant disconfirms and resolution is sought but cannot be attained, discongruity/incongruity can result.

Other types of interpretants, especially those of the dynamic sort (which are actual effects), change their force when they are applied to deictic as opposed to non-deictic contexts. “The first proper significate effect of a sign is a feeling produced by it. There is almost always a feeling which we come to interpret as evidence that we comprehend the proper effect of a sign” (CP 5.475). According to Peirce’s 1908 correspondence with Lady Welby, in which he expresses his latest division of signs, the Emotional member of the Dynamic interpretant appears to materialize as his sixth trichotomy (Sympathetic, Percussive, and Usual) in that the former two are dependent upon emotion/affect. The Sympathetic expresses and produces “congruity,” while the Percussive gives rise to a sudden, single, emotional experience. The third member (Usual) appears to be a consequence of having perceived a pattern among experiences demonstrating the integral connection between subjective emotion, and what can be expected given the context. With respect to deictic use, “I” separates the child as speaker, but at the same time connects the child’s incongruity with other speakers and validates membership in a class of conversational participants. The congruity is obviated in the inclusion of one speaker within a category of speaker “I”’s and the recognition that “I” is but one role in a speaker/listener exchange which is reciprocal. This “Emotional Interpretant” represents Peirce’s first member of the triad of dynamic interpretants, and even though it is a Third, it incorporates elements of Firstness – the emotion of ego is a determining attribute. This integration of Firstness creates a reality of self and otherness and extends the meaning of self and other shifts in conversational interchanges. The dynamic interpretant, which involves emotive qualities, illustrates the import of affect in establishing novel, unconventional applications in Secondness, vital to deictic, imaginative uses. This feeling-based effect is dynamic in that the source giving rise to the affect is qualitatively different at each developmental level: feeling consequent to object discovery/object concept (pre-linguistic), to feeling emanating from conversational exchange (literal), to feeling after concept extension to novel genres (analogical). Similarly, the second member of the dynamic interpretant triad (energetic interpretant) is influenced by the nature of children’s goals at each developmental level: from attentional preference directed to certain objects (Firstness/Secondness), to physical effort, such as prehensile grasping of objects (pre-linguistic/Secondness), to mental effort toward social/conversational adequacy (literal/Secondness), and finally to mental effort in locating novel genres for deictic application (analogic Secondness/Thirdness). The logical interpretant is the third member of Peirce’s dynamic interpretant triad (a Third of a Third); any reference to this third member is sketchy at best since Peirce’s theory is not fully developed.17

The fact that it is not fully developed allows for imaginative applications. Strictly speaking, the Immediate interpretant is defined by Peirce as what is “represented or signified in the Sign” (EP 2:482); and later (EP 2:500) he explains that “It is the quality of the impression that the sign is fit to produce.” In taking some liberty, the effect of the extension of a concept on other related concepts as an intra-psychological function can serve as a working definition of logical interpretant. Further liberties with Peirce’s unfinished business of logical interpretant characterize its application primarily to non-literal contexts of deictic use. Accommodation among concepts that results in conscious intra-psychological regulation is not
typically realizable until metaphoric uses of deictics emerge. Such underscores the pivotal role of Thirdness, not merely in the acquisition of deictics as symbolic indicators, but in their extension into non-literal contexts – not merely into a constructed mental image, but into the imagination, which experiences little or no limitation from convention.

The Final interpretant illustrates how individual minds can transcend what is possible conventionally, to what is possible in worlds beyond our psycho-social milieu. Peirce describes the final interpretant as “that which would finally be decided to be the true interpretation if consideration of the matter were carried so far that an ultimate opinion were reached” (EP 2:498). Children’s apprehension of the Final interpretant requires a perception of other minds and other worlds within and without their own culture. Access and conversational interaction with speakers other than themselves is primary step toward developing these skills. Peirce’s eighth trichotomy within the 10-fold division of signs (CP 8.372) appears to be the most illustrative of this Final interpretant in that it lends itself to intra-psychological communication: use of self as subject and object considering two or more perspectives. This eighth trichotomy consists of “Gratific; To produce action; To produce self control” (CP 8.372), as discussed in the letter to Lady Welby dated December 1908. “Gratific” can constitute a feeling resulting from self-participation in an event; and illustrates the affirmative feelings of self after reflection, such that the self is both a subject and object. “To produce action” is likewise a product of intra-psychological consideration/reflection in that self determines that it is incumbent upon him/her to contribute to the production of meaning. “To produce self control” entails the use, hence recognition, of mental and behavioral parameters within which intra-psychological ruminations are constructed, hearkening back to the role of the Immediate interpretant in the establishment of Dynamic and Final ones. Knowledge of many speaker perspectives broadens children’s own knowledge base toward ultimate discoveries of opinion and truth within their own culture and beyond. Although ultimate truth may never materialize, according to Peirce, some form of truth resulting from a consideration of all possible speaker perspectives is perpetually sought after.

**Imaginative extensions of person deictics**

Once the shift has been made from the use of conversational deictics in social contexts only to their use intra-psychologically, integration of the social with the psychological use can emerge. At two-plus years of age and beyond, children begin attributing inanimate play objects with physical, social, and psychological human characteristics (Vygotsky 1978, 93 and 98), which is an imaginative skill. Beforehand, children engage in mental imagery which is not imaginative in that it is primarily iconic (Piaget and Inhelder, 1969, 54 and 71) since it originally develops from imitation and mental reproduction of an object or event previously experienced (Piaget and Inhelder 1969, 69). The imaginative skill of attributing social and psychological human characteristics to play objects provides the forum for observation and measurement of children’s use of conversational deictics during representational play scenarios. The nature of play as expressing role-taking exchanges together with the fact that linguistic narrative often accompanies these role-taking exchanges necessitates frequent use of person deictics. Use of these deictic
shifters prior to the onset of representational play coupled with the continuation of their use during enactment of representational play scenarios lends credence to the claim that the symbolic use of deictic shifters constitute the foundation upon which representational play events are scaffolded. “I” and “you” do not merely serve as precursors to the onset of more advanced representational systems, they accompany and direct those imaginative systems. Without the preparation afforded in using speaker and listener signs in their social and symbolic sense, functional roles within representational play and other advanced imaginative systems are likely to remain undeveloped.

Children utilize the literal, social use of conversational deictics in play scenarios in which “I”/“you” is extended to imaginative settings, imaginative objects/people, and to representational objects. In the case of the latter, children apply conversational deictics to tangible objects that are inanimate. Application of “I” and “you” in these representational play scenarios extends their meaning – “I” and “you” as human participants to “I” and “you” between inanimates or within a single inanimate, thus altering their interpretants. Thirdness is illustrated by the amplification of the original, social meaning between humans, to its more psychological meaning within a single human, and finally to its extension to include objects whose capacities preclude taking speaker/listener roles. This latter application demonstrates the semiosis of the deictic sign as initially primarily based in Secondness by virtue of a requirement of personal participation in the conversation to Thirdness in that the children can create participant roles in which they are non-participants. Even though children create the dialogue in play scenarios, they are non-participants (non-speakers) in them; they are mere observers. This itself is an unconventional use of a convention, constituting an idiosyncratic use of Thirdness – an unconventional use of “I” after its symbolic use has been apprehended. This amplified use of “I” and “you” demonstrates increased imaginative thinking such that inter-psychological and intra-psychological skills are extended to those who do not possess such skills; for example, puppets or dolls within representational play can take on speaker or addressee shifting roles even though they are not animate and cannot converse – the inanimate referent of “I” may never have the means to speak interactively, and inanimate referents of “you” never have the means to take the role of listener. In fact they neither speak nor listen, it is the child who speaks in their stead and listens in their stead. The dynamic nature of interpretant is highlighted in that, for the child, the meaning/effect of the sign (“I”) extends to referents lacking the characteristics to serve as speaker. The child imports his or her own point of view to compensate.

Application of deictic shifters to inanimate is a quintessential illustration of imaginative thinking in that “a departure from reality” is present. According to Vygotsky (1987, 349), imagination must “depart from reality”; it must exhibit a certain distance from the immediate spacio-temporal context. For Peirce, this departure from the immediate, spacio-temporal context de-emphasizes elements of Secondness, and perhaps Firstness, in that distance from experience makes emotion and personal involvement superfluous. Distance from the immediate implies that Thirdness becomes primary to perceive a role as legitimate independent of one’s own involvement, indicating a convention/proposition because it applies to any participant assuming such role. Vygotsky (1978, 94) asserts that some measure of emotive functioning/affect must be present in imaginative thinking.
Children’s impetus for representational play according to Vygotsky (1978, 93) is a consequence of desires that are not realizable. In Peircean terminology, desires are Firstness and elements of Firstness (affect and personal impetus) give rise to Thirdness in the recognition of conversational roles within which the self is one possible participant is ascertained. Personal motivation to extend speaker convention into play contexts is a consequence of fleeting moments of Firstness. Secondness is likewise obviated in the creation of novel contexts and events within which personal pronouns are used imaginatively in conversations between dolls. In representational play the child initially re-enacts some semblance of actual events at a later time, and often in a different place. Moreover, the participants of the exchange depart from reality/the actual since the referent objects are inanimates and are not conversational partners in the real world. The child must go beyond the actual in space and time and in participant role recognition to ascertain imaginative thinking through representational play. Modifying the original social event using different types of participants in the same event roles, and/or displacing the original events to distinct settings, demonstrates a departure from reality, constituting more advanced objectification into Thirdness than is present in self-regulation only. Perceiving inanimate participants as subject and object to one another and to themselves amplifies participant roles from the actual function to a more dynamic function – extending conventional deictic uses to uses which redefine convention – modifying Dynamic interpretants in the pursuit of final ones. If the Immediate interpretant of speaker/listener roles includes the potential application of “I” and “you” to non-humans, the Dynamic interpretants experience alteration from self as participant to self and other human, to humans other than self as role-takers, to representational objects that resemble humans, and then to inanimates absent human attributes. This modification of the Dynamic in deictic imaginative contexts forges a path toward the realization of the Final interpretant – “I” and “you” in each and every instantiation of use.

Conclusion

Conversational deictics have a very specific and vital role in transforming social tools to psychological ones and in transforming the conventional to the imaginative. Productive use of “I” and “you” in conversational exchanges appears to be the initial linchpin toward applying such role shifts to other more imaginative representational interactions. Use of “I” and “you” in their Peircean symbolic sense creates instantiations of Thirdness (extending the Dynamic interpretant) – conversational slots that distinctive types of participants can fill in shifting orientations. It is evident that symbolic functions as expressed in language create the foundation for imaginative functional roles and in turn influence the characterization/interpretants of such roles. Person deictics, given their conversationally shifting character, epitomize the influence of social exchanges on imaginative thinking.

Apprehension of the symbolic nature and of the many-faceted evolving interpretants of these deictics ensure the recognition of functional roles within actual and possible events. Since components of Thirdness facilitate the recognition of functional roles they are vital in anticipating possible participants and representational objects in potential events.Violation of the conventional use of “I” for speaker marks the threshold when the child is liberated from the actual and
reproduction of the actual (Secondness), and goes beyond simple conventional Thirdness to other possible Thirdnesses. Interpretants, especially those of the dynamic sort (Emotional, Energetic, and Logical), are tools of Thirdness, and as such are the vehicle by which functional roles through deictics are applied in imaginative contexts. Extensions of Peirce’s element of Thirdness with respect to changing Dynamic interpretants describe the transition via person deictics from purely social roles to more psychological ones.

Notes

1. CP citations are to works published in the Collected Papers of C.S. Peirce (in references), noted CP X.XXX (Volume and Paragraph number). EP citations are to works published in "The Essential Peirce" (in references), and noted EP X:XXX (Volume and Page number). All citations to Peirce follow this manner and accepted convention, not cited according to year. (Cf. Short 2007, p. xvi).

2. Deitic shifters was coined by Jespersen (1922, 123). As a grammatical category deixis: “... is introduced to handle ‘orientational’ features of language which are relative to the time and the place of utterance. The so-called ‘personal pronouns’ (I, you, he, etc.) constitute only one class of the elements in language whose meaning is to be stated with reference to the ‘deictic-co-ordinates’ of the typical situation of the utterance” (Lyons 1968, 275).

3. Leont’ev’s notion of activity is germane here. According to Leont’ev, activity is “the nonadditive, molar unit of life... mediated by mental reflection. The real function of this unit is to orient the subject in the world of objects” (in Wertsch 1985, 211). In other words, activity is the interpretive cognitions of conduct. Interpretations necessarily involve perspectives couched in sociocultural principles. Interpretation of the exchange may or may not be conscious on the part of the participant(s) and involves some element of intent toward a goal (in Leont’ev 1981, 401). When the goal involves exchanges with others, as opposed to exchanges with objects, it necessarily presupposes social intent.

4. Metacognitive/metalinguistic skills may in fact be exercised at still earlier ages, at one year six months (Bruner 1986, 67): “an Anlage of metacognition is present as early as the eighteenth month of life. How much and in what form it develops will... depend upon the demands of the culture in which one lives” (Bruner 1986, 67). Bruner additionally suggests that the degree of self-correction which the culture permits or promotes determines the age of onset of metacognitive activity and, perhaps, social and self-regulatory activity (1986, 67).

5. Metaphoric use here refers to some imaginative extension of meaning of the original use of a concept or term to a somewhat analogous, but perhaps unexpected or novel, application. Even though “I” and “you” in basic uses appear to apply to spatial contexts exclusively, temporal contexts are likewise intrinsic (Lakoff and Johnson 1999, 147) in that the use of “I” entails application not only from speaker to speaker, but from alterations in movement/orientation to physical objects, the character of which entails a certain degree of sequentiality. An additional illustration of imagination in metaphoric uses of these deictics is evidenced in intra-psychological (self to self) discourse when self can occupy both conversational roles in the same discursive context.

6. A constructivist approach to metaphor assumes that “Primary metaphors are part of the cognitive unconscious. We acquire them automatically and unconsciously via the normal process of neural learning and may be unaware we have them” (Lakoff and Johnson 1999, 56). The similarity between the original context and the metaphoric extension is often difficult to discern, especially when the creator of the metaphor is a child. According to Lakoff and Johnson (1999, 46), infants and young children conflate subjective and sensorimotor experiences, and are not able to differentiate them until higher levels of cognition have developed. At two, three and perhaps four years of age, rationales for metaphoric extensions based on similarity are unlikely. It is doubtful, at best, that metacognitive skills at this age have developed sufficiently to express any similarity between an original use and a metaphoric use, even if the similarity is perceptual/iconic.
emanating from sensorimotor experience. Consequently, the motivation/basis for the analogy never consciously surfaces, nor is it always apparent to adult interlocutors. With respect to the use of personal pronouns from their original context with humans to their metaphor use with inanimate play objects, the unexpressed similarity for children is perceptual – puppets/dolls and humans both have perceptual organs and inherent fronts and backs. Humans use their sense organs and canonical orientation to engage in conversation as a partner (speaking, listening); and for children engaged in representational play, puppets or dolls do likewise.

7. Indexical gestures (primarily pointing) are employed as early as 11 months of age prior to the emergence of person and space deictics (Acredolo and Goodwyn 1988).
8. According to Peirce an iconic sign represents its object “by its similarity,” such that it resembles its object. In visual terms an iconic sign is “an image of its object” (CP 2.276). A quintessential illustration of a visual iconic sign is a statue, photograph, or other depiction of Abraham Lincoln. Iconic signs do not merely represent visually, but can represent a likeness of other sensory modalities: auditory, tactual, and the like. The sound that a car produces while travelling in the rain, like a “swish,” represents the rain in the auditory modality.

9. West’s two cognitive tasks were designed to determine when person and space deictic contrasts are ascertained for children between one year six months and three years five months. The first task that measures apprehension of person deictic shifts (between “I” and “you”) entails four trials in which the child was asked to “make the teddy so I/you (either the experimenter or the child) can kiss it.” Three or more accurate orientations of the teddy to face the appropriate person was considered systematic. In the second cognitive task intended to measure space deictic contrastive use, the child was asked to find the candy under one of two cups arranged at different distances from the child/experimenter. There were eight trials, four of which included “this” and four of which included “that”; in four of the trials the child and experimenter sat adjacent to one another such that they shared the same orientation to the objects, whereas in the other four trials the orientations to the objects were distinct (child and experimenter facing one another across a table). Three accurate responses for each demonstrative were considered to be systematic. The second cognitive task was drawn from Tanz’s (2009) design.

10. Although some systematic demonstrative use is evident after age three years four months, further refinements are needed to advance a full space deictic contrast illustrating the extent of speaker origo shifts and the extent of space orientation alterations. Tanz’s (2009), 37 and 125) findings based on a similar experimental design indicate that full contrastive demonstrative use is not ascertained until four years nine months. Tanz’s subjects ranged in age from three years six months to five years; and even at four years one month, only two-thirds of her subjects were able systematically to select the appropriate plate under which a penny was hidden when the experimenter was origo.

11. In the case of addressee, the symbolic meaning of “you” is the person listening to the utterance.

12. This process of objectification, or decentration (becoming less egocentric), takes place far sooner than Piaget alleges. According to Piaget (Piaget and Inhelder 1969, 94), egocentrism continues until eight years of age when the child is finally able to perspective take.

13. A sign, from a Peircean perspective, essentially is that which refers to an “object” or that “which determines something else” (in CP 2.303).
14. Indexical signs stand in existential relationship with the objects to which they refer; that is, they must exist in the same spacio-temporal context as their referent (CP 2.305). Indices possess two primary attributes: they refer to an individual person/object/group, and they “direct the attention to their objects” (CP 2.306). In other words, indices point out, or direct someone toward, an object in the same environment. An exit sign, or an index finger pointing at a referent, constitute quintessential indexical signs. The demonstratives “this,” “that,” “here,” and “there” are likewise classic indexical signs (CP 2.305). Indexical signs, like symbolic signs, never bear resemblance to the objects they represent (CP 2.306). Symbolic signs differ from indexical signs in that they have an arbitrary relationship with their referent(s); for example, a seal of a university as well as the term “university” are
primarily symbolic in that their association with the referent object is a consequence of convention only, a defining attribute of symbol for Peirce (CP 2.292). The nature of symbolic signs is that they denote a general type or set of qualities characteristic of a set of referents without necessarily having any existential relationship with the signified (CP 2.293). In fact, the referents of symbols need not exist at all, but can refer to objects that no longer exist or have yet to materialize (CP 2.293); for example, the words “dinosaur” and “unicorn”.

15. Regarding the Immediate Interpretant, Dynamic Interpretant, and Final Interpretant, Peirce states, “...it seems to me convenient to make the triadic production of the interpretant essential to a ‘sign,’ calling the wider concept like a Jacquard loom, for example, a ‘quasi-sign’” (CP 5.473).

16. Peirce states: “In all cases [the Interpretant] includes feelings; for there must, at least, be a sense of comprehending the meaning of the sign. If it includes more than mere feeling, it must evoke some kind of effort. It may include something besides, which, for the present, may be vaguely called ‘thought’. I term these three kinds of interpretant the ‘emotional’, the ‘energetic’, and the ‘logical’ interpretants” (EP 2:409).

17. Peirce comments about the Logical Interpretant: “In advance of ascertaining the nature of this effect, it will be convenient to adopt a designation for it, I will call it the Logical Interpretant, without as yet determining whether this term will extend to anything besides the meaning of a general concept, though certainly closely related to that, or not. Shall we say this effect may be a thought, that is to say, a mental sign? No doubt, it may be so; it must itself have a logical interpretant; so that it cannot be the ultimate Logical Interpretant of that concept. It can be proved that the only mental effect that can be produced and that is not a sign but is of a general application is a habit-change; meaning by a habit change a modification of a person’s tendencies toward action resulting from previous experiences or from previous exertions of his will or acts, or from a complexus of both kinds of causes” (CP 5.476).

18. The premise here is that the imaginative function begins with the development of early cognitions; namely, mental imagery and objectification that are dependent on social interactions accompanied by language. Deferred imitation illustrates the earliest forms of mental imagery, according to Piaget (1962, 63). At one year four months, children can later imitate action sequences which they themselves observe. While imitation that is immediate represents mere copying without the intervention of memory, deferred imitation is attenuated from the original event in time; thus pictorial memory of the original event must be stored at least until the re-enactment. An additional illustration of the emergence of mental imagery (anticipation of the consequences of an event) materializes at one year eight months (Harris 1997, 15). Anticipating the same consequences that were already observed is insufficient to full-fledged imagination in that the consequence which the child expects does not diverge from the actual – the expectation merely consists of unaltered memories of the original events. Memory of the actual, either deferred imitation or expectations of event’s consequences, devoid of any alteration fails to constitute imaginative thinking. One of the primary attributes of imaginative thinking according to Vygotsky is that representations exhibit ‘departure from reality’ (Vygotsky 1962, 349). Early mental imagery fails to attenuate the participants of the event from the event itself, or from the place of the original event; hence, these mental images do not “depart from reality.” It is not until contextual attributes of the event can be varied that children can “depart from reality” – neither participants, nor place, nor time is intrinsic to the event.

19. While representational play illustrates competence in role-taking scenarios, this competence does not appear suddenly. Certain linguistic competencies underlie and facilitate the cognitive skill of attributing a shifting character to participants within a play event. That which a child represents in play if it departs from reality/the actual must first be experienced in actual social exchanges (Piaget 1962, 215). This shift from the actual to the representational demonstrates the necessity of social foundation for the development of imaginative thinking and the essential role of language toward that end.
20. Vygotsky notes that although in large part affect exerts imaginative thinking, affect can likewise be present in “realistic” (non-imaginative) thinking, especially when an experience/discovery is intense (Vygotsky 1987, 347).

Notes on contributor
Donna E. West is an Associate Professor in the Modern Language Department at the State University of New York at Cortland. She teaches graduate and undergraduate courses in Linguistics, Language Acquisition and Pedagogy, Cognitive Linguistics, and Spanish Phonology and Morphosyntax. She has been presenting and publishing in the field of semiotics studies, primarily using Peirce’s sign system, throughout her career.

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