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Verbalized Inner Speech and the Expressiveness of Self-Consciousness

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The relevance of inner speech for psychological life has been recognized in the literature, and several scales and questionnaires have provided evidence. However, evidence coming from direct observation of the phenomena is still rare. The aim of this study was to specify modes of verbalized inner speech as expression of self-consciousness (reflexivity or internal conversation). Eighteen adults (between 19 and 34 years old) were instructed to express aloud their thinking during a task with the Brazilian version of the Raven Progressive Matrices Test. Participants’ thinking-aloud verbalizations were submitted to a qualitative analysis based on three reflexive steps of semiotic-phenomenology: description, reduction, and interpretation. Description revealed a structure of verbalized inner speech organized on the basis of three main typifications: visual description, logical reasoning, and dialogue. Reduction recognized dialogical relations as an essential feature underlying verbalized inner speech, characterized by two different aspects of information and communication. Interpretation indicated that an accurate account of the conscious expression of dialogical relations requires understanding the communicative process as a logical relationship with an emphasis on its pragmatic function. The conscious experience of reflexivity is disclosed as both temporal (a marked presence) and spatial (marked as an absence).

Keywords: inner speech; phenomenology; qualitative research; self-consciousness; semiotics

The investigation of inner speech has increased over the last few years, driven by the use of brain imaging technology. Indeed, studies of brain correlates of inner speech play an important role in the return of human consciousness to the heights it held before the behaviorist coup of 1913 (Baars, 2003). Recently, inner speech has been associated with activation in the left inferior frontal/insula region, the left temporo-parietal cortex, the right cerebellum, and the supplementary motor area (Shergill et al., 2001). It has been demonstrated that the activity in areas that generate inner speech also modulates activity in regions responsible for verbal perception (Shergill et al., 2002). These findings associate inner speech with left hemispheric activity and support the view that inner speech is deeply linked to self-awareness (Morin, 2001). More specifically according to Morin (2002), inner speech is linked to self-reflection, that is, a non-anxious, healthy form of self-awareness. Loss of inner speech decreases self-awareness and, as the main cognitive process leading to self-awareness, inner speech is what makes us aware of our own existence (Morin, 2001).

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Outside of brain study research, we find inner speech linked to diverse areas but equally focusing on the processes of consciousness. Inner speech is associated with dream bizarreness (States, 2000), performance on cognitively demanding tasks by human problem solvers (Varley, 2002), typographic errors (Logan, 1999), acoustic representations activated in silent reading (Abramson, 1997), verbal hallucinations as a variety of inner speech with dialogical properties (Davies, Thomas, and Leudar, 1999), auditory hallucinations in schizophrenia (Johns, Gregg, Vythelingum, and McGuire, 2003), conscious prepositional thinking (Carruthers, 2002; Frankish, 2002; Pleh, 2002); memory retrieval (Schrauf, 2002; Emerson and Miyake, 2003); and autobiographical memory (Larsen, Schrauf, Fromholt, and Rubin, 2002).

In the psychological field, inner speech is linked to an effort to develop measures and instruments (Fenigstein, Scheier, and Buss, 1975; Schneider, 2002; Siegriest, 1995). Siegriest (1995) developed a self-talk scale measuring inner speech. Findings suggest that highly self-aware individuals use inner speech more frequently than less self-aware individuals (Siegriest, 1996). Schneider (2002) investigated relations among self-talk, self-consciousness, and self-knowledge quantitative measures, indicating a strong significant and positive correlation between inner speech and self-reflection, that is, consciousness’ capacity for thinking about itself (reflexivity). The study also emphasizes that quantitative measures may be quite limited in the investigation of inner speech.

Cognitivists have used think-aloud methods to observe human problem solving (Newell and Simon, 1972). In developmental psychology, the investigation of inner speech is related to the classical works of Jean Piaget (1896–1980) and Lev Vygotski (1896–1934). Although both authors emphasized the importance of inner speech in mental development, it is in the latter author’s work that inner speech is fundamentally linked to the development of thought. According to Vygotski (1934/1962), the internalization of speech is a key moment in language acquisition. In an early stage of development, thought is nonverbal and language is nonintellectual. Thought and speech have different roots; nevertheless development affords their intertwining. Around 20 months of age, when thought becomes verbal (structural) and speech becomes rational (logical), thought and speech join to initiate a new form of behavior (semiotic). In that key moment, language is internalized and becomes the structure (code) of thinking. The social speech used for external interaction becomes the structure of individual thought. Around three years of age, speech divides into speech with others and speech with self. Just then, the speech is internalized and becomes the basis for self/other reflexivity.

More recently, developmental studies of inner speech (Archer, 2003; Bertau, 1999; Dolitsky, 2000; Girbau, 2002) have provided a useful way to investigate verbalized inner speech. Especially relevant is the experiment conducted by Bertau (1999) in order to understand the connection between thinking and dialogue. Bertau (1999) tested a method of studying inner speech in the context of problem-solving studies. That study was an attempt to read the thinking-aloud-protocols of six problem-solving subjects as dialogues. Results indicated that inner speech increases with the difficulty of the task, and that cognitively oriented, contracted inner speech can be transformed to a communicatively oriented, unfolded dialogical speech. It is assumed that competent problem solvers can also switch code between these two basic forms. These results support the assumption of the realization of the speech, to some extent, as a form of dialogue. The study equates thinking aloud with inner speech and suggests that inner speech could be a dialogical process.

In fact, the idea that inner speech is a genuine dialogue and not a monologue (Blachowicz, 1997) is the fundamental assumption underlying two recent perspectives: the dialogical self (Hermans and Kempen, 1993; Hermans, Kempen, and Van Loop, 1992) and the semiotic self (Archer, 2003; Pickering, 1999; Wiley, 1994). In the dialogical perspective, self is defined as a multiplicity of relatively autonomous I-positions or voices integrating notions of imaginative
narrative and dialogue. Self and dialogue share the same structure, built upon two basic motivational characteristics: dominance and intersubjective exchange. In other terms, “the separateness and autonomy of the self correspond with dominance in turn-taking behavior, and the openness and participation in the self correspond with the intersubjective exchange in dialogue” (Hermans et al., 1992: 147). Dialogical relationships are brought to a spatial dimension, emphasizing simultaneity, juxtaposition, and discontinuity of the voices.

The semiotic perspective states that human selfhood is a self-producing semiotic process (Pickering, 1999) because it is rational, symbolic, abstract, and linguistic (Wiley, 1994). Selfhood also includes sensations, emotions, nonlinguistic thoughts, habitual practices, body language, and even irrational expressions. This semiotic process occurs through internal conversation (Wiley, 1994). The semiotic perspective presents the internal conversation as an inter- and intra-personal dialogue, which entails a self-other reflexive loop (Lanigan, 1992). Internal conversation occurs among three temporal aspects, parts, roles, or agencies of the self: the past Me, the present I, and the future You. In a dialogical relationship, the (present) I speaks to the (future) You about (past) Myself. Only the present self or I can speak, while the You and Me can only listen and be spoken to (Wiley, 1994). Through such a semiotic perspective, the dialogue becomes then a reflexive triadologue. And the self may be defined as a semiotic process of internal conversation, in Wiley’s term (1994).

Closer to the Paris school of semiology and French philosophy, Lanigan (1992) suggests that a semiotic perspective involves not just three components but also a system of four terms, as founded in the work of Maurice Merleau-Ponty (1908–1961). The four-component system is a derivation of the dyadic relation between *le même et l’autre* discussed in modern French philosophy (Descombes, 1979). According to Lanigan (1992), there are two possible translations: ‘self versus other’ and ‘same versus different’. These four terms compose a quadrilateral of discourse, in which ‘self’ is ‘same’ and ‘other’ is ‘different’ or conversely in all the quadratic combinations that are possible (see Table 1). The internal conversation is an inter- and intra-personal dialogue as well in Wiley’s (1994) model. But the quadrilateral model explains such communication processes in terms of Merleau Ponty’s distinction between authentic speech, “where the significant intention is at a stage of coming into being” (Merleau-Ponty, 1962, p. 197) and speech spoken where “the structure of the perceived world is buried under the sedimentations of later knowledge” (Merleau Ponty, 1964, p. 5). The quadrilateral model follows a tropic logic, which replaces rhetoric as a discursive practice. The tropic logic uses figures of language to show the different kind of relations and oppositions among signs in the construction of meaning. In the United States, the tropic logic is associated with Kenneth Burke’s (1969) model of “master tropes” where metaphor could substitute perspective, metonymy could substitute reduction, synecdoche could substitute representation and irony could substitute dialectic. In contrast, the triadic model explains such communication processes in terms of a distinction among sign, interpretant, and object, following the classical works of American pragmatists C.S. Peirce (1839–1914) and G. H. Mead (1863–1931).

These innovative accounts of the self see the phenomenon of inner speech as a promising source of information about the modes that consciousness uses to express itself.

**Table 1**

Inner speech as a system of four components

<table>
<thead>
<tr>
<th>I</th>
<th>Myself</th>
<th>Thee = you (personal pronoun – the French “tu”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Me</td>
<td>You</td>
<td>Thou = you (public pronoun – the French “vous”)</td>
</tr>
</tbody>
</table>
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(Archer, 2003). In accordance with Morin (1993), we assume that inner speech is the fundamental process behind self-reflection and that “attempts to put to test the hypotheses about the nature of the relation between self-talk and self-awareness represent one of many possible avenues toward a better understanding of the mechanisms the self uses in thinking of itself” (p. 231).

Despite the diversity of studies exploring inner speech, some important questions regarding the phenomenon as a conscious expression remain open. What is the qualitative nature of the phenomenon called inner speech? If inner speech is a fundamental component of reflection as self-other talk, how is this dialogue expressed by consciousness? If inner speech is characterized as a dialogue, how is this dialogue expressed?

To provide an answer to these questions, we conducted a qualitative exploration of the phenomenon, guided by phenomenological methodology (Lanigan, 1988). The aim of this study was to investigate qualitatively consciousness’ modes of expressing reflexivity. The specificities of phenomenology as a methodological tool to investigate qualitatively consciousness and expression are presented in the following section.

Method

The phenomenological approach to qualitative research in psychology increased in popularity considerably after the efforts of Amedeo Giorgi in the early 1970s (Smith, 1983). The guidelines he established (see Giorgi, 1978, 1985) provided a disciplined and transparent working-system to qualitative researchers. These guidelines underline, in a broad sense, the qualitative design of the present study. They are improved by the semiotic-phenomenological approach presented in Lanigan’s (1988, 1992) work. The qualitative design proposed here also has some common points with the interpretative phenomenological analysis (IPA) proposed recently by Smith (2004). It would be possible to affirm that semiotic phenomenology bears on cognitive psychology in the same sense that the “interpretative phenomenological analysis concern with sense making on the part of researcher and participant could be described as cognitive psychology” (Smith, 2004, p. 41).

In the present study, phenomenology is employed in the specific context of a praxis, that is, as an investigative method for the explanation of conscious experience (Lanigan, 1988). This includes what William James called pragmatism and later radical empiricism (Merleau-Ponty, 1963); what Charles Peirce referred as semiotic (see Andacht and Michel, 2005); and what Lanigan (1972) named semiotic phenomenology.

In psychology, semiotic phenomenology presents a methodological possibility for qualitative research due to its accurate criteria for veracity and legitimacy (Gomes, 1998). The main purpose is assessing and describing conscious experience as a communicative act of a body situated in a determined environment. While phenomenology focuses on the empirical bases of conscious experience as well as on the relationship between consciousness and experience, semiotics specifies the relation between what is perceived by consciousness and what is expressed in the experience. Put another way, phenomenology provides a method for understanding a consciousness that is evident through gestures and speech, which are embedded in a code explained by semiotics.

The relationship between consciousness and experience reveals the mediation between the researcher’s consciousness and his data (Lanigan, 1994), which is the ratio between judgment and evidence. The researcher becomes an interpreter of the data observed or constituted for him. That mediation follows two different orders: the analysis order (AO) and the experience order (EO). First, to analyze the logic inherent in a phenomenon, the researcher uses a procedure that begins with him or herself (EO) as
someone who experiences the event and defines how the experience came to consciousness. Then, to analyze the phenomenon (AO), the researcher must invert the sequence and define how the experience is taken (capta)\(^1\) or described.

In practical terms, semiotic phenomenological analysis follows three systematic and systemic reflexive steps: a) description, b) reduction, and c) interpretation. The word ‘reflexive’ means that each step entails the other two as subcategories. The phenomenological description (a) is the result of the researcher’s comprehension of the collected data, presented as a synthesis. The researcher carefully and rigorously approaches the empirical evidence to sustain his or her descriptive synthesis. This synthesis is, then, subjected to phenomenological reduction (b), that is, a process of analysis focusing on exploration and specification of the description. Finally, the confrontation between synthesis and analysis results in a critical interpretation—the phenomenological interpretation (c).

It is important to notice that semiotic-phenomenological analysis can work with single case studies where the capta is a logical typology (e.g., when a linguistic anthropologist records the lexicon and grammar of the last living speaker of a language). The main purpose of the phenomenological procedure is to disclose the essential structure of the phenomenon, offering a description that encompasses and takes into account a necessary case or the variety of a sufficient number of cases.\(^2\) The necessary and/or sufficient condition is informed by the saturation criterion, that is, when data start to reveal a repetition of the basic structure or context (Giorgi, 1997; Lanigan, 1988).

In the present study, we submitted the phenomenon of inner speech to the specific context provided by the study with the Verbalized Inner Speech Method – VISM (Bertau, 1999). We followed the same procedure used in Bertau’s study to collect data, but we submitted this data to the phenomenological analysis procedures described above. Participants (19 adults, 12 women and 7 men, between 19 and 34 years old) were instructed to express aloud their thinking during a task with the Brazilian version (1965) of the Advanced Progressive Matrices (Raven, 1962). The Advanced Progressive Matrices consists of 36 items arranged in 3 sets of 12 items each. Each item contains a figure with a missing piece, and below the figure are eight alternative pieces, only one of which completes correctly the figure. Each set involves a different principle for obtaining the missing piece, and within a set the items are roughly arranged in increasing order of difficulty. In a Brazilian exercise book, all figures are printed in blue and/or white.

Participants had free time to complete the test and had to stay alone in the room. The entire session was audio recorded and transcribed in order to provide thinking-aloud protocols taken as participants’ verbalized inner speech. All procedures were in line with the current ethical standards of the American Psychological Association and Brazilian regulations.

### Analysis

**Phenomenological description**

The analysis begins by the order of experience. The verbatim transcriptions were taken as a phenomenological description, in which the researchers’ understanding of the other

\(^{1}\)Capta “is that ‘which was to be found out’ (Q.E.F. = quod erat inveniendum). That which is taken as evidence or discovery (disclosure)” (italic and inverted commas added by the author, Lanigan, 1992, p. 215).

\(^{2}\)A native speaker (USA) translated the protocols from Portuguese to English. The translation offers English colloquial language as close as possible to the original transcriptions.
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consciousness, that is, the participants’ answers to the Raven’s items, was expressed in a public code. Considering that every step of the semiotic phenomenological analysis (description, reduction, and interpretation) entails the two other steps, we can move to the reduction that was the examination of the code as a sending message. For example, the following excerpt from a protocol brings the resolution of about five items in the beginning of an application, after the researcher leaves the room. (In all excerpts from the transcripts the brackets [. . .] indicate pauses in speech, in general greater than a minute and smaller than five minutes.)

[The researcher leaves the room]. Then, here we have [. . .] we have [. . .] hummm [. . .] Here we have a circle. This flower, in fact, it stands far a part of the circle. [. . .] What this wants to say? It wants to say that [. . .] It wants to say what? [. . .] Hummm [cough] Hummm [. . .] Let’s see, these traces [. . .] a circumference [. . .]. So . . . so . . . and so . . . we would take only [. . .] this part here. One, two, three, four. Five, six, seven, eight [long pause]. Here we have (unintelligible) Ups [. . .] And after? (unintelligible) . . . Hummm [. . .] hummm [. . .] (unintelligible), this . . . with this . . . Ok, that is it, this here. This with that it gets this [. . .] This . . . with this . . . [. . .] it gets the number six. Hummm . . . [. . .]

Item number eight. We have a cross. We have a cross. Ah . . . [. . .] We have a cross . . . And . . . And . . . the other from a different form, the other . . . so. Like that, like that, like that. [. . .] Let’s me see . . . they were . . . with colors and without colors on different forms. First, white black, here, right. [. . .] First in the . . . the . . . vertical. Ok, wait a minute. In the vertical, white [. . .] here . . . [. . .] Hummm [. . .] The arm is always changing colors, then, here . . . Here, the answer would be . . . [. . .] Ahhh . . . We have a square. A square . . . Hummm . . . [. . .] We have [. . .] We have, now, another square. [. . .] This here, ok. Ah . . . They were colored from different forms [. . .] Ahhhi [I am getting tired of this]. Here, this direction . . . First half . . . [. . .]. This direction, join all together . . . [. . .]. Number eight. Now, let to the item number ten. (19M)^

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What are these fragments with pauses, repetitions, redundancies, and objective answers saying to us? They show an evident meaning in progress. Let’s analyze the first sentences. The fragments Then, here we have [...] we have [...] hummm [...] Here we have a circle refer to the figure that makes part of the problem. The inner speech indicates what is being seen in perception: a circle. The concept seems consolidated and the next sentence turns to a question: What this wants to say? It is a clear search for meaning, but not any meaning. It has to have a strict relation, a logical connection with what is objectively given in perception. The inner speech now establishes a dialogue with itself, as the excerpt continues: It wants to say that [...] It wants to say what? [...] Hummm [cough] Hummm [...] let’s see, these traces [...] a circumference [...] So . . . so . . . and so . . . we would take only [...] this part here. The communicative act as a unit was closed. The way that the participant describes the object and examines its logical relation in the graphical context constitutes an internal conversation. The analysis of each part of this communicative act, constituted by the flux of sentences, indicated that the participants’ verbalized inner speeches bring up types: 1) description of figures, 2) logical reasoning, and 3) dialogues. This also illustrates the way that the analysis explores the verbatim transcriptions (description), looking at the paths where the various experiences intersect (reduction), coming out with a meaning (phenomenological interpretation).

Now let’s invert our reasoning and assume the order of analysis where the interpretation is taken as the departure point. However, to illustrate the analysis it is necessary to define and exemplify every type. The examples are typical statements taken from different protocols. They provide an internal confrontation to validate the initial example. The analysis is not concerned with the number of repetitions, but with appearance as a pure possibility. Thus we have the differentiation between qualitative analysis as a search for possibilities and quantitative computation as a search for probabilities.

The type named “description of figures” covers all speech sequences which focused on the depiction of the figures in the Raven Test exercise book. The following speech sequences describe different figures that the participant sees in items 8 and 15, respectively, on the exercise book:

This one is a whole cross [...] Empty, full, all striped [...] Half of a lozenge, half of a circle and half of a square. (01F)

Next the sequences refer to differences among several figures in items 11 and 9, respectively, described by two different participants:

This one is a striped white. White, striped, and white. Striped blue, striped, striped, blue, striped. (18M)
Left . . . top . . . down . . . right, right. Down, top – no! Left, right. (04F).

The type named “logical reasoning” covers speech sequences focused on the narrative of thinking followed by the participant in the very moment he or she tries to solve the exercise. The following speech sequences refer to item 15, where the participant has to combine two figures of half squares with lines in different directions in order to find the correct answer (a whole square on curved lines):

Square more one little square down will make one square [...] If I put these two will be a mess. (01F)
Another variation for this type looked for a pattern behind the figures where the correct answer is a circle crossed by two pointed lines (referring to item 35 in the Raven’s book):

> If you have one . . . the little points . . . if you have one square, square . . . always it is . . . just the little point, the pointed line is with pointed line. And in this one is always out the . . . the blue. Here, in this case, it must have one little point, one stripe, mustn’t?, to close like that. (02M).

The next speech’s sequences refer to item 8. Participant tries to solve the question verifying the fitness of each possible answer:

> In this one, it fits them both, too. But, it fits inverted . . . No, this is not the logical reasoning. (17F).

The type named “dialogues” encompasses a special kind of verbalized inner speech, where the interaction between the utterances emphasizes the communicational aspect, as indicated by the linguistic forms. The dialogues were classified into eight basic linguistic forms: 1) exclamatory; 2) imperative; 3) interrogative; 4) interrogative-answer; 5) declarative-interrogative; 6) declarative-negative; 7) interrogative-declarative; and 8) interrogative-negative. This was an exhaustive classification of all utterances in the flux of speech. However, the interpretation of utterances depends upon the context of expression. Let’s look closely at each one of these linguistic forms.

The form “exclamation” covers the utterances that appear isolated, between pauses (silence), expressing surprise or a strong feeling:

> Oh, how terrible! (08F).
> Oh, it sucks! (15F).
> So cool! (03F).

The form “imperative” covers the utterances that express clearly an order or command:

> Stay calm, Maria, stay calm! (01F)
> Let me see number fifteen. (16F)
> Wait there! (07F)

The form “question” covers the utterances that express a simple isolated query, without any answer:

> Hmm . . . How strange, this here should be half of an infinite? Huh? Huh? Huh? (01F)
> How funny! Here is it just the point? (09F)
> Has this one to stay here? (05M)

The form “question-answer” covers the combination of two utterances where a query is followed immediately by an answer:

> So, what are you doing here? You took out the square and added little balls. (02M)
> Where is the L? There isn’t an L here! (07F)
> Hmm . . . how will be this thing? I guess it will be like those two together. (03F)
The form “statement-question” covers the combination of two utterances with an affirmation followed immediately by a query that remains without answer:

> Then, you just have to see the two of them. Is that right? (01F)
> That’s the figure three, isn’t it? (06F)
> It doesn’t have an X here. What about now? (12M)

The form “statement-negative” covers a combination of two utterances with an affirmation immediately followed by a negative:

> If I had to do it on the vertical, the first one, if I had to do it on the horizontal, it would be . . . It wouldn’t be, because there isn’t! (04F)
> It is a trick. No, trick, no, you have to think. (14M)
> It may be that one. No, no, no. (13F)

The form “question-statement” covers a combination of two utterances with a question followed immediately by an affirmation that is not the answer for the preceding question:

> What is that is overlapping the second one? It’s like that, it’s like that. Like that, like that . . . (01F)
> Hum? It is number two. (07F)
> Is it going to? Ok, I’ll drop this one and then I’ll come back. (17F)

The form named “question-negative” covers a combination of two utterances with a question followed immediately by a negative that is not an answer for the preceding question:

> What does it have to do with that thing here? I don’t know the name of this curve here! (01F)
> Where is the little bowl? Oh, no, here, see, here it jumped. (02M)
> Is this one here a sum to make these waves? It shouldn’t, it should be a square. (01F)

The phenomenological description brought out the raw nature of inner speech. It points out to the chain of words, the linguistic forms, and the meaning that constitutes a message. The question that arises is whether the kind of speech that has been presented could be considered as reflection, conversation, or communicative act. Answering this question will be the task of the phenomenological reduction.

**Phenomenological reduction**

What has the phenomenological description disclosed about the phenomenon of inner speech? In other words, how can we understand these fragments, which constitute messages as signs? The answer to these questions takes us into the realm of communicational psychology (Lanigan, 1992), where to decode a message is to solve a problem of ambiguity, that is, a problem with two or more positive choices. In fact, this is a problem of qualitative analysis in psychology. According to Merleau-Ponty (1945/1962), the problem of ambiguity is inherent to all human communication. In that case,
the present interpretation rests in the hermeneutic account of the entire situation, respecting the nature of *capta/data*. In the semiotic-phenomenological approach, the solution is to keep the reversible relation between whole and parts constantly present as a guideline in the methodological procedure of analysis. In other words, the synthesis of the participant’s verbalized inner speech (phenomenological description) presented above is taken (*capta*) under analysis in order to define the problematic focus.

The reduction of the thematic context set by the three types revealed an essential structure: the dialogical relations underlying verbalized inner speech. This dialogical relation emerges as two different aspects: the informational and the communicational. Descriptions of the pictures of the Raven booklet as well as the narratives of logical reasoning can be characterized as informational dialogues once we take the term information as “news, facts or knowledge given” (Hornby and Ruse, 1992. p. 329). In another words, informational dialogues reduce uncertainty by means of probability differentiation (Lanigan, 1992). The figures’ descriptions and the narratives of logical reasoning are dialogues in the sense they imply reflexivity: The statement is pronounced from self to self. But, when the statements return, the self receives them passively: These pronouncements do not require an active or immediate response.

On the other hand, the sequences of utterances in the category ‘Dialogues’ can be characterized as communicational dialogues once we take the term communication as “the act of communicating” (Hornby and Ruse, 1992. p. 124). In another words, communicational dialogues bring up certainty by means of possibility differentiation (Lanigan, 1992). Although not followed by immediate response, imperatives and exclamations have a clearly pragmatic function in the verbalized inner speech: They punctuate the flow of thinking and sometimes demand changes in this flow. The following passage illustrates this point:

Well. This one plus this one is equal to this. This one plus this one . . . equal to this. This one . . . plus this . . . It’s gonna be . . . something with black in the middle. It would be five. Number five. [. . .] But . . . No, stay calm! This one plus this one, equal to this. This one plus this one, equal to this. So, it would be just the number six. (12M).

Sequences of utterances elucidate more clearly the dialogical relation. They convey reflexivity as well, once the direction comes from self and goes to self. When they return, however, the self doesn’t receive them passively; these pronouncements are requests that provoke an active or immediate response.

The distinction between informational and communicational aspects of dialogue has identified the first problematic focus in the analysis of the verbalized inner speech: may information be characterized as an aspect of dialogical relation? That is, to what extent can we state that the verbalized inner speech, described as “Description of figures” and “Logical reasoning,” performs a dialogical relation if we do not have, in the sequence, the response that any communicative act presupposes?

According to Vasil’eva (1988), each remark in a dialogue is characterized by the function it performs in the communicative process. That is, the meaning of an

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4The use of definitions (denotations) provided by dictionary is a way to implement the phenomenological *epochè* proposed by Husserl (1950/1964), that is, the very act to put the researcher’s preconceptions in brackets in order to look at the essentiality of the phenomenon normally understood as connotation.
utterance\(^5\) is more than the sum of the lexical meanings of the words that constitute it. This property is what Bakhtin (1929/1973) defines as the supralinguistic character of the dialogical relations (Vasil’eva, 1988). Put another way, the context alone can establish the agreement-disagreement, statement-supplement, and question-answer relations that constitute a communicative dialogical relationship. The same explanation is given by Wiley (1994) referring to the theory of Peirce. The pure semiotic triad sign-interpretant-object is abstract and general, not necessarily implying an addressee-interpreter. These pairs appear in concrete situations. In this sense, the verbalized inner speech described as visual description and logical reasoning can be understood as utterances. That is, they are essentially informational in their purpose, but they are also communicative dialogical acts to the extent that they stand for a response, even if as sentences they are not a question followed by a response. Take for example, the passage \textit{Left . . . top . . . down . . . right, right. Down, top – no! Left, right} (04F). These are not question or answer sentences, but the \textit{no!} stresses a relationship of disagreement that makes the \textit{Down, top} a question and \textit{Left, right} as an answer.

The phenomenological reduction of these results emphasizes the reflexive aspect of the dialogical relations and points to a second problematic focus in the analysis of verbalized inner speech: what is the uniqueness of reflexivity? Or, to take account of the dialogical and the semiotic perspectives of self, is it possible to identify both temporal and spatial expression of the conscious reflexivity?

According to Wiley’s (1994) the conception of semiotic self, in the internal conversation there is a speaker sending a message (sign, interpretant, object) to a listener. In the results, the relations I (present)-me (past), and I (present)-you (future) appear clearly. Take for example the expressions \textit{Stay calm, Maria} (I-me) and \textit{Then, you just have to see the two of them} (I-you). They are specifying different temporal phases of the self. In the first case, the present self (I) talks to itself in the past (me) as an object. In the second case, the present self (I) talks to itself in the future (you). Of course, however, if one takes the whole context of the communicative expression, the semiotic triad I-you-me and, consequently, the present-future-past phases are present in each fragment.

If indicators for the temporal aspect of reflexivity are explicitly visible in verbalized inner speech, the same does not occur for the spatial character of reflexivity. Simultaneity in a strict sense is impossible because just one voice, or I, can talk at any given moment (discounting cases of schizophrenia). However, if one takes the notions of juxtaposition and discontinuity in a broader sense, that is, not as voices that talk at very same moment, but as intermissions or interruptions in the speech, it is possible to identify some veiled indicators. Take for example the passage \textit{Down, top – no! Left, right} (04F) again. The \textit{no!} is an interruption that breaks the thought’s continuity. This kind of interruption was usual in verbalized inner speech. Often the adverb ‘there’ as it appears in the passage \textit{Wait there!} (07F) can also be taken as a spatiality indicator. Although this imperative utterance is a dialogue that occurs between the I (present) with a me (past), the adverb ‘there’ introduces the idea that two voices are sharing the same space.

Inspired by Bakhtin’s concepts of polyphonic novel and dialogue relationships, the dialogical self framework (Hermans and Kempen, 1993) results in a view of narrative that emphasizes the ‘spatialization’ of time. The prevailing notion of narrative as a temporal

\(^5\) Notice the distinction between utterance and statement: “we can use the word ‘statement’ to indicate a semantic function, the word ‘sentence’ to indicate a syntactic function, and the word ‘utterance’ to indicate a pragmatic function. All these function names are related by one essential nature, which we usually name by the word ‘proposition’ (…) [these words] all have the same sense but are capable of distinct reference” (Lanigan, 1988, p. 13).
structure with a beginning, an action and an end is broadened by a notion that encompasses developments over time juxtaposed in spatial structures. Juxtapositions - (spatializations of temporal differences) allow, thus, the raising of new relationships between dialogical positions. As a result, the narrative is defined as a spatio-temporal structure, where time and space are assumed equally important. The spatio-temporal unity is a virtual condition that may appear in the developmental history. However, it allows the self to change perspective among other internal positions. These internal positions were named I-positions (Hermans & Kempen, 1993).

**Phenomenological interpretation**

Phenomenological reduction sets the possibilities and limitations of dialogical relation as an essential feature of verbalized inner speech. The first problematic focus concerns the informational and communicational aspects of dialogical relations. The difference between informational and communicational aspects emphasizes the importance of context on dialogical relations. Conscious experience of communication is revealed, in the same terms used by Lanigan (1988) as a triadic relationship of semiology that is the Morris’ categories of semantics (content), syntactic (structure), and pragmatics (use) (Morris, 1938). That is, an accurate account on the conscious expression of dialogical relations requires an understanding of communicative process as a logical relationship among the three mentioned terms, with the emphasis on the pragmatic function. The second problematic focus, concerning the temporal and spatial aspects of reflexivity points to the interplay between what is present and what is absent as the main aspect underlying the relationship between verbalized inner speech and thinking. Conscious experience of reflexivity is disclosed as temporal as well as spatial. But, while the temporal aspect appears as a marked presence, the spatial aspect is marked as absence.

Verbalized inner speech expresses the fundamental connection between inner speech and reflexivity, the latter defined as self-reflection by Morin (2002). The importance of inner speech to the reflexivity of consciousness is pointed out by Morin (1993, p. 223): “self-talk (or internal dialogue, inner speech), because it conveys self-information under a different form (i.e., words), would create a redundancy—and with it, a wedge—within the self.”

**Conclusions**

This present investigation was concerned with verbalized inner speech as a way of expressing self-consciousness. Three points guided our analysis:

1. the qualitative nature of verbalized inner speech,
2. the function of inner speech in reflexivity, and
3. inner speech as a manifestation of self-consciousness.

The qualitative nature of the phenomenon called inner speech was examined by verbalizing inner speech. This operational resource made possible the induction of a case, Bertau’s technique, and the deductive analysis of the transcriptions. Also, previous concepts about inner speech, internal conversation and dialogical self were suspended to search for a new description and understanding of the phenomenon. Thus, taken as a definition of quality that one make something what it is, we can state that the phenomenon of verbalized inner speech is dialogical in its essential nature. The evidence for this was clearly indicated by the three typifications (figures-reasoning-dialogue) pointed out by the phenomenological description.
However, the reduction analysis brought up a new understanding of the three typifications. It put figures and reasoning on one side, and dialogue on the other. It should be remembered that the participants grasped what was presented as a problem, by examining how the little pieces in the Raven’s booklet were put together. Therefore, the verbalized inner speech started with fragments and with trying to make sense of a given figure. This was the beginning of a semiotic self-process describing a possible whole by means of identification of its logical connections. What was expressed in speech came out in a dialogical structure: the recognition of graphic forms and the discovery of logical relations. In fact, all three typifications were expressed in speech. For that reason, the reduction concluded that the dialogue type entailed the other two types: description of figures and logical reasoning.

The reduction analysis advanced the definition of dialogue as an interchange between probability differentiation (information) and possibility differentiation (communication). So, the description of figures and logical reasoning were defined as information, and the dialogue as communication. In the inner speech, information was characterized mainly by interrogative sentences with the verb of being (is it just the point?), and by exclamatory sentences with an action verb (it sucks!). However, the use of an action verb in the declarative sentences shifts the meaning of a message from information to communication (Then, you just have to see the two of them. Is that right?). In contrast, communication was characterized by the use of action verbs in the declarative sentences (If I had to do it on the vertical, the first one), and secondarily by imperative sentences (wait there!). However, the use of the verb of being rather than an action verb in declarative sentences shifts the message from communication to information. It is exactly this kind of interchange, these shifts between different forms of speech here characterized by information and communication that suggests that reflexivity may take the form of dialogue, internal conversation or inner speech.

The function of inner speech in reflexivity may be examined by referring to the following definition provided by Wiley (1994, p. 74). He says: “A thing is pictured as thought it were moving away from itself, but at some point it reverses direction and moves back toward itself.” This synergetic circling or recurring movement is in its turn the dialogical nature of inner speech. In sum, reflexivity is the semiotic self, here defined as I (present) speaking with You (future) about Me (past). Remember that these three temporal entities could not be considered apart from their dynamic semiotic phenomenological counterpart: sign (I), interpretant (You) and object (Me). In the informational sentences the relation was limited to sign (I) and object (Me). In contrast in the communicational sentences we have the full semiotic process. Wiley (1994) recalled that the pure semiotic triad of sign-interpretant-object does not necessarily imply an addressor-addressee, a basic aspect of dialogue. This appears only in concrete situation where the triadic meaning is actually communicated. The data brought out by the verbalized inner speech illustrated and confirmed Wiley’s claim, as was evidenced by the shifts from information to communication and the reverse. However, the I (sign) in the two semiotic relations, that are, sign-object and sign-interpretant-object, do not lose the consciousness of expression, that is exactly the function of myself pointed out by Lanigan’s (1992) quadrilateral of discourse.

Verbalized inner speech is a manifestation of self-consciousness. This statement is based on the reversion of myself, as indicated in the change of position or perspective in the semiotic process. These shifts indicate the reversion of self and other that may be specified by a simple question: what is the position of I (sign) in the conversation? Is it in the position of myself or in the position of other? The complementary question would be: how is the movement between the same and the different that remits to the shift between self
and other? We may conclude that inner speech is a fundamental component of self-reflection, as indicated in the reversion between self and other. As Wiley (2006) stated: “That dialogical partner is not your mother or some outside authority; it is another part of you.” The weakness of the reversion between self and other caused by pathological or educational impairments will reduce the power of reflexivity, our primordial cognitive capacity.

The thinking aloud method showed itself a semiotic phenomenological instrument per excellence. It can be considered as an advanced instrument to study directly, using rigorous empirical conditions, the reversible relation between phenomenological perception and semiotic expression (verbalized inner speech). Although we have to proceed carefully when drawing conclusions about thought from verbalized inner speech, this method provides an effective way to assess self-talk. To detail the interplay between temporal and spatial aspects of reflexivity we should look into inner speech as a system of four components, as Lanigan (1992) claimed. Lanigan’s model could bring elements to bridge the gap between theories of the dialogical self and of the semiotic self, concerning the issues of space (multiple voices) and time (past-present-future relation). We also suggest an investigation focusing on the range of verbal tenses and adverbs employed in verbalized inner speech.

The main challenge in semiotic-phenomenological research is offering a unique description of the essential structure of the phenomenon under investigation and, at same time, a critical account provided through an external comparison with other descriptions found in the scientific literature. The qualitative nature of the phenomenon called verbalized inner speech was characterized as a reflexive, conscious process disclosed as temporal as well as spatial. The relationship between verbalized inner speech and self-reflection was defined in terms of an internal dialogue which emerged as utterances.

In the present study, the theoretical parameters of external comparison were the dialogical and the semiotic perspectives on self, and the empirical parameter was Bertau’s technique to investigate inner speech. The data confirmed the appropriateness of Bertau’s instrument, pointing out that it is able to reach the phenomenon of inner speech in the very moment that it is happening. It is an important step in the exploration of the constitution of meaning as a self-process. Note that self has been defined as a psychological process of meaning-generation and not as a product, as it has been used in psychological literature, for example, self-esteem and self-concept. However, the problematic relationship between time (semiotic self) and space (the dialogue among multiple voices) needs further examination. The Bertau instrument privileges time, not space. In that sense, the description analyzed by the phenomenological reduction strongly supports Wiley’s claims that reflection is internal conversation (inner speech). An instrument capable of bringing up the simultaneity of I-positions in the moment of its occurrence, as seen in fictional literature and in the clinical experience, is needed.

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