

Paradigmatic and Syntagmatic Analysis in Qualitative Research with Data of Human Language

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Abstract:

This article presents the Paradigmatic and Syntagmatic Analysis (PSA), a scientific approach/method for qualitative analysis of human language data. Created in Applied Linguistics, this inductive-deductive product fills gaps in well-known approaches and methods called Ethnography and Grounded theory. It enables one to answer research questions and generate data-driven theory, considering the data totality and their specificities, with analytical synthesis and without reproduction, mirroring and paraphrasing of data. It consists of two main phases, in the first - the paradigmatic one -, by vertically examining the data and creating classifications, which, in the end, are arranged harmonically in hypernyms and their hyponyms under a given dimension. In the second phase - the syntagmatic one - the researcher makes the assertions (answers to the research questions), using the classifications elaborated in the first phase and taking into account the epistemological and ontological power that the language exerts. As an approach/method, this scientific path is based on dialogical intersubjectivation and emancipatory ethical principles.

Keywords:

Paradigmatic and Syntagmatic Analysis (PSA). Qualitative research. Human language.

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In this article, I present the Paradigmatic and Syntagmatic Analysis (PSA) as a research approach and method of analysis constructed in Applied Linguistics to examine especially verbal data. Firstly, I refer to the context in which I have been developing PSA. In doing so, I expose characteristics and limits of major research methodologies and methods of analysis: ethnography and Grounded theory (GT). It is precisely their shortcomings that motivated me to develop PSA reasoning, principles, procedures and tools. Secondly, I present the ontology, epistemology and ethics of PSA. I then describe the procedures of PSA, from the preliminary data analysis to the final report of the investigation. As a means to construct knowledge, I conceive of PSA in a state of permanent incompleteness, provisionality and development, as the human language and much of the knowledge produced by humans have been.

CONTEXT OF ORIGIN

The Paradigmatic and Syntagmatic Analysis originates in my work with the Postgraduate Program in Language Studies from the State University of Londrina. It is the result of efforts to “make some Grounded Theory (GT) procedures didactic by means of linguistic concepts which can facilitate understanding the purposes of reading, coding, categorising and theorising” (REIS, 2015, p. 1). From the analytical method of the GT (GLASER; STRAUSS, 1967; STRAUSS; CORBIN, 1990), the PSA adopts the cyclic data readings, constant comparison and synthesis capacity. From the ethnographic methodology, PSA takes the principle of considering all data (ERICKSON, 2004). However, PSA differs from GT and ethnography by its anchoring in linguistic concepts and by the consideration of language as an instrument of power.

Ontology

Since human language is material for analysis, PSA has an essentially subjective, relational, relativistic, and critical ontology. Therefore, the researcher is an integral part of reality. What one knows, thinks, how one sees themselves and others, as well as the objects and phenomena around them, are linked to their own existence, individuality and ability to relate to the world and to others. In addition, reality is a field of ideologies and exercises of powers, which form it, through its members, just as it transforms them.

Epistemology

Therefore, the epistemology of PSA is relativistic, subjectivist, dialogic and critical. Knowledge is context dependent, open, dialogical, provisional, partial, invested with power, unfinished and necessarily imperfect as a human construction.

Ethics

PSA distinctive character is its understanding and practice of ethical principles in the construction of knowledge, regardless of the type of human language data, whether pre-existing at the beginning of the research or generated by it.

The understanding of ethics is no longer limited to the interests of the researcher who never returns to the research context but to use it as a source of data. The ethics I advocate for goes beyond the formal (CHRISTIANS, 2006) or bureaucratic one (REIS; EGIDO, 2017), which is based only on terms of the participants' free and informed consent, and, when appropriate, of the participants' parents/guardians.

I argue that the return of the researcher to the participants should be part of the very research methodology and it should be done before its end. This return of the researcher to the participants differs from returning them the research results, because the purpose of returning should go beyond the researcher's interests in obtaining the confirmation of analysis (respondent validation). Return is both a procedure and a process of power, something to be done with the possibility of relativizing the pretensions to certainties of the researcher. The intention in returning to the participants is to listen to their voices; it is to avoid making statements, which, in the form of intended knowledge resulting from the research, will harm the participants, their image, their self-esteem, their identity. This has been my defence in research because language does things to people. Therefore, if a research cannot strengthen its participants, it should not make them vulnerable.

PSA is characterized by understanding human language as an instrument of power; knowledge as relative, provisional, partial, always loaded with power; the voices of participants as indispensable for strengthening knowledge and knowers, their knowing, their reasons as part of the essentially dialogic, transformative and empowering construction of identities.

The inclusion of the participants' voices, for example, means the inclusion of dissenting voices. The work of analysis goes beyond the convenience of unanimous answers, the regularity of evidence of what is expected to be expressed in human language. The classification of the data results from the attempts to include what could be understood as differences: predominant x rare, eventual, uni-episodic; common x unusual. Unlike methodologies and methods which either indicate the purging of the dissonant, the deviant, the unusual, or the exceptional because they are of no use to support an almost unanimous assertion about a particular group of participants (e.g. GT), or one which recommends rephrasing the question (e.g. Ethnography), PSA proposes considering and keeping data which might be taken by others as unproductive. This is a decision of methodological,

ontological, epistemological, and ethical orders, for, if we bear in mind that we are dealing with human language, our ability to be in solidarity with the participant raises our awareness of the fact that exclusions mute individuals and this is an asymmetric exercise of power.

PSA requires the researcher to be careful when reporting the research, by making it with awareness of the power of language, from the classification of data in the initial phase to the final report writing¹. This power is in the language, in the user, and in the contexts where it is used and to which it refers. Therefore, for Language Studies, the use of a minimal linguistic unit endowed with meaning implies privileging a use to the detriment of other possible ones, with the semantic consequences that go beyond the material plane of language. These consequences can reinforce or weaken conceptions or prejudices, they may contribute to perpetuate or dissipate them.

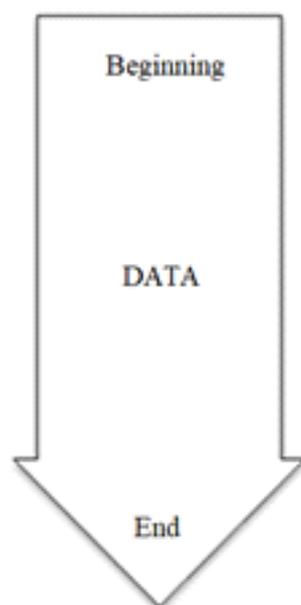
Having introduced the context of origin of PSA, its ontology, epistemology and ethics, I now share its methodological procedures.

PARADIGMATIC ANALYSIS

The paradigmatic attribute of PSA is due to the way the analysis begins and develops before reaching the next (syntagmatic) phase. The researcher reads the data several times for distinct and interconnected purposes: (1) to have a general understanding of the data content; (2) to know the relation of the data with the research questions; (3) to identify and annotate themes and their occurrences in the data; to identify convergent and/or divergent points; (4) to make inductive-deductive² analytical grids, for example, of each participant, and juxtapose the grids for alignment of convergent points/themes. Figure 1 indicates the direction of the cyclic reading of the data, in allusion to the paradigmatic direction of the reading process.

¹ See Reis (2014); Chimentão, 2016; D'Almas, 2016; Reis; Egido; Francescon (2017). I thank Alex Alves Egido for suggesting the inclusion of references.

² An analysis hardly starts and ends with classification annotations of data that are common to all participants. It is possible that, in search of answers to a given question, as one reads data from other participants, each individual set of data requires particular classifications. Faced with these demands, the researcher may either (a) draft additional classifications and modify previous ones; (b) or make only annotations to be sure, later on, about the sustainability of new classifications for recurrent data. After reading several times the entire dataset, the researcher is clear about which classifications were possible only at the beginning of the analysis or which ones applied only to one participant. The researcher knows what has become recurrent and what, even by a single occurrence, is an important point of contrast to be considered. Therefore, the researcher's challenge in PSA is to classify the annotations made throughout the readings of the data in hyponymic terms, first, and then, hypernymic ones.



Source: The author.

Figure 1 – Paradigmatic direction of the cyclic reading of the data

Currently, such alignments are facilitated by computational resources, which allow moving contents of cells so that they are viewable in a same line. It is in such line that we can see convergences and divergences and propose both hyponym(s) that fit them and their respective hypernym(s).

Throughout the readings and classifications of the data, the researcher should keep in mind in what terms the participant's language answers the research question(s). Since hyponyms and hypernyms are nouns, the language classification can be facilitated by completing this sentence: "The participant's response is in terms of ..."

Ideally, at the end of the paradigmatic analysis of the data of each participant, we have individual and global analytical grid(s). In the following example (Grid 1), the grid allows visualizing the synthesis reached, for example, after juxtaposing the analytical grids of all the participants. Grid 1 consists of four columns. From left to right, column I receives the hypernyms; Column II contains hyponyms that relate to the hypernym of the previous column. In column III are registered the participant(s) whose data are classified by such hyponyms and their respective hypernym. Column IV provides an illustrative excerpt of the classification to which it refers, and its content serves for constant reference, which contributes to avoid making overlapping classifications.

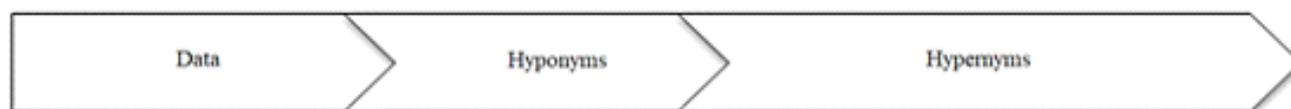
Grid 1 – Example of a paradigmatic analytical grid

I	II	III	IV
HYPERNYM A	Hyponym A	Participant(s)	Excerpt
	Hyponym B	Participant(s)	Excerpt
	Hyponym C	Participant(s)	Excerpt
	Hyponym D	Participant(s)	Excerpt
HYPERNYM B	Hyponym A	Participant(s)	Excerpt
	Hyponym B	Participant(s)	Excerpt
	Hyponym C	Participant(s)	Excerpt

Source: The author.

The hyponyms must be distinct from one another and, at the same time, interconnected by a hypernym. Hypernyms must be distinct from one another and not necessarily interconnected. When the meaning of one hypernym is very close to the meaning of another, hyponyms must be further elaborated, since they can probably be grouped with the hyponyms of another hypernym, and both their hyponymic denomination and their hypernymic connection may require renaming in order to make sense in these two orders.

To do an analysis, the starting point is the data and the arrival point is the hypernyms (Figure 2). These are equivalent to dimensions in terms of which interpretations can be reported. Hyponyms correspond to categories in GT. They allow hyponymic subdivisions, that is, subcategories in GT, for specificities and details.

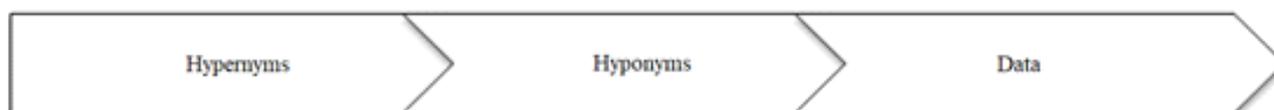


Source: The author.

Figure 2 – Sequence for analysis

Although the paradigmatic analysis is done with the same vertical and cyclical reading, by inductive-deductive method, as in GT, the purpose and form of the paradigmatic analysis are different. While, in GT, categories of little occurrence in all datasets (for example, all participants) are to be discarded, PSA can include them through hyponymic and hypernymic adjustments. Another distinctive feature of PSA is that the linguistic concepts of hyponym and hypernym make clear the task of analysing data (rather than reproducing, paraphrasing or mirroring them). This is not a concern of GT, nor of other research methodologies and methods of analysis, which do not restrict in research reports the use of reproductive terms, whether paraphrases or data mirroring.

PSA enables one to report the interpretations with the content of the analytical grid(s) in ways³ that are: synthetic, through hypernyms and hyponyms; analytical, avoiding reproduction of data; and concrete, by means of illustrative excerpts. For PSA, while interpretation efforts are made in a particular sequence (*viz.* Data > hyponyms > hypernyms), the research is reported in the reverse order (*viz.*, Hypernyms > hyponyms > data - Figure 3).



Source: The author.

Figure 3 – Sequence for analysis reporting

As for styles of reporting analytical interpretations, PSA allows them to be succinct, without affecting their rigor (e.g. REIS, 2014; SENEFRONTE, 2014; CHIMENTÃO, 2016; D’ALMAS, 2016; REIS; EGIDO; FRANCESCON, 2017). For the sake of methodological transparency, especially when it comes to dissertations and theses, I recommend presenting as appendices all the analytical grids constructed throughout the research, including those with the initial classifications of the data, in order to show their refinements⁴. In addition, to facilitate understanding of what each dimension, category and subcategory means, the researcher offers a glossary, usually before presenting their interpretations. The terms of the glossary apply to the context of the research being reported (thus, the subjectivist, relational and relativistic epistemology of PSA), and it can be partially or fully used in other analyses. When such is the case, glossary terms (classifications) play a deductive role in analysis and can be maintained or discarded throughout the classification of data from another research. The researcher refers to the origin of each term borrowed from previous research, and this practice contributes to the continuity of our research pavement. Examples of research reports with glossaries constructed by means of data analysis are the theses by Coradim (2015), Chimentão (2016) and D’Almas (2016).

SYNTAGMATIC ANALYSIS

The syntagmatic attribute of PSA refers to the horizontal direction of the researcher’s gaze into the relations between the dimensions resulting from the paradigmatic analysis

³ These possibilities of PSA also distinguish it from Ethnography, since this methodology and method requires dense, detailed, descriptive and informative research reports, including self-explanatory data excerpts bare of the researcher’s analytical assertions.

⁴ See Senefonte (2014); Coradim (2015); Chimentão (2016); D’Almas (2016).

(Figure 4). I emphasize that the syntagmatic analysis differs from syntactic, phrasal, or syntagmatic, grammatical ones, which need not only adopt their linguistic descriptors and, not infrequently, express results or analyses in these forms - to the detriment of the meanings and power of the language analysed. I understand that researchers interested in reporting meanings can refrain from using linguistic terminology.



Source: The author.

Figure 4 – Direction of the researcher’s gaze into ideas in order to establish relations between them

Instead of limiting the possibilities of language under linguistic descriptors^{5,6}, PSA deals, in the phase of syntagmatic analysis, with the relations that, in exposing their interpretations, the researcher establishes between ideas constructed in the paradigmatic phase of analysis. In other words, PSA does not have the linguistic prominence as its purpose in research reports, because it is committed to the content and meaning of the language and not in a static, predictable, supposedly stable way. PSA sees language as dependent on its context of origin, on the subjectivity of those who interpret it, on power relations among social actors. I am also reaffirming the ontological and epistemological properties of PSA.

At present I understand that ideas (i.e. what we say about the hypernyms and their hyponyms) can be enunciated in order to express a diversity of meaning effects when we relate one idea to another. Some examples: addition, asymmetry, association, causality, comparison, concession, competition, consequence, contrast, coordination, custody, dependency, discrimination, dispute, exception, exclusion, inclusion, independence, inferiority, integration, opposition, symmetry, subordination, superiority, etc.

When making certain choices of language use, the researcher exerts powers that serve, directly or indirectly, to promote, among many possibilities, the establishment, strengthening, questioning, weakening and/or overcoming of values and ideas. Therefore,

⁵ I thank Dr. Lilian Kemmer Chimentão, for reading this text and for suggesting the inclusion of examples.

⁶ Examples: phrases (e.g. nominal, adjectival, adverbial, verbal, prepositional); coordinated (e.g. syndetic or asyndetic), subordinate (e.g. noun, adjective, adverb) sentences; in types of phrases (e.g. nominal, verbal, interrogative, declarative, exclamatory, imperative, optional) etc.

in the phase of the paradigmatic analysis as well as in the syntagmatic one, decisions made by the researcher may imply in considering or disregarding what might be taken as exceptions, deviations or differences.

TRANSIENT CONSIDERATIONS

In concluding this writing, I would like to highlight two essential elements of PSA as a research methodology: its dialogical and ethical principles. Dialogism, through intersubjectivation⁷ of analysis (which may also contribute to the scientific rigor of studies), involves other users of language in the two phases of PSA. In the first, for confidence in the pertinence, intelligibility of classifications; for support to solve doubts in the analysis (e.g. CORADIM, 2015, CHIMENTÃO, 2016, D'ALMAS, 2016). To the researcher novice in the use of PSA, the figure of an experienced peer is fundamental for analytical classifications to be made with confidence – an essential requirement for the research development. In the second phase, the intersubjectivation of analyses welcomes discussion and questioning of implications arising from the analytical statements, specifically about the ways in which ideas are materialised by means of the researcher's report⁸.

Without consideration of others and their voices in the construction of knowledge, the chances of dialogism, of intersubjectivation are non-existent. The dialogism postulated by PSA requires that *the researcher meet the participants again and learn from the feedback they will give upon knowing the content of the research report before its completion*. Learning from the Other requires receiving doubts, questions, corrections and requests for suppression⁹ that the other may make; it also requires sharing with the participant the reconsiderations in the final research report made in response to the participant's voice.

Dialogism, therefore, is a requirement for the practice of an *emancipatory ethics* in research. This kind of ethics values the voice of, and thus empowers, the Other. It can be thought of when conceiving of research, and its realisation in practice has been possible in several studies (FRANCESCON, 2014; REIS, 2014; SENEFONTE, 2014; CORADIM, 2015; CHIMENTÃO, 2016; D'ALMAS, 2016; REIS, EGIDO, 2017; REIS; EGIDO; FRANCESCON, 2017), including projects under development (see SENEFONTE, 2016; SECCATO, 2017; PETRECHE, 2017).

⁷ For a reference to intersubjectivation by human instruments, see Reis 2008.

⁸ The construction of knowledge in this second phase is supported by the reading, questions, suggestions and critique by peers. These are examples of thesis references that have gone through this second phase with the participation of several members of the Language & Power research group: Coradim, 2015; Chimentão, 2016; D'Almas, 2016.

⁹ D'Almas (2016) received from one of her participants a request for suppression of information that would not necessarily compromise the final report and which would spare the participant from possible erosion of a social relation. I thank Dr. Juliane D'Almas for suggesting mention of this information in this text.

Writing about PSA (see its constitutive synthesis on Grid 2) requires me to look back on research practices in recent years, allows me to claim that as a method it is being improved since it is in the involvement with analytical tasks that difficulties arise to be understood, explained and overcome. This retrospection on knowledge in construction allows me to share it herein, with the wish that it can illuminate the research path of other researchers; that future experiences with PSA provide critique to lapidate and strengthen it in the area of language studies.

Grid 2 – Paradigmatic and Syntagmatic Analysis (PSA)

Characteristic	Phase	Paradigmatic	Syntagmatic
<i>Nature</i>		Qualitative	Qualitative
<i>Ontology</i>		Subjectivist and critical	Subjectivist and critical
<i>Epistemology</i>		Contextual, relational, relativist, dialogic, critical	Contextual, relational, relativist, dialogic, critical
<i>Objective</i>		To classify data in hyponyms and hypernyms	To establish relations between ideas considering issues of power
<i>Direction of reading</i>		Vertical, cyclical	Horizontal
<i>Reasoning</i>		Inductive-deductive, critical	Critical
<i>Products</i>		Analytical Grids	Assertions
<i>Attention</i>		Power relations, overlapping	Power relations
<i>Intersubjectivation</i>		Dialogical	Dialogical
<i>Ethics</i>		Emancipatory	Emancipatory

Source: The author.

FINAL ADDITION

In this section, I suggest reading it as an appendix, as I bring the first essay on PSA in its embryonic phase back in 2015. While it allows the reader to know the developments of this methodology and method of analysis, the essay provides specific information on the methodologies and methods from which PSA differs. I then proceed to illustrations of PSA principles, its constituent elements (specifically, hypernyms and hyponyms) and the result of their application, through analytical excerpts from concluded research. Hopefully, this addition in the present manuscript will be enough to share the understandings that allow me to systematise PSA.

This was the first systematisation of the PSA, on April 28, 2015:

PARADIGMATIC AND SYNTAGMATIC ANALYSIS

Simone Reis

Paradigmatic and Syntagmatic Analysis (PSA) is a qualitative approach created in Applied Linguistics to examine (especially verbal) language data. It was developed in my research in the field of Cognition, as well as in my research advisory of masters and doctoral students at the Graduate Programme of Language Studies from the State University of Londrina.

PSA is an attempt to make some Grounded Theory (GT) procedures didactic by means of linguistic concepts that can facilitate understanding the purposes of reading, coding, categorising and theorising. I am aware that, when pronouncing linguistic concepts, I can cause confusion to researchers familiar with the Grounded theory method (since 'concept' in GT is in the intermediate phase between coding and categorisation).

Before presenting the characteristics of PSA, I will refer to GT. This is both an approach and method option. As an approach, GT can be classified as a post-positivist option, since it seeks to formulate theory grounded in the data (therefore, different from a theory-driven approach, i.e. the deductive application of theory on data). Initially, its precursors (Glaser and Strauss, in the 1960s) emphasized that the method was distinguished by constant comparison of the data, by means of inductive-deductive analyses. They proposed the initial sampling of data for inductive analysis in order to generate an analytical grid, to be used in further deductive-inductive examination of the rest of the data. The first grid could be expanded and modified, and the changes made would imply re-reading all data, hence the constant comparison.

I learned GT at the beginning of this millennium, only, through Strauss and Corbin's publications from the 1990s. These authors propose the systematic examination of the data and the progression of its method of analysis in phases known as (1) codification, (2) conceptualisation, (3) categorisation and (4) theorisation. The authors have kept the principles of sampling, constant comparison and cyclic reading of the data. In their writing of the 1990s, Strauss and Corbin cite the biological area as an example of a GT beneficiary. The authors consider, for the purpose of illustration, a GT-based research to identify a particular disease. The authors then refer to other GT principles: exclusion of data, which do not support the emerging theory; further data collection during the process of analysis, in order to obtain data that support such theory.

Although GT's usefulness has been indicated for ethnographic studies, my interpretation is that its contribution is restricted to the inductive-deductive analytical method initiated by sampling and subsequently by constant comparison over cyclical, recursive readings of the data. I argue that GT, by discarding data that may offer counter-evidence to the emerging theory, distances itself from ethnography. This,

as we know, has as a principle the consideration of the totality of the data, and in case of change in the initial research plan, it only demands rephrasing the research question in order to allow consideration of the whole data set.

One difficulty commonly experienced by researchers unfamiliar with GT is precisely how to code, conceptualise, categorise and theorise. Thus, initially, in the coding phase, and here I am stepping into PSA, annotations of what is recurrent in the language data, either in vocabulary form (recurring words), or through phrases (impressions and or interpretations of the researcher) can be annotated on the margin of the usually transcribed data. Since this initial phase of analysis, reproduction, mirroring and paraphrasing of the data are avoided (which is a concern neither of GT nor of ethnography). For this, the annotations must resort to the concept of hyponym, which in itself is already a category subordinated to hypernyms (another central linguistic concept in PSA). Examples of hyponyms are: car, bicycle, truck. An example of a hypernym for these hyponyms may be a means of transportation.

As in GT, PSA starts with the analysis of a sample of the data aiming at the generation of an analytical grid. The difference is that PSA generates grids containing, preferably, hyponyms. Other features of the PSA in common with the GT is that the former requests recursive¹⁰, inductive-deductive reading of the data, for the purpose of adjusting the analytical grids until a version that best applies to the set of data is reached. The direction of the reading of the data is paradigmatic, from the beginning to the end (and for further reading).

The analytical grids generated through PSA should be refined by grouping the same types of occurrences as well as similar categories (hyponyms). This can be done on the computer with an ordinary processor such as the Microsoft Word. The purpose is to reduce as much as possible the number of hyponyms, without blurring the meanings of the data. Both hyponyms and hypernyms are revised for their maximum reduction.

All analytical grids are saved for records of the analytical reasoning¹¹, as it is sometimes necessary to return to hyponyms and or hypernyms proposed earlier. Moreover, this record enables making explicit to the external reader that the analysis, accessible through the research report, was not immediately clear and ready, but it stems from a systematic and careful process of data classification and revision.

The paradigmatic analyses are successful when the initial analytical grids are subjected to the so-called Triangulation by Human Instruments (REIS, 2008), that is, an intersubjectivation of the analysis (REIS, 2008, CORADIM, 2008, D'ALMAS,

¹⁰ In Portuguese, I prefer the term *cyclic* to *recursive*.

¹¹ I recommend including as appendices all analytical grids in masters and doctoral theses.

2011; LOPES, 2013, SENEFFONTE, 2014, CHIMENTÃO, 2014, CORADIM, 2014, REIS, 2014).

PSA demands, at a certain point, juxtaposing the analytical grids generated with the data, in order to identify characteristics sustained across them. Senefonte illustrates this process, which allows dismissing data not proven consistent (exclusion principle). However, data can be discarded only after finishing the analysis of all data, unlike in GT, which may dismiss unproductive data during the analytical process.

Data used for theory generation, according to the scheme proposed by the adviser, Dr. Simone Reis.



Source: SENEFFONTE (2014, p. 112).

The analytical grids constructed through the paradigmatic analysis must be read in the form of statements made available by means of the exhaustive examination of the data and the processes of revision of the hyponymic and hypernymic categorisations. The assertions will always go from the general to the specific, therefore, from the dimensions to which categories are subordinated, in the GT, making reference to such categories in the enunciation of the theory. In PSA, statements also depart from the general to the specific, hence, from hypernyms to hyponyms. I recommend keeping this feature in the final research report.

Assertions in PSA are primarily in the form of isolated phrases. Therefore, the researcher should examine the possible relations between one statement and another. The syntagmatic phase of the analysis lies in here, when the researcher's gaze is no longer in a paradigmatic direction, but seeks to establish certain links among the ideas derived from the previous analytical phase. At this point, language is an instrument of power through which the researcher can convey ideologies, as well as exert other possibilities, such as establishing, strengthening, perpetuating, questioning, destabilising, breaking with or offsetting values, concepts and social practices of inclusion or exclusion, of freedom or oppression. These are examples of articulation between sentences whose difference in meanings makes the syntagmatic reflection essential in PSA:

Luzia was a brilliant student, adopted by a European couple, *but* she was born in Colombia.

Luzia was a brilliant student, adopted by a European couple, *and* she was born in Colombia.

Ontologically and epistemologically, PSA is compatible with interpretivism and social constructionism. I argue that the emancipatory ethics is a requisite for legitimizing the knowledge that one seeks to construct. In other words, the rigor of a method is not enough; rigor also demands consideration of the other and their voice.

In comparison with consolidated approaches and methods such as ethnography and GT, PSA is still in an early stage of development. Therefore, as it is adopted and practiced with the initial support of experienced peers, it can be improved; PSA's potential can be known, and its limitations identified by language scholars.

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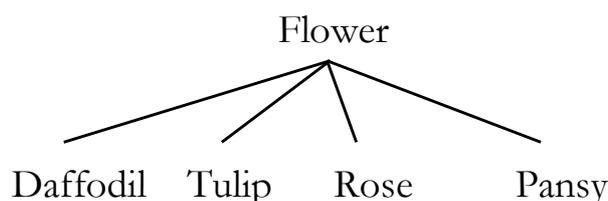
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In the first PSA systematisation essay (2015), I presented two of its central elements of linguistic origin by means of examples: the hypernym and the hyponym. It had relied on the reader's ability to apprehend inductively the conceptual meaning of each term. I herein share my knowledge of both: *Hypernym* and *Hyponym* are lexeme designations, defined by the types of relations they hold together. They are particular topics in Semantics (e.g. LYONS, 1977). In this field of Linguistics, what we find first, in general, is the definition of Hyponyms. Hypernym is mentioned in the definition of hyponyms (e.g. LYONS, 1977; MANSOURI, 1985; RIEMER, 2010), whereby, a hypernym is a lexeme superior to a hyponym. A hyponym is subordinated to or contained or may be included in a hypernym. However, it is the hyponym the type of lexeme that appears in the table of contents of the books.

The etymology of Hyponym is Greek ('under' + 'name'). In the last century, the term hyponymy was "coined by analogy with synonymy and antonym" (Lyons, 1977, p. 291). However, the term "refers to a much more important sense relation" than the synonym or antonym (CRYSTAL, 1995, p. 166). The idea in Lyons (1977) that the hyponym "describes what happens when we say 'X is a type of Y'", is taken up in the following decades by linguists and semanticists. These are some examples of the hyponymic relation expressed by such formula:

- A pine is a kind of tree. (MANSOURI, 1985, p.77)
- A daffodil is a kind of flower. (CRYSTAL, 1995, p.166).
- A DVD is a kind of video. (RIEMER, 2010, p.143)
- A horse is a kind of animal. (CANN, 2011, page 456)

Crystal illustrates the relations between lexemes by means of a diagram displaying the more general term placed at the top (the superordinate term or hypernym: flower) and the more specific terms below (hyponyms: daffodil, tulip, rose, pansy).



Hypernym (Greek ‘above’ + ‘name’) refers to the more general lexeme (LYONS, 1977) whose relation to one or more lexemes is by superordination (LYONS, 1977; MANSOURI, 1985; RIEMER, 2010). The hypernym¹² is at the top of the hierarchy of hyponyms (RIEMER, 2010). In this case, the other lexeme(s) is (are) (a) hyponym(s), therefore, subordinate to a hypernym. To put it in another way: a “set of things denoted by a hyponym is a subset of the set of things denoted by the superordinate” (CANN, 2011, p. 456).

In the grammar of the Portuguese language, I found definitions of hypernym and hyponym in one book only, namely Mesquita’s (2007). The author placed both terms under a lexicology topic and offered a phrase to explain each of them, with examples predominantly in the form of nouns and one example of a verb. The grammarian defined hypernym as “the word that has a more general meaning in relation to others of a more specific sense” and hyponyms as the “words of a more specific sense in relation to others of a more general sense” (p. 121).

Hypernym and hyponym escape the definitions of the printed Aurélio Dictionary (a Portuguese language dictionary), but they both appear in online dictionaries. Their definitions are very similar to those brought by Mesquita (2007) - Hypernym: ‘relative to or a word that establishes a relation of more generic sense with another of a more specific

¹² Riemer (2010) uses the term *hyperonym* (p. 142).

sense ... superordinate' (MICHAELIS); "A term with a more generic sense in relation to a more specific one. Relative to the term whose meaning is more generic than other" (DICIO).
- Hyponym: "In a relation of hyponymy, it is said of or term of meaning more specific than another more generic" (MICHAELIS); "A term with a more specific meaning in relation to another with a more general meaning. Relative to the term whose meaning is more specific than another" (DICIO).

Although the dictionary definitions are clear, these sources fail, when they indicate that the antonym of hypernym is the hyponym (e.g. Michaelis and Dicio) and vice versa (Dicio). I understand that, given the superordinate relation of the latter to this, and consequently of subordination of this to that, these linguistic concepts cannot be antonyms, since semantically they are not opposites, but connected simultaneously. The very examples of hypernymy and hyponymy offered by dictionaries allow us to refute the idea that these types of terms are antonyms. We need only look at their superordinate/subordinate relations and their scope/specificity:

Examples of hypernyms:

A flower [...] a hypernym of rose, daisy, dahlia etc. (Michaelis)

A feline is a cat's hypernym. (Dicio)

A flower is a hypernym of daisy (Dicio)

Examples of hyponyms:

A lemon is hyponymic of citrus. (Michaelis)

An apple is a hyponym of a fruit. (Dicio)

A toad is an amphibian hyponym. (Dicio)

'Rose' is a 'flower'; 'rose' is not an antonym of 'flower'; 'flower' is not the antonym of 'rose'. 'Citric' is a quality of a 'fruit'; 'citric' is not an antonym of 'lemon'; 'lemon' is not an antonym of 'citrus'.

The structure of reasoning with which we understand when a lexeme is synonymous with another is: "If x is a hyponym of y and y is a hyponym of x, then x and y are synonymous" (LYONS 1977, p. 292). In the paradigmatic analysis phase of PSA, overlapping by means of synonymous classifications is not allowed, since everything that is synonymous fits in the same hyponym or hypernym.

Unlike the reasoning underlying the synonym (of intransitive relations between lexemes), a "hyponymy is a transitive relation. If x is a hyponym of y and y is a hyponym of z, then x is a hyponym of z" [...] Two examples: a 'cow' is the hyponym of 'mammal' and 'mammal' is a hyponym of 'animal' (LYONS, 1977, p. 236); a 'Sports car' is a hyponym of 'car' and 'car' is in turn a hyponym of a vehicle (RIEMER, 2010). In Semantics, the expressions that inform the relation between different types of lexemes are taken to be analytical. E.g. "A tulip is a type of flower" (LYONS 1977, p. 292).

z = Animal
y = mammal
x = cow

Also:

z = Fauna
y = animal
x = cow; x = macaw; x = snake; x = frog; x = bee

When a hypernym (superordinate lexeme) applies to more than one hyponym, expressions such as these are accepted: “cows and other (kinds of) animals”; “Tulips and other (kind of) flowers” (LYONS, 1977, p. 293). In relations between lexemes, one may be hyponymic of another or two (or more) lexemes may be co-hyponyms (e.g., cow, macaw, snake, frog, bee are co-hyponyms of ‘animals’).

Specialized references bring examples of hyponyms and hypernyms predominantly with examples of concrete nouns. Lyons (1977) includes verbs as a possible class for both types of sense relations. Example: for the hypernym ‘get’, the hyponyms “‘borrow’, ‘win’, ‘catch’, ‘find’, ‘grasp’ etc.” (p. 298).

In Semantics it is said that the classification of concrete nouns by the test of the formula (X is a type of Y) works fine, and that when it comes to abstract nouns, especially related to emotion, thought or opinion, this is “metaphysically more challenging” (CANN, 2011, 456). I will now add examples of hypernyms and hyponyms, using abstract nouns and verbs. Pay attention to their superordinate/subordinate relations, and their scope/specificity.

Hypernyms	Hyponyms
Cognition	Attention, concentration, memory, intelligence, thought
Emotions	Joy, sadness, fear, shame, anger
Feelings	Tenderness, love, contempt, hate
Attitudes	Dedication, interest, care, respect
Human Attributes	Cognition, emotions, feelings, attitudes, strength, dexterity
Thinking	Analyse, synthesise, distinguish, predict, hypothesize, infer

Semanticists resort to the tree-schematic representation of the relations between hypernym and hyponyms. For the purpose of illustration, I draw only on the lines of the structures with which Lyons (1977, p. 295) and Mansouri (1985, p.76), respectively, represent relations among lexemes:

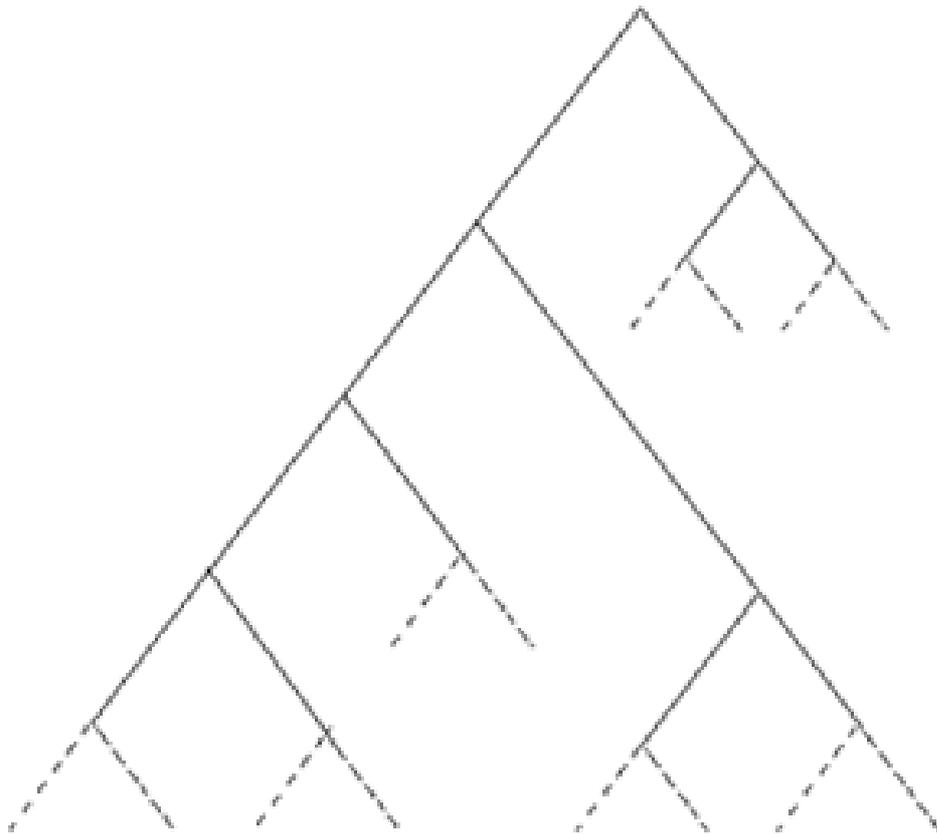


Figure 5 – Visual illustration form adopted by Lyons (1977, p. 295)

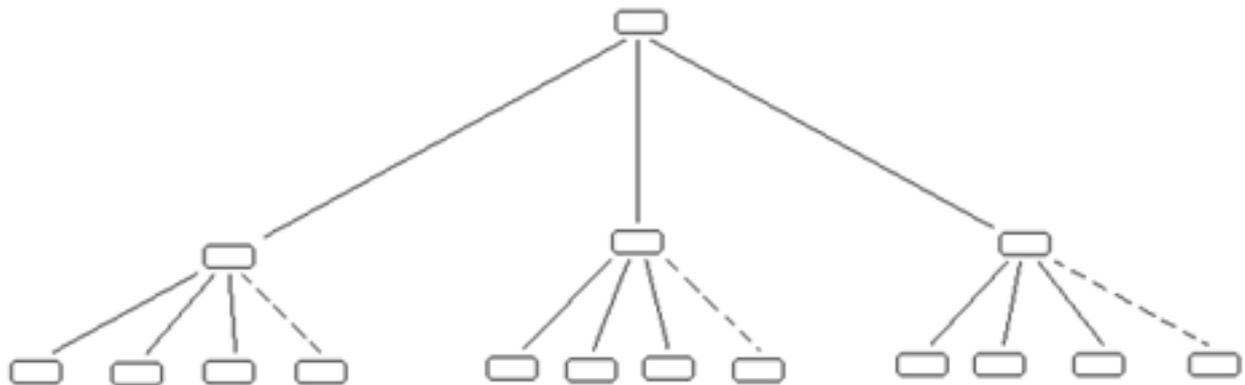


Figure 6 – Visual illustration form adopted by Mansouri (1985)

According to Lyons (1977), in certain cases, “a hyponym encapsulates the sense of some adjectival modifier and combines it with the sense of the superordinate lexeme” (p. 293). For example, when considering a type of an animal, it can be “a big one” (p. 293). “This does not mean that the hyponym is always equivalent to, or synonymous with, a phrase in which the superordinate lexeme is modified by means of one or more adjectives” (p. 293).

In the analytical grid from Senefonte (2014), we have, from left to right: the hypernym ('slang and teaching', in the Dimensions column), a series of hyponyms (in the Category column). All hyponyms on the same column relate to one another as co-hyponyms. In the third column, we read another series of hyponyms (i.e. sub-hyponyms in PSA). In this column, in some cases, an adjective modifies the hyponyms (e.g. 'restricted', 'positive', 'negative', 'real', 'virtual', 'free', 'contextualized', 'methodological'). The cells of the last two columns on the right (displayed empty) are used to indicate the location of the data classified.

Dimensions	Category	Subcategory		[Lines]		
				Zara	Valentina	
SLANG AND TEACHING	Semantic field of slangs	Restrict				
		No answer				
	Materialization in classroom	Positive				
		Negative				
	Method	Real	Free e contextualized			
		Virtual	Materials			
			Form of interaction			
	Difficulties	Semantic				
		Outdated				
		Methodological				
	Potential	Attractiveness and importance				

Source: Senefonte (2014, p. 163).

In Chimentão (2016), in one of the analytical grids, we read the hypernym ('Self') on the first line, embedding the Categories (hyponyms), Subcategories (sub-hyponyms) and 'Participants' columns. Note that the Categories column is filled with nominal hyponyms ('personal achievement', 'gain'); the Subcategories column is filled with nominal hyponyms ('overcoming', 'interpersonal relationship', 'skills', 'integration', 'education') and with adjectival hyponyms ('cognitive', 'professional', 'experiential', 'contextual', 'identity').

SELF		
Categories	Subcategories	Participants
PERSONAL ACHIEVEMENT	Professional	
	Overcoming	
GAIN	Interpersonal Relationship	
	Cognitive	Experiential
		Contextual
	Professional	Abilities
		Integration
		Education
Identity		

Source: Chimentão (2016, p. 177).

Lyons (1977, p. 294) also points out that “verbs, adjectives, adverbs and other parts of speech cannot be inserted into the formula ‘x is a type of y’ without prior nominalization” - observation repeated by Mansouri (1985). In one of the analytical grids related to one of the three dimensions reported in her research, Coradim (2015) subordinates the hyponymic classifications (from phase 1 to phase 5) to a hypernym (‘Action’). Note should be made of the hyponyms modified by adjectives (e.g. ‘student’s *pedagogic* action’; ‘teacher’s *pedagogic* action’).

ACTION				
1 st phase	2 nd phase	3 rd phase	4 th phase	5 th phase
Student’s pedagogic action	Student’s pedagogic action	Student’s pedagogic action		
Teacher’s pedagogic action	Teacher’s pedagogic action	Teacher’s pedagogic action	Teacher’s pedagogic action	
Alternative	Alternative		Alternative	Alternative
Impediments	Impediments	Impediments	Impediments	
Uncertainty	Uncertainty		Uncertainty	
		Work mode	Work mode	Work mode
Planning	Planning	Planning	Planning	
Projection (action)	Projection (action)	Projection (action)	Projection (action)	
Didactic resource	Didactic resource	Didactic resource		Didactic resource

Source: Coradim (2015, p. 317).

In the analytical grid extracted from Egido (2018), we see the use of nominal sub-hyponyms ('sufficiency', 'insufficiency' - subordinated to the hyponym 'retrospection', and 'tradition' and 'innovation', subordinated to the hyponym 'prospection') and two adjectival sub-hyponyms ('scientific', 'didactic'). Both Hyponyms ('retrospection' and 'prospection') and their sub-hyponyms are linked to a Hypernym ('cognition').

Hypernym	Hyponyms	Sub-Hyponym	Excerpt
COGNITION	Retrospection	Sufficiency	
		Insufficiency	
	Prospection	Tradition	
		Innovation	
		Scientific	
		Didactic	

Source: Egido (2018, p. 92-94).

With respect to inserting “other parts of the speech” (LYONS, 1977, p. 294), in D’Almas’ (2016) analytical grid, hyponyms and sub-hyponyms were elaborated to answer a research question that implies in the hypernym ‘Development’. On the grid I bring, for this illustration, *circumstances*, that is, another part of speech (in Lyons’ terms), are delimited temporally (Column instances, with the ‘Pre’ and ‘Post’ hyponyms). Understanding these instances is possible because the nominalization is done in both the research question (displayed at the top of the grid) and in the columns of adjectival Hyponyms (Column Themes) and nominal sub-Hyponyms (Column Experiences).

What sense(s) of personal and professional development do the participants' reports allow me to interpret as a reflection of their critical literacy?			
Themes	Instances	Experiences	Location in data
PERSONAL	Pre-CL	Passivity	
	Post-CL	Empowerment	
		positive cognitive gains (balance, security, personal satisfaction)	
PROFESSIONAL	Pre-CL	Passivity	
		cognitive block and negative emotions	
	Post-CL	Empowerment	
		positive background gains (confidence, awareness)	
		Expansion of scopes	

Source: D'Almas (2016, p. 269).

I stress that Semantics does not suggest the conceptual use of Hypernym and Hyponym for qualitative analysis of human language. For Linguistics, these concepts are important in language learning issues and, especially, for the making of dictionaries, because one term leads to another (CRYSTAL, 1995).

Although Hypernym and Hyponym are described and explained in Semantics, when I started developing PSA, such knowledge served especially and promptly for clarity of analytical thinking about (and neither reproductive of nor mirrored in) the data. These concepts illuminated but did not prescribe that the analytical paths would be made in such a way as to confirm certain delimitations offered by Semantics.

Due to the volume of research data that I have been conducting and advised, analytical classifications have been done mainly in grids, which allow for notes regarding the evidence location in the data. In the typical tree-representation forms, from Semantics, of the link between lexemes (e.g. LYONS, 1977; MANSOURI, 1985; CANN, 2011), there is no physical space for annotations as afforded by the grid format adopted by PSA.

Therefore, I emphasize that Linguistics has great importance for PSA, a role of conceptual illumination in its paradigmatic phase. By no means does this imply that the researcher should communicate the results of an analysis in metalinguistic terms. In my understanding, such metalanguage should be restricted to the phase of examining, reading, interpreting and classifying data.

Hoping that the distinction between Hypernym and Hyponym is sufficiently clear, I understand that the place of these informative and illustrative details is indeed in this appendix, for, otherwise, they could draw from the reader the attention to the ontological, epistemological, methodological, and ethical constituents of PSA.

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