

# Fragmentary Narrative and the Formation of Pre-Digital Scholarly Hypertextuality:

## G. Leopardi's *Zibaldone* and its hypertext rendition

Silvia M. Stoyanova

Princeton University, French and Italian  
317 E. Pyne, Princeton, NJ 08542, USA

(001) 646-420-4335

E-mail: sms27@yahoo.com

www.zibaldone.princeton.edu

### ABSTRACT

Native scholarly hypertext is a rare genre which issues from a particular cognitive experience that is difficult to translate in expository academic writing. The fragmentary form of some research note collections of eminent unconventional intellectuals from the pre-digital age exhibits the groundwork of hypertext. Giacomo Leopardi's *Zibaldone* is one such text comprised of ca. 10,000 internal and external references, and thematic indexes with ca. 11,000 referenced fragments. The TEI encoding of the manuscript and its hypertext rendition, undertaken by a group of scholars and technologists at Princeton University, provide insight into the genesis of dialectical thought, grapple with the inadequacy of current technology to represent its hypertextuality, and raise questions about hypertext's potentialities for being adopted by scholars today.

### General Terms

Design, Human Factors, Theory

### Keywords

Fragmentary narrative, pre-digital hypertext, scholarship, cognition, dialectics, Giacomo Leopardi, *Zibaldone*

## 1. CRITICAL DISCOURSE AND THE COGNITIVE DEMAND FOR HYPERTEXT

"All profound knowledge, even wisdom proper, is rooted in the *perceptive* apprehension of things. [...] All original and primary thinking takes place figuratively."

– Schopenhauer, "On Genius" [14]

Close to a century ago Walter Benjamin observed that the book in its horizontal two-dimensional form, in which it had been settling since Gutenberg, was becoming ossified and obsolete, as visual perception was being violently absorbed by vertical print in the form of advertisements. At the same time, this dialectical reversal of script into three-dimensionality had the potential to become the

qualitative metamorphosis of its "original runic form", while the scholarly book itself would be "an outdated mediation between two different filing systems", "For everything that matters is to be found in the card box of the researcher who wrote it and the scholar studying it assimilates it into his own card index" ('Attested Auditor of Books', *One-Way Street*) [4]. Benjamin further envisions writing's advance into the realm of graphics and poets having to master the fields of the statistical and technical diagram.

Despite the fact that with the advances of digital technology the three-dimensionality of text has gained even more grounds and that, as Landow writes, "the standard scholarly article in the humanities or physical sciences perfectly embodies the concept of hypertext as multi-sequentially read text" [9], few poets and even fewer academics have adopted its narrative potential.<sup>1</sup> Among the latter, David Kolb has been a powerful but lone voice. In the article "The Revenge of the Page", Kolb addresses the rarity and difficulty of creating complex link-sequences and questions whether the ideal of complex linking is viable or even useful to scholars, surmising that there must be few styles of argumentative narrative that actually require such representational structure [7]. I believe that this question is essential for the future development of hypertext, insofar as the use of a technology should respond to a real need, and suggest that examining the structural challenges of certain 'incomplete' fragmentary pre-digital non-fictional narratives will give a key to understanding the nature of cognitive perception that generates critical discourse in need of hypertext mediation. Kolb's conclusion that the complex texts envisioned by hypertext theorists require readers and writers to develop "both a sense of detail and a vision of the whole, seeing how what is happening in this bit relates to the others and to the emerging whole (or self-conscious non-whole)" [7] resembles F. Jameson's description of the arduous task of writing dialectical criticism: "The peculiar difficulty of dialectical writing lies indeed in its holistic, 'totalizing' character: as though you could not say any one thing until you had first said everything; as though with each new idea you were bound to recapitulate the entire system" [6]. In fact, one famous author of scholarly notebooks that never became a book, the French moralist Joseph Joubert, bemoans precisely

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<sup>1</sup>Landow has argued extensively that the ideal text of postmodernism shares the hypertext features of multi-sequentially, multi-linearity, interconnectivity, and openness [9]. His insistence on the multiplication of paths, rather than on the diffuse notion of hypertext as negating linearity, points to the underexploited potential of hypertext for constructing complex relativistic hierarchies.

this “cursed ambition to always put a whole book in a page, a whole page in a sentence and this sentence in a word” [3]. It is difficult to translate dialectical thought into expository writing, because it is the product of a heightened awareness of the continuous transformations of individual notions as they form and partake of larger collective unities. The result of dialectics’ holistic ambition is instead a series of fragments, whose systematic unity can emerge only for its “very active readers” (to use Landow’s definition of the ideal reader of hypertext [9]). Benjamin’s unfinished *Arcades Project* has become paradigmatic for its practice of dialectical criticism: “One fragment lights up another fragment; one section, or collection of fragments, lights up another section. Conversely, no one fragment and no single section acquires its full potential for generating meaning, unless placed in relation with the larger whole” [13], but its many insightful critical mediations have not attempted its intended further articulation, because they operate at a more monolithic stage of discourse, for which print is an adequate medium. It is the medium of hyperspace that instead can and should strive to embody the holographic interrelatedness of such apparently disjointed narrative corpora.

The difference between the difficulty of representing dialectical thought procedure and the difficulty experienced by authors of native hypertexts, which would partially account for the rarity of true scholarly hypertexts, is authorial control (in fact, Kolb also observes that “so far complex link patterns have mostly been set-up by single authors in control of a large text” [7]). The authors of native hypertexts write from an omniscient point of view and their difficulty in pre-determining all the possible outcomes is that of putting together the pieces of a very large puzzle, but there is no novel learning experience in the process, just the honing of existing skills. Such pseudo-dialectic undermines precisely the celebrated function of hypertext as the medium of postmodern narrative. The textual form risks becoming the goal, but, as Kolb had written in an earlier article, “hypertext is a technology, not a literary genre” [8]. Hypertext construction should be the means of communicating an argument rather than its end; it should assist the author in mediating the figurative space of conceptualization and the narrative medium of language. Hypertextuality should naturally issue from the struggle to communicate a novel cognitive experience, but it should also be grounded in the author’s existing means of expression. Technological tools that do not directly evolve from the limitations of the existing medium (which for the majority of humanities scholars is Microsoft Word) are a deterrent even for those academics whose argument naturally prompts them to draw hierarchical relations beyond footnotes and endnotes.<sup>2</sup> There are many gradations in the demand for hypertextual mediation, for which hypertext needs to provide more hybrid versions of itself. The lack of such tools and the rarity of genuine hypertextual perception of reality are responsible for the stunted horizontal growth of hypertext, discussed by Kolb, and for the predominance of its “degenerate use”, as Ted Nelson

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<sup>2</sup>The fact that the footnote not only continues to be the single structural device of semantic hierarchy in scholarly texts, but is explicitly discouraged by the majority of academic journals, manifests the blatant reluctance of academia to accept any form of divergence, exposing the hypocrisy of its rhetorical embracing of pluralistic ideologies. Or perhaps it simply reflects the actual paucity of genuinely pluralistic dialectical thought in academic production.

rightfully laments [11]. Thus, digital humanities projects tend to use hypertext technology for the purposes of storing and organizing contextual information to digital editions of classical texts, utilizing multiple media sources that expand upon the text, but the text itself remains intact in its fetishized perfection. Fictional hypertext also tends to be less dynamic than the authorial effacement it pretends, for the reader may have choices in selecting various readings but the author has pre-determined all the possible sequences in a closed system. Such hypertext construction is reminiscent of the late Renaissance absolute mastery concealed under the guise of *sprezzatura*. In the Romantic period, however, absolute mastery fails the aspirations of totalizing vision, giving birth to a fragmentary sensibility, of which (just like in the case of hypertext) much has been written but little has been seen in practice, while those texts that do follow the romantic ideal of the fragment as a large collective singularity of infinite potential for association, lack active readers to keep refashioning them with new perspectives, in the manner of Novalis’ ideal reader, who as a virtual “extension of the author [...] separates out again the unformed and the formed aspects of the book” [12].

The current practice of hypertext writing appears to be at the stage of a dialectical reversal from the two-dimensionality of word processing to a cognitively flat three-dimensionality, similar to that of print’s reversal in the early 20<sup>th</sup> century from the linear form to the vertical. We should therefore heed Benjamin’s ironic warning that direct access to the scholar’s card index and statistical diagrams are everything we need. Instead, dialectical thought requires plenty of mediation from the level of syntax to the level of structural argumentation, and this is precisely where hypertext technology could flourish – in facilitating the construction and navigation of dynamic constellations of relations, representing the gravitational power of nodes, which are in constant flux as new connotations and relations are formed by subsequent readings.

## 2. FRAGMENTARY NARRATIVE AND THE BIRTH OF VIRTUAL HYPertext

“...certain genius intellects penetrate the mysteries of nature, discover and see so many things that the copiousness and profundity of their conceptions impedes their clarity and order in communicating them to others; [...] [these] are not capable, because of their excess, to be determined, circumscribed, reduced to a product.”

– G. Leopardi, *Zibaldone*, pp. 1176-78 [10] (my translation)

In the early 19<sup>th</sup> century, the child prodigy, classical scholar, poet and virulent critic of society and human mores, Giacomo Leopardi, lamented his excessive propensity for projects and their scant realization, conveying his struggle to lend order to the profundity and multiplicity of insights, gathered, on the one hand, by virtue of a cognitive disposition he ascribes to genius intellects, and, on the other, necessitated by the increasingly encyclopedic nature of reality. The imbalance between the depth of comprehension and its formal externalization produced the *Zibaldone* (“miscellany”) – a massive manuscript of 4,526 pages written over the course of 15 years in the form of fragments of various lengths, from a paragraph of a few lines to several dozen pages, divided by their date of composition. It is the record of Leopardi’s critical dialogue with major figures and themes of the

Western cultural heritage from classical antiquity to the early decades of the 19th century, spanning the fields of anthropology, aesthetics, philology, ethics, cognition and psychology, and so it is foremost a scholarly text. Such a long and extensive discourse becomes highly allusive: its concepts, having accreted multiple meanings, evoke other contexts, connotations, associations, for which the numerous footnotes and marginal comments interspersed throughout the manuscript became inadequate. Leopardi then resorted to the expedient of a virtual hyperlink by writing pointers at the end, the beginning and within paragraphs to the location of other semantically related fragments, thus generating thousands of internal references during the composition and especially during various stages of re-reading his manuscript. The function of these virtual hyperlinks is both organizational (written in retrospect) and generative of new text (indicating the continuation of previous reflections). While some references can fall under the category of the footnote or a simple one-step extension, many form more complex structures with multiple generations of semantic association, where the order and hierarchy are quickly lost if we attempt to follow them in print. Digital technology's cut and paste feature would have resolved some of the former fragmentariness, but only hypertext can adequately contain the latter, which is inherent in the kind of perception that generated the text. Not surprisingly, the *Zibaldone* has been compared to a hypertext since the early 1990s and the notion continues to gather critical attention today.<sup>3</sup> Besides establishing associations between semantic units, Leopardi proceeded with the structural organization of his manuscript by composing a detailed Index based on index cards for the purposes of publishing scholarly works. In addition, there is a partial index of eight overarching themes listing a great number of paragraphs, which would have served as titles of books or treatises. In the indexes Leopardi tags under themes and sub-themes (usually multiple times) almost every single paragraph (ca. 11,000), generating a tight grid of semantic associations, whose interconnectivity demanded so much material effort for moving to the next stage of copying by hand and placing fragments in their numerous possible orders that it arguably discouraged the author not only from proceeding with his project, but also from continuing his entries (there are only a couple hundred pages written after the indexing) – a hypothesis argued extensively by S. Acanfora [1].

While the limitations of the medium proved insurmountable even to an extraordinary intellect like Leopardi who pushed the limits of available organizational techniques and of human memory, the computer technology available today has not created, to my knowledge, effective tools to respond to his challenge, nor does it recognize it as such. Investigation into the cognitive procedure of perception should be the starting point of understanding and designing hypertext. I share Ted Nelson's belief that hypertext has taken a path which has stifled its potential, because its use has been diverted from the original intellectual demand to represent the complex order of simultaneously perceived interconnections. Nelson, whose vision of hypertext was prompted by his own experience of the limitation of paper as medium for ideas springing fast in all directions and of the struggle to record their associations in expository prose, imagined in the 1960s that

<sup>3</sup>The University of Barcelona recently hosted a conference on the subject. For an overview of comparisons to hypertext see my article in the conference *Proceedings* [15].

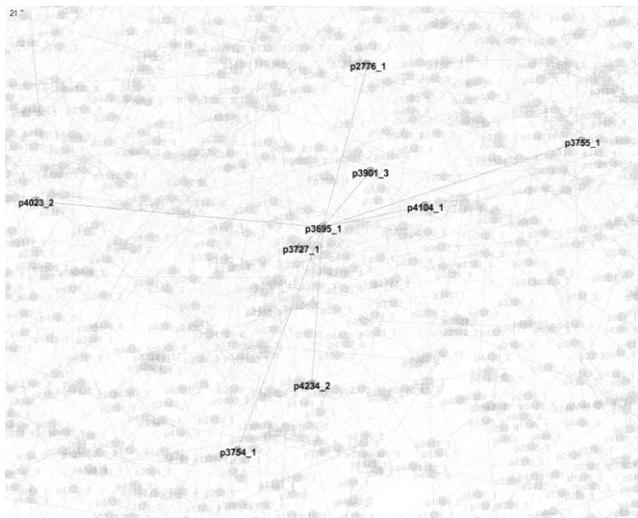
hypertext technology would transform writing: "But it seemed to me that as soon as you have computer storage you could put every point you wanted in – make the ones that are less relevant to your central topic, further away or allow the central topic to move as the reader proceeded. So, that notion of hypertext seemed to me immediately obvious because footnotes were already the ideas wriggling, struggling to get free [...]. So, the point was to be able to have a medium that would record all the connections and all the structures and all the thoughts that paper could not" [9]. Not only has writing not been transformed, especially in the context of academia, but there seems to be no urgency to make changes. The same cognitive challenge to privilege a line of discourse which gives birth to hypertextual perception tends to be dismissed and attributed to a condition psychology calls Attention Deficit Hyperactivity Disorder, or, more simply, to a lack of discipline, as was famously the case with the original author of the romantic fragment, Friedrich Schlegel.<sup>4</sup> The fragmentary in the romantics' case, as it is in Leopardi's, is symptomatic not of inability to think systematically, but of ability for perceiving patterns that exceeds the agent's need for identity and its system-building. Conversely, its myopic criticism comes from the limited perspective of rigid teleological intentionality – that of Schopenhauer's "man of deeds", whose intelligence is bound to the service of the will [14] and unproblematically subjects phenomena to its objective, because it lacks the excess of awareness which instead allows to perceive the autonomous agency of the analyzed phenomena and, hence, their associative potential. The wish to preserve the multiplicity of potential paths is not a desire to relieve the agent of the burdens of selection and of negation, but to affirm the validity of all phenomena by engaging in a more comprehensive and precise process of selection, where each finds its most appropriate place. Anyway, the burden of selection is always there, but the distinction between a deficit of attention for the task at hand and an excess of attention which is therefore free to follow through on multiple associations simultaneously, is lost from the standpoint of instrumental intentionality, to which the comprehensive three-dimensional figurative perception of concepts (Leopardi calls it *colpo d'occhio*, after Montesquieu's stroke of an eye) appears as disconnected fragments. Finding the means to represent this vision is, in fact, the paradigmatic challenge emerging with Romanticism both as a reaction to the no longer feasible encyclopedic aspirations of the 18<sup>th</sup> century and as the consequence of a profoundly dialectical perception of reality whose power of attention supersedes that of the instrumental will and its productive drive.

Leopardi's *Zibaldone* and other similar texts, such as the *Arcades* of Benjamin, the *Notebooks* of Joubert, of Lichtenberg, Coleridge, Schlegel, Novalis, Nietzsche, Musil, among others, present fragmentary, yet coherent, complex narratives which have escaped the author's omniscience because reaching such depth of associations demands the transcendence of the will, thereby lending that agency to the observed phenomena, preventing the

<sup>4</sup>In the Foreword to F. Schlegel's *Philosophical Fragments* Rodolphe Gasché writes that critics of Jena romanticism have attributed F. Schlegel's propensity for and promotion of the fragmentary mode to his difficulty in "disciplining his intellectual energy", to "a discrepancy between his creative abilities and his monumental plans [which] added to his developing a habit of jotting down his thoughts at the moment they occurred." [5]



Some of the features under development are graphically distinguishing the semantic relevance of link generations, adding the content of external references by utilizing Google library, a more sophisticated search function, adding custom user annotations. However, we have faced technical impasse in the attempt to create a more dynamic hypertext that would render the simultaneity of interconnections, such as having multiple windows with referenced text open, and exploit the representational power of hyperspace by navigating the whole text as a picture, where one can zoom in and out, explore chronological and thematic regions in their granularity and cross-sections, see link generations distinguished in different colors, follow the gravitational pull of semantic relations, descend to the level of index tags and even text. Currently available graphic technology does not allow the combination of index tags, paragraph numbers and dates into a single node. Figure 3.3 below shows the starting point of such a dynamic truly three-dimensional hypertext, where clicking on a node (here par. 3695,1) would highlight the paragraphs referenced in it and those that reference it, distinguishing them, their generations, showing their index tags, chronological relation, textual content, etc.



**Figure 3.3. Zibaldone Hypertext Research Platform, Gephi graph showing par. 3695,1 with one-generation links in the larger background of the manuscript.**

The hypertext rendition of the authorial design already gives the text a more proper form and its utilization will bring greater understanding of the nature of fragmentary writing, but how does one write about such a text? What technology could be used for the appropriate mediation of a hypertext that already contains multiple orders of mediation? How does one proceed from the statistical diagram and graph, from the overview of the interconnections to narrative exposition? If hypertext represents the stage of arriving at three-dimensional writing, how do we reach a dialectical union with its previous stage, so that it merges with the book rather than continue on a mannerist path? How do we begin practicing the romantic and avant-garde theories of exploiting disposition to enhance the quality and minimize the quantity of exposition? It is time to generate hybrid forms, where the standard academic writing would gradually adopt those hypertextual features it necessitates for its purposes of argumentation. This is not just a matter of exploring the potentiality of digital technology but an imperative, given the exponential growth of information which we experience to a much

greater degree than the romantic generation, whose consequent frustration with the encyclopedic interconnectedness of reality was transcended by the fragmentary form. The book is not an obsolete mediation but its current mode of individualized critical discourse, driven by the productive paradigm of identity-building as intellectual property, is. The critical mediation of texts, which aspires to the dialectical synthesis that would preserve the fragment while subsuming it into a system, needs a hypertextual medium of exposition that would show the original context while accumulating additional ones, allowing to observe the qualitative changes each fragment undergoes, as well as the larger shifts in the semantic patterns sketched by constellations of fragments. Can hypertext be used to form communities of scholars in the humanities who would collaborate on texts, link to the original sources of bibliographical material directly, build more structural information, which would be expandable or contractable on demand, and allow readers on occasion to enter directly into their card index? Can we bring into practice the romantic ideal of the critic as an author to the second degree?

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