

The aesthetics of materiality in electronic literature

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According to the French author and theorist Jean-Pierre Balpe, “all digital art works are first conceived outside the framework of a pragmatic relation to materiality. Any manifestation of digital art is but a simulated moment of an absent matter.”¹

However, the notion of materiality in new media has been emphasized by various theorists. In *The Language of New Media*², Lev Manovich examines the materiality of new media – that is, the influence of the computer’s interface and operations, its logic and ontology, on the production, distribution, and reception. Manovich proposes five “principles of new media” – to be understood “not as absolute laws but rather as general tendencies of a culture undergoing computerization.” The five principles are numerical representation, modularity, automation, variability, and transcoding. According to Manovich, the key difference between old and new media is that new media is programmable. The closest we can get to the *materiality* of a new media object is by talking about the numbers and formulas that constitute it.

As for Katherine Hayles³, she stresses the idea that cyberculture should help us rethink the relationships between form and content, more specifically between the material aspects of the medium used and the generated content. She points out that a book (and print culture in general) is not just a channel carrying the *voice* of an *author*, but a material structure which not only helps us to think and write, but which determines our thinking and writing in every possible way. “In the age of the immaterial, *Writing machines* compellingly argues that all the forms of literature are inescapably material”, writes Andrew Blauvelt on the back cover of the book.

Following these authors, I wish to show that there is at least as much materiality in the digital media as in other media. Of course, as a formal description, digital and material can be distinguished. Digital media correspond to formalization, insofar as formalization is understood as the modelling of a given reality through the use of a formal code. But because digital medium refers to the effectiveness of digital calculation, it can be considered as “material”, at least on two levels:

- on the level of what occurs in the machine, calculation being a material process,
- on the level of what occurs in the interaction with the user, a symbolic and behavioral interaction, in which the system acts on the user and is acted by the user.

The question of materiality is indeed related to that of the media. Yves Jeanneret insists upon this materiality, when he says that “the power of writing is primarily related to the materiality of its media.”⁴ Unlike those who present digital writing as deprived of any materiality, Yves Jeanneret points out the materiality of this form of writing : “In addition to its own materiality (network, memory, screen, keyboard, etc), computerized writing is a repeat, a quotation, a *mise en abyme* of all the materialities of the documentary culture. Digital writing does not amount to a loss of materiality. In fact, materiality is not absent from digital writing.

¹ Jean-Pierre Balpe, “Une esthétique du tragique”, <http://www.ciac.ca/magazine/perspective.htm>

² Lev Manovich, *The Language of New Media*, MIT Press, Cambridge, 2001.

³ Katherine N. Hayles, *Writing Machines*, MIT Press, Cambridge, 2002.

⁴ Yves Jeanneret, *Y a-t-il vraiment des technologies de l’information ?*, Editions universitaires du Septentrion, 2000.

On the contrary it is doubly there, it is materiality squared : the materiality of the media, and that quoted by the media.”⁵

A work of electronic literature seems to rest more on the materiality of the media than a printed work does. A work on paper usually proposes a materiality which appears *natural* to us. However in electronic literature, the conventions of manipulation of the reading device are not established, either because they are still in construction, or because they will never be able to be *naturalized*. The materiality cannot indeed be *erased*, not only because it is a new materiality, but also because there is a materiality in itself in digital media.

In electronic literature, this materiality is often used for aesthetic purposes. The *Trésor de la Langue Française*⁶ gives a definition of literature as « the aesthetic use of the written language ». This definition may seem very narrow, especially since it doesn't take oral literature into account. However, what we can observe in many digital literary works is a shift from the “aesthetic use of the written language” to the aesthetics of materiality : materiality of the text, of the interface and of the medium.

That is what I shall show on the basis of a corpus of electronic literary works.

⁵ *Ibid.*, p.116.

⁶ <http://atilf.atilf.fr/tlf.htm>

Materiality of the text

The aesthetics of materiality, in electronic literature, is first of all aesthetics of the materiality of the text. In *Vingt ans après*⁷ by Sophie Calle, the text is programmed – with the *Flash* software, to react to the actions of the reader. In the figure above, the text is in movement⁸, responding to the moves of the mouse cursor. The reader *manipulates* the text, these manipulations giving the text a form of materiality. The figure of appearance-disappearance staged in the narrative (a woman appears and disappears, followed by a private detective) is here materialized through the spatio-temporal dynamics and the manipulations of the reader.

The emphasis put on the materiality of the text goes together with a shift from narrative to poetics⁹. The poetics is indeed more sensitive to the graphic and phonic materiality of language.



Figure 1. *Vingt ans après*.

*Les Pages blanches*¹⁰ is a hyperfiction made up of a few fragments. At first sight, it is not the material dimension of the text that prevails. However, one can notice that the hyperlinks are constituted by blanks in the text. The reader must click on these blanks to access another fragment. The blanks, which are *actable*, gain a form of materiality, insofar as the reader can have grasp on them.

⁷ Sophie Calle, *Vingt ans après*, 2001, <http://www.panoplie.org/ecart/calle/calle.html>

⁸ There printed screenshot can here not display the dynamics of the text.

⁹ Jean Clément emphasized this idea while analyzing *Afternoon a story*, de Michael Joyce (« Afternoon, a story, du narratif au poétique dans l'œuvre hypertextuelle », in A:\LITTÉRATUREØ, numéro spécial des Cahiers du CIRCAV, Actes du colloque Nord Poésie et Ordinateur, 1994, CIRCAV-GERICO, Roubaix, 1994).

¹⁰ Mark Etc, *Les pages blanches*, 1995, <http://archives.cicv.fr/HYP/>

Excusez-nous, mais vous êtes trop vieux, l'aventure ce n'est pas pour vous. Vous avez épuisé la parole, vous l'avez jauni sur les papiers de Vichy, vous nous lèguez le silence c'est beau le silence derrière les barbelés des dents, on ne risque plus de ne pas se comprendre... vous comprenez, vous nous avez trop rebattu, assourdi par la répétition, les torsions de sens. On connaît la musique de votre langue par coeur. Place aux jeûnes, ne parlez plus, jeûnez. Et les mots mutent en mute .

Figure 2. *Les Pages blanches* : in this fragment, the two hyperlinks are two blank spaces in the text.

In *E-cris* by Luc Dall'Armellina¹¹, narrative texts unfold before the reader's eyes until he/she uses the mouse cursor to choose one : the selected text will be used as a prime material from which the reader will select words, one after the other, to write his/her own text (Figure 3). The reader will then choose another text to continue to write his/her *personal* text.

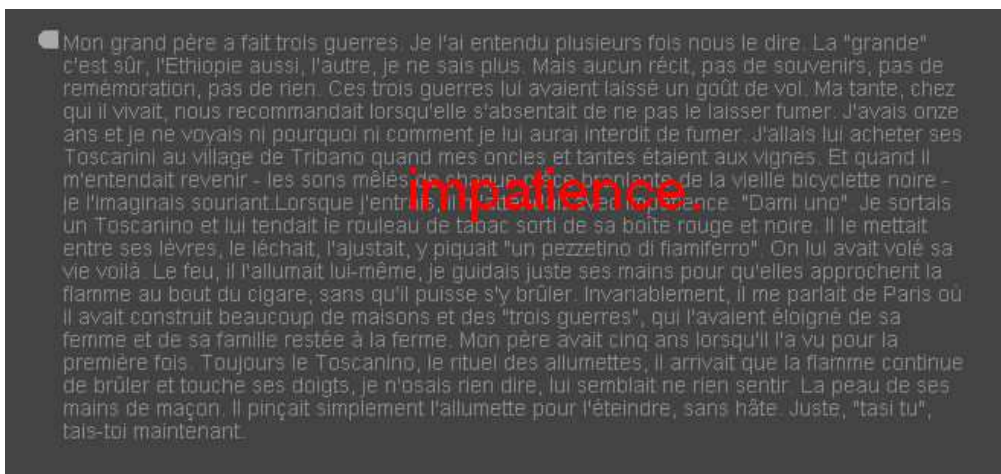
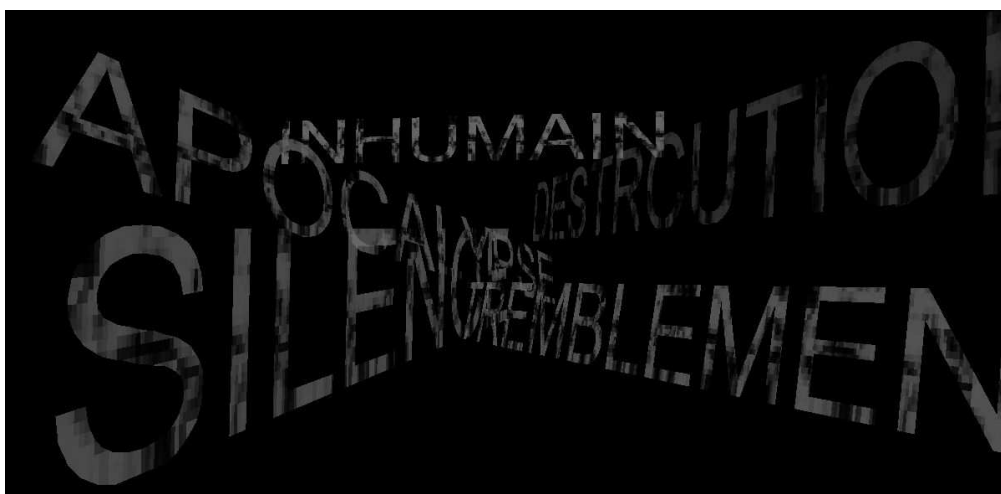


Figure 3. *E-cris*, by Luc Dall'Armellina.

In one of the sections of *Incident of the last century* by Gregory Chatonsky¹², the reader moves around in a 3D world composed of words (VRML technology). The text is not only spatialized, but given to explore in a tridimensional space. The reading consists in moving in an *immersive* way between textual blocks so that they might be apprehended and interpreted.



¹¹ Luc Dall'Armellina, *E-cris*, 2001, <http://lucdall.free.fr/disposit/e-cris.html>

¹² Grégory Chatonsky, *Incident of the last century*, 1998, www.incident.net/works/incident_of_the_last_century/

Figure 4. *Incident of the last century.*

In all the examples above (*movable, actable* or *explorable* text), the materiality of the text can not be dissociated from the action of the reader. The text on screen is not only another materialization of a meaningful form. It is the gesture of the reader which *reveals* the materiality of the text. One can wonder if the *nature* of a digital text is not to be *manipulable* more than to be *readable*.

Materiality of the interface

The authors of electronic literature are attempting to reach new stylistics. This stylistics would bind rhetorical figures and material figures, thus exhibiting the technical nature of these works. The material figures are first of all *interfacic* figures, such as the windows system.

Let's take an example. In the interactive narrative *NON-roman*¹³, the rhetorics of the hyperlink is associated with material figures in relation with the handling of frames and windows¹⁴. Episode 2 brings two characters face to face : “Madame” and “Monsieur”. They live under the same roof, but have parallel lives. The layout in two frames allows an adequation between form and content. The reader can choose at first to “follow the course of Madame” or to “follow the course of Monsieur”. If the reader chooses “Monsieur”, a first narrative fragment is displayed, including two hyperlinks (figure 5).



Figure 5. *NON-roman.* The reader chooses the « course of Monsieur ».

¹³ Lucie de Boutiny, *NON-roman*, 1997-2000, <http://www.synesthesie.com/boutiny/>

¹⁴ Cf. Serge Bouchardon, « Hypertexte et art de l'ellipse », in *Les Cahiers du numérique, La navigation*, vol. 3-n°3, p.65-86, Paris, Hermès, 2002.

The anchor of the first link (« vite », i.e. « quick ») is located at the end of the first paragraph. The reader can thus be tempted to click on this link without finishing the reading of the fragment. The character, who just parked his car, is directly in front of his building in the next fragment. The course from the parking to the building has been skipped. *A contrario*, if the reader takes the time to read the whole fragment, he/she will follow the whole course of the character. The hyperlink on “vite” allows a leap in time that G. Genette calls “ellipse” (Genette speaks of “vitesse” – “speed” - about the figure of ellipse). The adverb “vite” reinforces for the reader the idea of an acceleration of the narrative and of a leap in time (confirmed by the temporal mention : from « 19.56 » to « 20.01 »). Concerning the handling of the screen field, the second fragment replaces the first one, in the right frame, without any means to come back (the “previous” button of the browser has been disactivated).

Now, if the reader clicks on the second link (« ét.3 / porte fd », that is floor 3, backdoor on the right), a description of the apartment (« Monsieur & Madame habitent un 60 m2 [...] ») appears in a window inside the window of the narrative (figure 6). Behind this link, there is the complete description of the apartment. This link is the only way to access this description : if the reader clicks on the other link (“vite”), he/she will never read this description. In a way, one can say that this link *contains* the description of the apartment. It functions in the same way as a synecdoche. The synecdoche¹⁵ implies indeed an inclusive relationship (for example a “sail” for a “boat”) ; it consists in taking the whole for a part and vice-versa. In the link (« ét.3 / porte fd »), the part (the text of the link) refers to the whole (the totality of the descriptive fragment). When he/she clicks on the link, the reader can not anticipate this inclusive relationship ; this relationship is reconstructed *a posteriori*. However, the material architecture gives clues to the reader : the inclusive relationship is materialized in a small window which appears in the window of the narrative ; this graphic status is an indication on the status of this fragment on its position in the hierarchy of the narrative. The meaning effect of the link is here associated with the acknowledgement of a graphic materiality. The games on the windows and on the inclusive relationship are associated.

¹⁵ “In synecdoche, (Greek for « taking together »), a part of something is used to signify the whole, or (more rarely) the whole is used to signify a part » (M.H. Abrahams, *A glossary of Literary Terms*, Holt-Saunders International Editions, 1984).

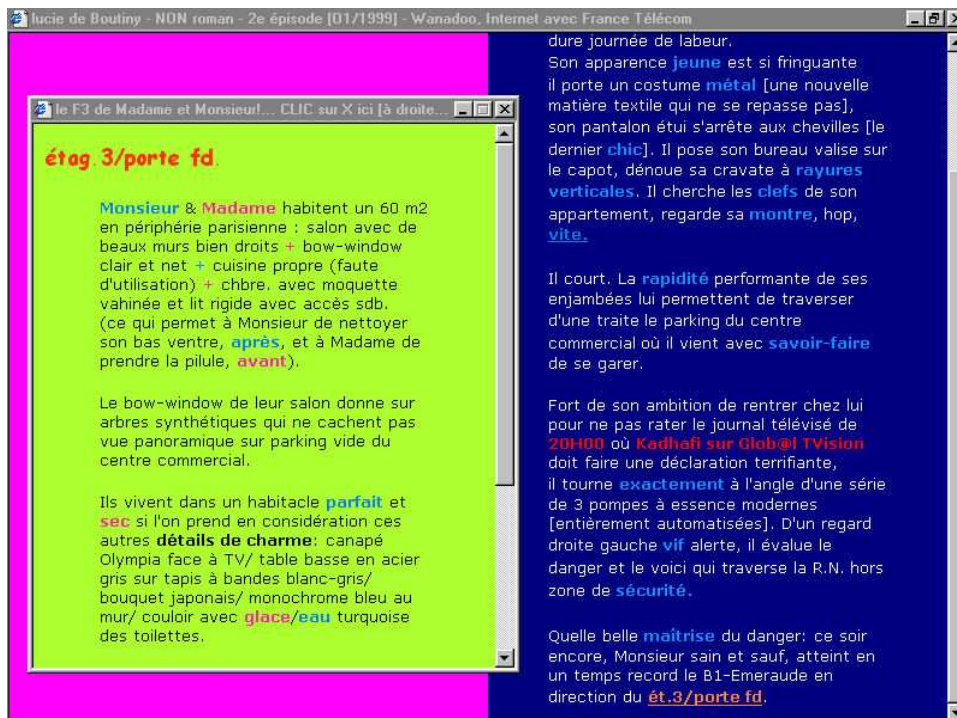


Figure 6. If the reader clicks on the link « ét. 3 / porte fd » (last words on the right), a new window appears in front, materializing the synecdochic link.

Thus, clicking on the link « « ét. 3 / porte fd » (figure 6), with its synecdochic value, and seeing a window appear in the foreground, leads to the interpretation of the synecdoche and provides literary and aesthetic pleasure on witnessing the visual materialization of the rhetorical figure.

If the reader restarts episode 2 and chooses to follow “Madame”, a narrative fragment appears in the left frame. Madame is watching a sitcom on television : a young lady gets out of her “convertible car” (“décapotable”). If the reader clicks on the link “décapotable”, the first fragment concerning “Monsieur” is displayed in the right frame. The association is allowed by the presence of the car. The reader has the impression that the word “décapotable” refers directly to Monsieur (“Monsieur claque la portière de...”). *Behind* the word “décapotable”, there is Monsieur. This hyperlink has a metonymic function¹⁶. With this link, a metonymic value appears which sums up “Monsieur” to his car.

The reading of the fragment with Monsieur is of course not the same if the reader has read the episode of the sitcom just before. Monsieur is then associated with an artificial and stereotyped sitcom character (“Pétula siliconée”), who can be summed up to a flashy car. This is Madame’s point of view about her husband that the reader is invited to share. The metonymic effect of the hyperlink serves the narrative.

¹⁶ “In metonymy (Greek for « a change of name »), the term for one thing is applied to another with which it has become closely associated in experience. Thus « the crown » or « the scepter » can stand for a king.” (M.H. Abrahams, *A glossary of Literary Terms*, Holt-Saunders International Editions, 1984). Thus, the metonymy associates two things with a “necessary relationship : the instrument for the user, the cause for the effect, the container for the content...” (B. Dupriez, *Gradus, Les procédés littéraires*, 10/18, Paris, 1984).

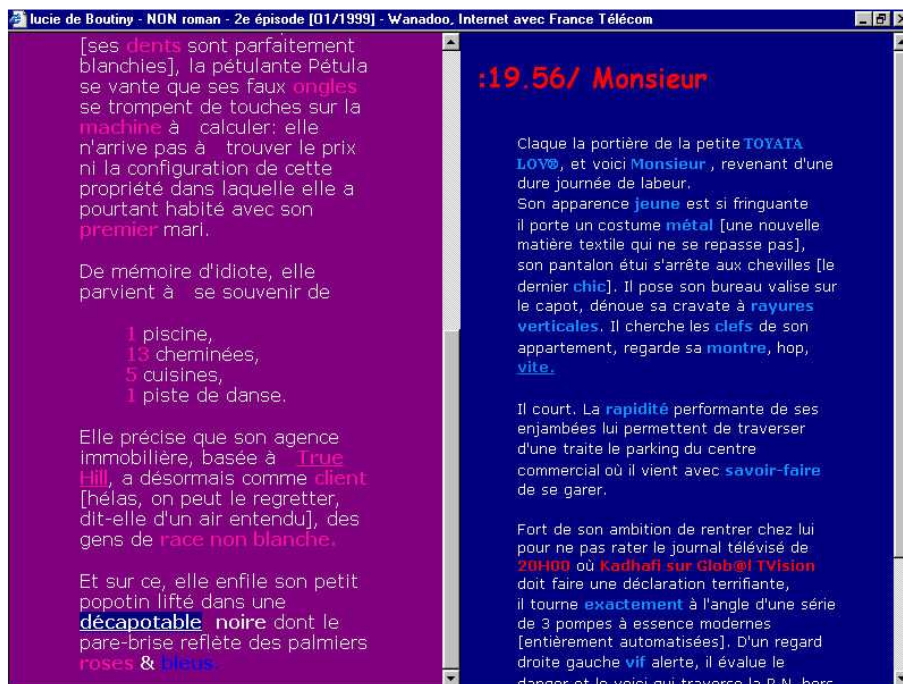


Figure 7. The link on « décapotable » (left frame) gives access to the narrative fragment dedicated to « Monsieur » (right frame)..

In *NON-roman*, the play on the semantics of the link can therefore not be dissociated from the way the material space is handled in the narrative. We have analyzed that :

- the narrative ellipse gets all its efficiency from a substitution of a fragment by another in the same frame, without any coming back allowed (jump into time),
- the metonymy relies on the confrontation of two fragments in two juxtaposed frames (necessary relationship),
- the synecdoche is associated with another smaller window in the foreground (inclusive relationship).

In this episode of *NON-roman*, the functioning of the hyperlink is efficient because a narrative or a rhetorical figure is associated with a material figure (in this case a frame or a window). It is through this association that one can speak of materiality of the interface.

Other authors build the interface of the work as an art piece. For example, in his interactive and generative narrative *Trajectoires*¹⁷, Jean-Pierre Balpe worked with students in design to conceive a visual, but also sonic interface (figure 8). The literary goal is combined here with an aesthetic goal.

¹⁷ Jean-Pierre Balpe, *Trajectoires*, 2001, <http://trajectoires.univ-paris8.fr/>

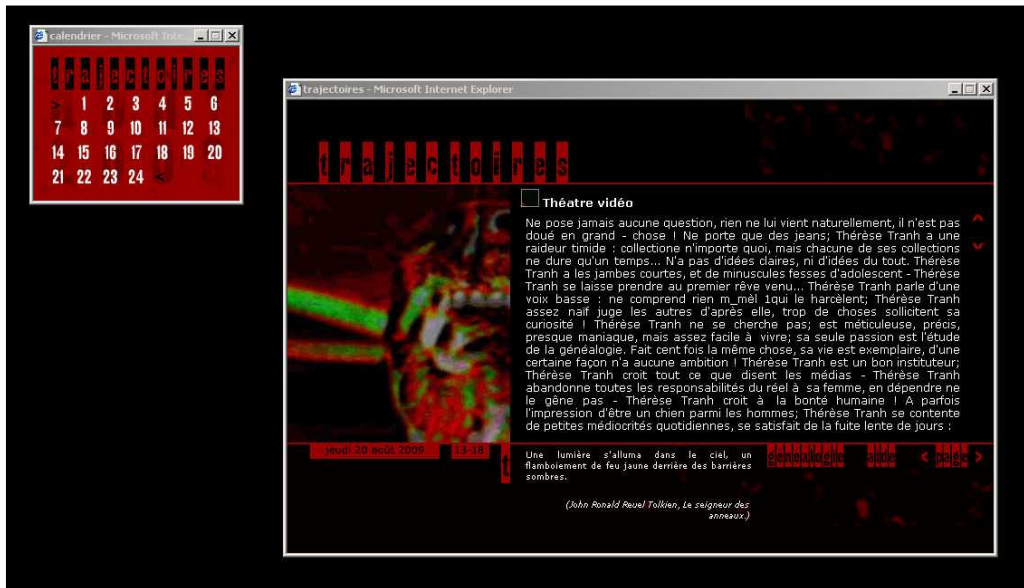


Figure 8. The interface of Trajectoires.

Materiality of the medium

At last, various authors stress what may be called aesthetics of the materiality of the medium. This can already be noticed in printed books (especially in artists' books). Marc-Antoine Mathieu, an author of comics, often plays with the materiality of the medium, here the printed page and album. This is the case in the series «Julius Corentin Acquefacques, prisonnier des rêves». In the album entitled *L'Origine*¹⁸, a case on page 41 has been cut out, showing a case of page 43 (Figure 9). This *hole in the matter* (“trou de matière”) has a narrative function.



Figure 9. *L'Origine* by Marc-Antoine Mathieu :the « hole in the matter » in the printed page.

Various authors of electronic literature play a similar game with the materiality of the medium. Annie Abrahams asks the reader to turn off the monitor so that he/she might be engrossed in his/her reflection on the screen before resuming his/her reading¹⁹. However, this aesthetic work on the materiality of the medium (here, the screen) remains limited insofar as the author has less control on the “restitution device” than Marc-Antoine Mathieu has on the printed album.

¹⁸ Marc-Antoine Mathieu, *L'Origine*, Guy Delcourt Productions, Paris, 1991.

¹⁹ <http://www.bram.org/>

I refer here to Bachimont's²⁰ distinctions « inscription device » / « restitution device » and « inscription form » / « restitution form » (« support d'enregistrement » / « support de restitution » and « forme d'enregistrement » / « forme de restitution »). On a printed device, the inscription form and the restitution form are identical (the printed text). On a digital medium, the two forms are distinct insofar as, between these two forms, there is the mediation of calculation. This distinction is close to the distinction between SCRIPTON and TEXTON by Espen Aarseth²¹ : Aarseth indeed coined these terms to distinguish between underlying code and screen display.

The play between the inscription form and the restitution form can be seen as a play on the materiality of the medium. One can think of the narratives which give access to the code. *Détournement*²² invites the reader to display the source code of the HTML page (Ctrl + U in the browser) and discover the next step of the narrative (figure 10).

*Abîmes*²³ also urges the reader to look for the source code so that he/she might find other information, other clues. The reader can even delete the commentary marks in the code so that, after saving the file, another content might be displayed on the screen (another restitution form). In this narrative, there is a play between the inscription form and the restitution form.



Figure 10. *Détournement* proposes a play between the source code and the screen display.

More generally, the strategies that aim at exhibiting the materiality of the medium and the functioning of the device share the same goal. For instance, some generative narratives allow the reader to play with the text generator. It was the case with *Prolix* by Petchanatz²⁴, the first *playable* generator. In these various cases, aesthetics of the medium may become an end

²⁰ Bachimont Bruno, « Bibliothèques numériques audiovisuelles : des enjeux scientifiques et techniques », *Document numérique*, 2-3, Paris, Hermès, 1998.

²¹ Aarseth Espen, *Cybertext, Perspective on Ergodic Literature*, John Hopkins University Press, Baltimore, 1997.

²² Serge Bouchardon, *Détournement*, <http://www.cyg.utc.fr/si28/detournement/> (module « Tuer l'auteur », i.e. « Kill the author »), 2008.

²³ *Abîmes* (<http://www.abimes.fr/~manu/>, no more accessible in September 2008) is an experimental narrative by Emmanuel Raulo and Morgan Fraslín.

²⁴ In *alire* 6, Mots-voir, 1992.

itself. One can wonder if, in electronic literature and in particular in interactive narratives, the reader is not more engrossed in the medium than in the story itself.

Conclusion

More than an “aesthetic use of the written language”, the aesthetics of electronic literature is first and foremost aesthetics of materiality : materiality of the text, of the interface and of the medium.

The emphasis on the materiality is of course already present in printed literature. One interesting aspect of electronic literature is precisely that it questions the printed literature by unveiling issues hardly discussed by literary studies, among which the materiality of the text and the weight of the technical device in every literary production and reception.

However, the weight of materiality seems to be uppermost in electronic literature. The authors, who work on the technical dimension and on the medium, may enable new aesthetics to emerge.

In a previous paper for ELO 2008²⁵, I emphasized that figures can be identified that are specific to interactive writing : the figures of manipulation (meaning gestual manipulation). It's a category on its own, along with figures of diction, construction, meaning and thought. The figure of appearance/disappearance (responding to an action by the user) is a key figure of the *rhetoric of manipulation*. But even if the rhetoric of interactive writing is first and foremost a rhetoric of manipulation, this rhetoric is closely related to the aesthetics of materiality. Thus, beyond a treaty of rhetorical figures, what is needed is a theory of the materiality of the figures in interactive writing.

²⁵ « Towards an art of rhetoric in interactive literary works ».

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