From Text to Hypertext

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After the invention of printing, culture mainly spread through books. From a cultural point of view it would be interesting to think about the possible changes that would occur at the death of the (paper) book and at the coming of the hypertext age.

I will not deal with this macroscopic subject from a philosophic or sociologic point of view. I will start from a simple operation – the ‘conversion’ of a literary text to a hypertext – to reach the conclusion that similar methods are not only universal (they can be used for analysing texts of any form and content) but also extremely innovative.

THE CASTLE OF CROSSED DESTINIES

The Castle of Crossed Destinies¹ was firstly published in Parma on 1969 by Franco Maria Ricci Editore.

“...this book is made firstly of pictures – the tarot playing cards – and secondly of written words.” In this novel several tales are told using a combination of cards (tarots) according to horizontal and vertical rows. The layout of the tarots is a sort of rectangle in which 12 stories intersect.

Calvino uses the evocative images of the tarots to tell these stories and set the plot of the novel. Each tarot is used in more than one story and transmits different meanings according to the story in which it is placed.

Looking at the pattern obtained by the intersecting of the stories we may be struck by the result “unconsciously” obtained by Calvino: a kind of paper hypertext, in which stories intersect, characters play more than one role, stories can be run back assuming a completely new sense.

In the second version of the book, published in Italy in 1973, Calvino

added an afterward where he describes the problems he ran into writing the novel and looking for the combination of tarots that could better fit his idea of telling stories that could be read in several directions. Unfortunately we cannot know what Calvino would have done if he had had a PC on his desk and software for writing hypertexts.

From this point of view here is an amazing passage in “The American Lessons”\(^2\). Calvino expressly defines one of his novels – “If on a winter’s night a traveller” – as a “hypermovel” and talks about The Castle of Crossed Destinies as a “machine to multiply the stories”.

Calvino had the precise intention to create a “machine to multiply the stories” and the aim of this hypertext conversion is to start it by allowing the reader to create his own stories, or rather, some stories among the milliard of possibilities he has at his disposal.

On the other hand the “Logic of the Possible Worlds” permeates most of Calvino’s novels\(^3\):

“At the top of the tree, climbing up an urchin, our hero reached a suspended city. Or so I interpreted the greatest of Arcana, The World, which in this tarot pack depicts a city floating on waves or cluds and held up by two winged cherubs. It was a city whose roofs touched heaven’s vault, as the tower of Babel once had, as we were shown, next, by another arcanum”.

– “He who descend into the abyss of Death and clims again the Tree of Life” – these are the words with which I imagined our involuntary pilgrim was received – “arrives in the City of the Possible, from which the Whole is contemplated and choices are decided.”

The hypertext shape allowed me to go beyond the sequential nature of the text and to enhance in this way its combinatorial potentiality.

**Reading Units or Lexia**

The first operation was to divide the novel into parts and I mainly referred to Roland Barthes\(^4\) critical essay *S/Z*. In this essay Barthes divides one of Balzac’s novels, “Sarrasine”, into parts named *lexia*. In the introduction to the essay he defines the *lexia* as *reading units*.

As Barthes writes, the *lexia* can include either few words or few phrases, provided that it is the best space in which the meaning can be located.

\(^3\) *The Castle of Crossed Destinies*, cit.
This operation of fragmentation of the text is completely arbitrary but anyone who knows something about linguistics is certainly aware of the problems related to the definition of the minimal unity of meaning. For example, everyone realizes it would be useless taking the phrase into consideration as the phrase can have one sense, more than one sense or no sense at all.

The work carried out by George P. Landow at the Brown University corroborates my ideas. Landow\textsuperscript{5} not only refers to Roland Barthes repeatedly but even declares that the definition of hypertext corresponds to the idea of text expressed by Barthes in \textit{S/Z}. In order to demonstrate this Landow emphasises the use made by Barthes of words such as “Links, Nodes, Network, Web and Path”.

Furthermore, it seems to me that the application of Roland Barthes’ method to “The Castle of Crossed Destinies” would have been particularly simple and only relatively arbitrary. As already explained, Calvino’s novel is made up of 12 stories represented by the sequence of the tarots. Calvino looks at the tarots, describes them and creates the stories putting one tarot after another. Thus it was evident that a \textit{lexia} could correspond to the description of a tarot and its meaning inside a story (see the following example).

\textit{An example from the hypertext of a node}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{example.png}
\caption{Illustration of a node in hypertext.}
\end{figure}

which we had met before, surmounted by the siege of the galloping warrior – a sign that the knight of Charlemagne’s Army were following their champion’s trail, keeping watch over him, not abandoning the hope of bringing his sword back to the service of Reason and Justice. Was that blond dispenser of justice with her sword and scales the image of reason, with whom in any event he would finally have to settle his accounts? Was she the Reason of the story, lurking under the combining Chance of the scattered tarots? Did this mean that, however he may wander, the moment comes when they catch him, Roland, and bind him, and force down his throat the intellect he has rejected? In the last card we contemplate the paladin strung up by his feet as the Hanged Man.

If from a theoretic point of view the division of the text into *lexia* and their identification is a purely arbitrary operation, in this case I felt almost driven by Calvino in this direction.

**Hypertext Pattern**

After dividing the text into reading unit *StorySpace* software (1.2 version for Apple Macintosh) was used to connect all the resulting parts.

*StorySpace* is one of the most common software for writing hypertexts and is normally used in the literary field. Landow also uses *StorySpace* for his hypertext works.

The conversion of “The Castle of Crossed Destinies” into hypertext ought to accomplish two main aims:

1) allow the reader to read the hypertext as if it were a paper book, according to the sequence given by Calvino;
2) allow the reader to create individual paths jumping from one part of the text to another (from one tarot to another). Indeed each reader can try to tell his own story modifying the sequence of the tarots.

The first aim was easily reached by doing links from one node to another and placing the spaces in a sequence identical to that of the book.

The second aim required a scheme that could serve my purpose of connecting each node (or tarot or *lexia*) with all the other nodes (or tarots or *lexia*). For this purpose the shape described by the two French philosophers Deleuze and Guattari, named “rhizome”, was really helpful. The rhizome is thus defined: “As an underground stem a rhizome is absolutely distinct from roots and radicels. Bulbs and tubers are rhizomes.”. “any point on a rhizome can be connected with any other, and must be”.

Calvino himself gives us a drawing of the scheme that shows the final lay-out of all the tarots placed on the table. Each tarot can assume more than one meaning according to the story in which it is placed.

In this hypertext conversion I respected Calvino’s scheme – each space corresponds to a tarot – but, thanks to the peculiarities of the hypertext, I could put in each space other spaces corresponding to all the different meanings assumed by the same tarot in the book.

If on one hand we can say that Calvino’s paper version suggests the abandonment of linearity and a complexity of the plot, on the other hand

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the hypertext version undoubtedly multiplies this complexity allowing the reader to move from a tarot to any other one according to a sort of "rhizome method".

As I mentioned before, even if this operation may appear at first to be straining the text, I believe that my work can be justified from different points of view:

- before the digital age similar studies had already been carried out in Linguistics, Structuralism, Post-structuralism and Semiotics (see, for example the above mentioned R. Barthes’ S/Z)
- thanks to computer science support hypertext conversion of texts is presently a well known method used by literary critics (see Landow and his hypertextual study entitled *The Dickens Web*)
- Calvino himself often talks about experimentation in writing. He expressly defines the “hypernovel” in one of his books, *T Zero*, and also in *The Castle of Crossed Destinies* several passages show his willingness to create a new “hyperway” of writing through his irresolution in choosing the paths of the stories. I believe that it is not by chance that he places the “World” tarot representing the “Logic of the Possible Worlds” at the centre of his scheme.

**Hypertext Innovations**

Innovations from the hyper-reader’s point of view are:

- individual option,
- creation of meaning through contrast,
- sense of wreck, while

the innovation from the literary critic’s point of view is:

- transparency or invisibility of the critical operation.

This brief scheme sums up some of the most interesting features of my work on hypertext. These could be the basis for further remarks (necessarily not dealt with in this article) about the cultural – and therefore social – changes we have to expect from the diffusion of hypertexts.

I will limit myself here to underline the changes related to reading and analysing texts.

Basically I could describe my work as “simple”: I digitalized Calvino’s

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text, divided it into *lexia* ("de-construction") and allowed the reader to read it according to endless individual paths. Anyway, at the end of this operation, when I read the hypertext for the first time (remind that any hyper-reader is much more powerful than a simple reader) I felt as if I were a scientist that had created an (epistemological) Frankenstein...

From the user’s point of view the main innovation surely comes from the non-linearity of the text. Before describing this aspect, I would like to underline that each hypertext (and also mine) gives the reader the possibility of a linear reading. As Ted Nelson underlined⁸, hypertext includes linear writing as a particular case and it is indeed the most general way of writing.

The reader of the hypertext version of The Castle of Crossed Destinies has several possible choices of where to start – all represented by anthropomorphic tarots – he may create a new story by selecting in the pack of cards one tarot after the other. Going on in his way he will have at his disposal both the image of the tarot and the text connected to it.

In my opinion one of the implications of this new possibility ("jumping from one topic to another") has some relationships with a similar event that occurred in the movies⁹ at the beginning of this century. Ejzenstejn had an intuition that radically modified the history of the cinema. The Russian director invented the technique of editing, that consists in drawing close “independent or even opposite shots”. According to the dramatic principle (from Greek, drama = action) the contrast of the editing dramatises the text. Ejzenstejn outlined “a sort of multi-voice ensemble of the cinema, where each element (image and its elements, word, music) has a conflictual relationship with the others. From here the production of sense in the film”.

Sense is created by the combination of even contrasting parts of the text, considered in its wider – multimedia – context.

The hypertext of Crossed Destinies allows to draw together parts of the text that could also be in the opposite place in the paper version. The contrast between *lexia* that were distant in the original book surely creates new meanings. We can finally affirm that Calvino not only designed a “machine to multiply the stories” but also a generator of sense or meaning.

What I would like now to stress is the “absolute absence” of additional words compared to Calvino’s version. The text has been de-constructed to make it readable according to individual options, but no words have been added to the original book.

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From the point of view of the literary critics we could say that it is the text that criticises itself. Through arbitrarily approaching the *lexia*, the reader creates new stories or at least new sense: the hypertext (during the reading function) becomes ‘self-poietic’.

This kind of reading, deprived of any ‘critical filter’, could be suggested also for other studies and interpretations of texts. I am sure that further reflection about the applicability of similar de-constructive and “transparent” critical methods to other disciplines could produce a lot of innovative ideas.

This is what happened to me and to other people working in the literary field, such as Landow. He, for example, observes a new phenomenon in the hypertext world. The writer and the reader move close together, giving birth to a new character: the “wreader”.

I have tried to show how it is possible maybe to go further and cause to disappear of one of the most traditional intermediary roles in the literary world: the critic itself.

**Hypertext Navigation**

From a linguistic point of view the substitution of the meaning of one tarot with another meaning of the same tarot and the substitution of a tarot with another tarot are alterations of the paradigm.

This aspect is really important because according to various linguistic schools (i.e.: distributionalists and glossematics) the essential reality of the language (its form) is of a purely combinatorial nature. By using hypertext new “combinations” that enrich the language can be generated.

These remarks about typical linguistic topics help to get a clearer idea of the difference between text and hypertext. Anyone involved in the hypertext field, either enthusiastically or with scepticism, is surely aware of this difference.

Hypertext is not a text! at least because it is read on the screen and not on paper (see Ted Nelson). I would say that hypertext is a ‘de-corporated’ text or better still a text with a metaphoric body, while the text is a body whose surface is engraved with words.

Concerning this tendency to eliminate the body of the text Calvino’s reading is once again relevant.  

In a few passages of “If on a winter’s night a traveller” we see the desire

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An example from the hypertext of a node where all the meanings of a tarot are listed together

The Tale of the Ingrate and His Punishment

... Our worst prophecies were confirmed by the following card, the Twelfth Arcanum, known as the Hanged Man, in which you see a man in shirt and trousers, strung up by one foot, his head hanging downward. In the man we again recognized our blend youth; the brigand had stripped him of all his belongings and had left him hanging from a branch, his head toward the ground...

All the Other Tales

... beginning with Force and the Hanged Man. So this queen contemplated a fierce brigant (thus, at least, he had been described to her) haging from an instrument of torture, ...

to throw the book out of the window, to break it into pieces, to make “the phrases, the words, the morphemes, the phonemes spout without having further possibilities to reconstruct the speech”. It is almost sure that, one way or another, the ‘decorporization’ of the text (through digitalization) will bring forth significant innovations, apart from the content of the texts themselves.

Let me conclude by saying that, thanks to computer science technology and by using simple operations, a text that is completely different and new features can be obtained if compared with the traditional (paper) one. Whoever compares this work to the author’s will or arbitrarily or unjustifiably will have to do the same as shown in many other hypertext applications in many other domains (from Law to Education). He will certainly be contrary to all the innovative implications of hypertexts.

This hypertext is surely an imperfect work that can be criticized but most of its ‘defects’ derive just from its nature.

I would like to conclude this article with a quotation from the French philosopher Jacques Derrida «The death of the book is only the first stage of a phenomenon that will lead to the death of the word...»

But... not to worry! Probably it will take a lot of generations to get to this point.

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