

Principles and Processes of Generative Literature: Questions to Literature

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No. 34 – 2005

Abstract

Generative literature, defined as the production of continuously changing literary texts by means of a specific dictionary, some set of rules and the use of algorithms, is a very specific form of digital literature which is completely changing most of the concepts of classical literature. Texts being produced by a computer and not written by an author, require indeed a very special way of engrammation and, in consequence, also point to a specific way of reading particularly concerning all the aspects of the literary time. In my paper, I will try to present some of the characteristics of generative texts and their consequences for the conception of literature itself.

I call "engrammation" the adaptation of expression wills to the technical constraints of the medium used for its mediatisation. For instance, a book needs a fixed writing, and the mediatisation by means of a screen needs other modalities of presentation.

I call "generative literature" a literature where the texts are produced through a computer by means of a set of formal rules, the use of any kind of algorithm, specific dictionaries and eventually knowledge representations. That means a literature of which the author does not write the final texts but which only works at the level of the high rank components such as: conceptual models, knowledge rules, dictionary entries and rhetoric definitions. A text without an author generally seems to be out of question. Such a designation seems to describe an impossible literature because, despite the fact we generally assume that there is a very strong link between a text and its author, in this case the author is separated from the text. In generative literature, there certainly also is an author but one who has not really written the text which is being presented to a reader, his function is not the one we usually assign to an author. The difference is: this author is something like a meta-author trying to define what literature is for him and how his literary conception can be formally described. The tools of engrammation he uses are totally different. But at the end of the process there are also texts. For example:

Text 1:

"Poursuite du bonheur... Peu de choses laissent des traces: pourtant il s'agit bien quelquefois de vivre; ses souvenirs brûlent Jeanne-la-voleuse comme des flammes - le soleil cogne: les dieux passent par rafales; les carrefours sont des arbres de vie, la lumière dévaste les villas... Les spirales des avenues trouvent Montreuil: qu'a fait Jeanne du temps qui lui a été donné..."

Text 2:

"Pour la première fois de sa vie Léa se sent vivre vraiment; mais le temps dont dispose Léa est limité - la vie lui fait mal à petits bruits, à petits gorgées, par les interstices ! Des haut-parleurs diffusent partout le nom du dieu du jour ! Les individus suivent leurs bannières... Un vieillard fatigué, voûté, traverse l'avenue: voici ce que lui dit Montreuil: « la pénombre seule a le pouvoir d'ouvrir au monde le coeur d'un homme »... Tout ce que Léa voit de sombre dans l'avenir est plus rassurant que son présent: ses souvenirs la brûlent comme des flammes..."

These two texts were produced by the generator used in my Internet novel *Fictions (fiction)*¹ the title of which has a double meaning: It both connotes that all fiction is a fiction by itself and that a fiction can be built by an infinite number of fictions, something like a "mise en abyme" of the fiction itself. Indeed none of these texts will ever be presented to the reader for a second time and no reader will ever have the same set of texts. Each text seems to be independent from the others. Such a situation seems to be rather natural for poetry. For example:

Poem 1:

*Le temps se remplissait de sable l'océan
utilisait le ciel batterie de l'océan une crique en contrebas
du chemin je passais par la côte le paysage faisait
son philosophe quelque chose brillait au milieu
du sentier il y avait un avant et un après
le jour venait de commencer le ciel était avec toi
la campagne jouait du violon le soleil
pesait sur mes épaules le même soleil éclairait
l'océan et le ciel la campagne était élégiaque tu
te baignais de ciel la campagne
disait son évidence la mer se révoltait
l'océan paraissait tout en surface
le paysage se répétait
la mer broutait les herbes sauvages de la côte²*

Poem 2:

*Nous nous sommes cherchés
sur les côtes l'océan tendait son
bourdonnement l'océan utilisait*

*le ciel tout était banalement
charmant un calme s'installait du côté de l'océan je ne voyais plus
que toi tu étais du côté
de la terre le ciel perdait ses dimensions les nuages
flottaient à l'envers tu faisais partie du décor
le paysage s'oubliait dans la mer quelque chose brillait
au milieu du sentier la campagne refusait de se
laisser aller au drame l'horizon s'éloignait intarissablement
je te disais: "une chose qui
semble très claire peut ne pas l'être du tout" sentier
et vent c'était ça la mer te faisait face
la mer se prenait pour le ciel le ciel était avec toi
l'océan était impassible*

For poetry indeed, each text is something like an island isolated from the other ones even when they are published in the same book of poetry. A poem is a text by itself, each poem is entirely closed and supported by itself. But none of these texts will ever be read by any other reader unless, as here, they are printed as examples by way of exception but generative texts usually do not require to be printed. And even in that case, the reception of generative poetry is really different from the reception of non-generative poetry.

But, in this paper, I will speak about generative narratives, not about generative poetry, the concepts and approaches of which are undeniably rather different. Everybody knows Gérard Genette's classical definition of narrative (*Narrative Discourse*, 1972): a narrative is a text built on a *diegetic axis*, what he calls diegesis. That implies that any text has a beginning and an end. Whatever games would be played on the *diegetic axis*, it undeniably is the basic structure of the narrative. All the episodes of the narrative are organised along that structure. Such a situation is strongly underlined by the kind of medium which has usually been used to materialise the narrative: the book. A book always has a first page and a last one and all the reading is done by taking into account this constraint. We all know that. This does not imply that a reader cannot read back, but we also know that such an action is an exception from the rule and rather is an approach of researchers than that of an ordinary reader. Hence it is the *diegetic axis* which structures all the conceptions of novels or short stories and a reading cannot stop at any point of that axis, more precisely, if a reading does stop at some point it is to let the reader dream or think about what he has just read, it is like an halt during the reading process.

The generative conception of narrative completely renovates such a situation. In a generative novel indeed there is an equivalence principle at every point of the narrative which is dependant on generation. At these points a text is only a temporary specimen of an infinite family of virtual texts. In concrete terms, this means that any point of the generative axis is the theoretical point of an infinity of

texts and I propose to call that situation "*alepsis*" because at that point, the arrow of the *diegetic axis* is broken up for a while. In general, the *diegesis* includes all the events that allegedly have occurred, including actions and spaces not explicitly described, most of them are however offered or suggested to the reading in the book. In generative fiction, at the contrary, most of the texts will never be offered to the reading: most of the *diegesis* markers are latent ones. The two texts quoted above, for example, are not topologically situated on the *diegetic axis* one before the other but are produced for the same point of that axis: that signifies that they are – from a narrative point of view – completely equivalent: one may be read instead of the other. More than that there is – at this point – an innumerable number of virtual texts but, however, each of them has a function within the narrative process: they can be read or not (depending on the possibility of generation) but if they are being read, they offer a new view onto the narrative; if they are not being read, the reader does not miss them. One text can then be read as an alternative for all the others but it can also be read before or after one another. There is, on that point, no obligation.

I am not talking of *prolepsis* (anticipation) or *analepsis* (back reading) which are the two main rhetorical tools used by a writer to build his story. Because *prolepsis* and *analepsis* can only be understood from the perspective of linear reading. There is neither *prolepsis* nor *analepsis* in the reading, the reading is linear and always backwards: *prolepsis* and *analepsis* are only writing games, engrammation procedures, playing with the arrow of time. In that case, the classical literary theory adopts the writer's point of view, not the reader's, it supposes that the *diegetic axis* can be cut in parts which can be easily displaced on it. Hence each story appears to be a combination of smaller stories which have a kind of independence from each other except from the *diegesis* point of view. Indeed, these fragments may not change in their form and once they have been given to the reader they are located on the arrow of time forever; they can not be displaced and thus the game is very different for the writer and for the reader: the reception of the text is fixed whereas this was not the case during its production.

The fact that in a generative narrative such a constraint was given up has introduced a great liberty: when a reader obtains a text, he obtains that text at a certain moment of his reading but he has no idea of what other text he could obtain at the same moment of another reading. He cannot tell if the text is directly related to the previous or the next one (in terms of reading time). The relation between one text and another can be a relation situated on the *diegetic axis* but it can also be any other kind of relation. For example, that text can be another concretion of the virtualities of the same model of text, i.e. an *alepsis*, a text not situated in a relation of time to the previous one.

In that case – and this certainly is one of the reasons why generative texts disturb our reading habits – the reader loses all the usual markers relating to the *diegetic*

axis and has to find or invent other kinds of references. The narrative is not totally built in advance but put together from a lot of virtualities which are – or are not – actualizing themselves in the course of reading. That reading course is then fundamental and tends to substitute itself to the *diegetic axis*. Each new reading – actualizing the narrative in a new way, built on what I call *microfictions* – creates its own *diegesis* which is not a predetermined but an undetermined *diegetic axis*. That really means: Any reader A needs to develop a unique hypothesis which gives him an idea of the narrative which is different from that of any reader B. Maybe he can be sure that his conception of the time in that narrative will be true if he can read all the virtual texts but that is completely impossible. The only indicators he can use for that are those given by each *microfiction*: each of them seems to be built on the basis of a local *diegesis* which then, for the reader, are necessarily related to a more general one. What is more important than the building of a *diegetic axis* by one author then, are the various images the reader always builds of a possible moving *diegesis*: the *diegetic axis* is totally virtual and can only be built by the readers' strategy which is something like a *translepsis*, an infinitely moving hypothesis of *diegetic* relations. It is what I call the "*hologrammatic principle*": each text contains the entire time of all possible texts. There is no concrete *diegetic axis* but only a virtual one much more related to the reading than to the writing. The narrative does neither need beginning nor end because the narration is entirely built by each reading of each text: one novel can thus be constituted by one or an infinite number of texts and no reader reads the same number of it. There is no structure of the narrative, only an idea of a virtual one built by the reading itself.

For the author, that situation is very interesting because he is free from the necessity of mainly conceiving a narrative in relation with time and he does not have to respect a linear form of engrammation. This opens up a new field of creativity: he has to think about and to work on all the virtualities implied by the generative fiction, time, even if by tradition it is a very important one, is only one of them. A narrative is not obliged to have an beginning and one end: Each generative narrative is made of an infinite number of equal *alepsis* and it is not obligatory that time relations are initially stated between them. In *Fictions (fiction)* for example, each text is totally independent from the others; in *Trajectoires*, the texts are quite independent apart from the fact that the interface design by using a set of symbolic numbers leads the reader to imagine a form of *diegesis*. In that case, the design interface is a procedure of time engrammation. It is definitely enough that the reader knows that he is reading a narrative because – due to his cultural concept of narrative – he tries to find *diegesis* markers. Hence a novel can be totally built on an infinite present as in *Fictions (fiction)*, the reader builds a *diegesis* from its *translepsis* course himself. Thus generative literature demonstrates that the writer's control of the *diegesis* is not necessary because *diegesis* is a cognitive concept of reception: we always imagine stories on a time axis and even if a narrative has neither beginning nor end, we as readers always imagine them. Generative literature opens up a creative field

for a renewal of narration. Without a doubt, the book as a product of a dated technology using fixed engrammation procedures has become a reductive matrix that we have to reform; to liberate the text from the linearity and the determination of its pages, to allow text to reveal itself by other means, in other contexts with other possibilities of expression. Hence literature is not dependent on the medium of the book any longer but can also use other media such as any kind of screens, cellular phones or computer networks. Thus there is no more necessity of sticking to linear forms. What generative literature wants to affirm today is the vital and infinite power of the "literary" communication as a dynamic diffraction of relations, where the always-different text manifests its identities only through the infinite repetitions of its generation of the same, through its infinite changes more than through its halts. What this process assumes is the fecundating power of language as it enriches itself within all the restraining particularities of any given context. It is this fecundating power of language upon which the receiving subject continually renews him- or herself.

At first approach, the generative text indeed demolishes all the material references that are the basis of the reader's "preparation": the physical appearances of the book (volume, thickness, division into paragraphs and chapters, and so on). Instead a radically new literature, putting the diegetic axis into the background, has to invent new forms of fiction, new forms of stories, new forms of narration when using other media than the book. A "generative novel" is thus forced to invent all its codes. Generative literature wants first of all to be something like a "literarization" of technology, because what it demonstrates first and foremost in its multiplicities and its variations, are its potentials and its changing states. Even if that situation is not absolutely new in literary history, where the eagerness to present texts with new technical apparatus has always existed, at least in the margins, the digitalization of its technology has created a significantly new situation for literature: the immediacy of its generation and its infinitude set on stage the formalisms from which the texts come forth. The relation of the subject to his or her writing is thus a new relation to time, and the functional concept of authorship itself is to be entirely redefined, because what matters more than anything else is the "historical" memory of forms and their displacement. There is no end to writing and reading but a generative text can infinitely be continued. The person who we can only call a "digital author" as long as there is a lack of more accurate terms does not need to deny tradition by means of a radical modernity but requires of it something like a new reading, or, at least, an unheard one. Generative literature's only pretension is to enrich the text's potentialities. It forsakes the fiction of fiction to be only interested in the subjective production and formalization of meaning. In that sense, it only exists through infinite literary production. Generative text rejects clotting, time's dictatorial caricature; it presents a whim of eternity. But this eternity-whim truly differs from that of "classical" literature because it does not depend on the duration of its memory but on the infinitude of its reproductions.

Out of the book, displayed on screens or, by various technical processes, on any object henceforth used as a displaying surface, text, now able to become time and space, completely changes its nature. It becomes picture-text, sometimes even text-universe or performing-text. That old temptation, outlined in several historical attempts, now finds its fulfilment thanks to the possibilities that computerization allows.

According to George Steiner³, the comprehension of modern art requires the acceptance of the fading of any conception of "culture" as having an immanent value, necessarily linked to hierarchical societies, and its replacement with a set of "cultures," all regarded as equal. The computer culture, in that sense, is an absolutely new and absolutely up-to-date writing tool inventing new engrammation modalities.

Generative literature does not make any claim to the intangible and almost-divine universality of pre-generative literature, in which the only active role left is in the production of new glosses; it merely wants to be the ephemeral and temporary moment of a common literarity, revealing itself only in the instant of the creative stimulus.

More than ever before, a text is more dependent on its media contexts nowadays. Every surface may be used as medium for texts, not only sheets of paper but also all sorts of 'screens' which can be a mountain, a building, a screen of a cellular phone, a person's body etc. Classical culture originates from a bet on transcendence: *"Art and mind looks toward what is not yet here, at the accepted risk of being ignored by the living."*⁴ Classical culture is produced only for museums, for "conservation," and thus is opposed to ephemeral consummation. The classical production of writings is aimed entirely at archives. To that way of thinking, the slightest "loss" is considered a cultural tragedy. Any destroyed manuscript is a burning library; the obliteration of any draft scribbled on a tabletop seems a disaster. Against that museum art, that library-and-dust art, generative writing is an art of consummation which refuses to look back on its tracks, which it regards as nothing more than signs turned toward something else.

Real-time generative text, which exists only by its instantaneity, first of all fights against all this: *"Everywhere the virus of potentiality prevails. Carrying us away toward a rapture which is also that of unresponsiveness."*⁵ But the unresponsiveness that Baudrillard fears is, in fact, a positive one because it is unresponsive to an external hierarchy of values, to a culture of reverence.

*"The public is no longer the wise echo of talent, something like a referee and relay in transmission of an atypical attempt; it associates itself to the artistic elaboration inside of a set of sometimes uninhibited energies"*⁶

The text, no longer regarded as "literary", now has to annihilate all reverence because a generative text can always be substituted by another one. Hence it is not the

singular display which is at the heart of generative literature but rather the movement, the series of ever-changing displays of text. The computer culture is close to spreading, to dispersion. It introduces a new relation to memory, no longer "reminding" but – because a text, read at a given moment, is nothing other than an image of another text read at another moment with which it maintains links of dependence and independence, at once diffracted and refractory – rebuilding remembrance, active participation by the reader lies in its elaboration. Displaying on its screens the vanishing of the master, of eternity's claims, generative literature engages the reader as a culture in itself.

Like all new literary approaches, generative literature must first struggle with that resistance within itself, to find the ways that are peculiar to it by rejecting, even sometimes at the cost of provocation and error, at the risk of becoming illegible, what is inside it, enclosing itself within the gummy thickness of its moments of arrest.

While strongly individualist, the contemporary spirit is also gregarious, taking pleasure in the instantaneity of shared time, where the contemporary spirit formerly was collective inside the unchangeable cultural spiritual union. Generative literature tries to be on the side of the effusive superficiality of show. It wants to reconcile the literary activity with that of play and game: to separate literature from the sphere of reverential and deadly seriousness in which the whole classical tradition locks it. Not merely about a particular text, it questions itself infinitely about the aesthetic working of the human spirit.⁷

Notes

1. URL: <http://www.fiction.maisonpop.com>.
2. Cf. my other generative novel *Trajectoires*: <http://www.trajectoires.univ-paris8.fr>
3. Text by the text generator *La nuit de Cerisy* created for a performance in Cerisy-la-Salle in August 2004.
4. Steiner, George: *Dans le château de Barbe-Bleue*. Paris 1971, p. 313.
5. Steiner 1971, p. 102.
6. Baudrillard, Jean: *Cool Memories*. Paris 1990, p. 315.
7. Steiner 1971, S. 106.
8. An extract of the last paragraphs of this paper has been previously published, with some important changes in *Leonardo 5* (November 2004), no. 37.