Remediation of *Nouvelles Impressions d'Afrique* by Raymond Roussel: Functional Issue

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ABSTRACT

Nouvelles Impressions d'Afrique is a book Raymond Roussel wrote in the 1920's. This book uses many different structures. It is one of the most complex French literary works in constrained literature. The most evident constraint is the massive use of text blocks slotted in by sets of brackets. But there are many other structures based on dispersed rimes, semantic axes, homonyms, paronyms, numbers… Each is used to build long structures in the text. We have previously done a digital remediation of this work based on the transformation of the bracket structure into a hypertextual structure. In the current project, we want to explore another possibility that seems more efficient to discover the other structures. It consists in text animations that progressively develop and unfurl in time the structures from their initial node (the set, the rhymes…) to the final sentences. This kind of remediation is a "reading machine" of the work, not a digital version of the book because Roussel's text will be the final state of the animation. We plan to configure the interface according to several structures so that the reader would choose between any of them. We present a functional online prototype applied to some of those structures, showing the concepts of the interface, how *Nouvelles Impressions d'Afrique* will be reconfigured and how a generated animation can help to read and understand constrained literature.

KEYWORDS

remediation; complex structures; reading machine; hypertext.

RESUMO

Nouvelles Impressions d'Afrique é um livro escrito por Raymond Roussel na década de 1920. Trata-se de uma obra que usa muitas estruturas diferentes. É uma das obras literárias francesas mais complexas com recurso a restrições. A restrição mais evidente é o uso massivo de blocos de texto encaixados por conjuntos de colchetes. Mas há muitas outras estruturas baseadas em rimas dispersas, eixos semânticos, homónimos, parónimos, números… Cada uma é usada para construir longas estruturas no texto. Realizamos anteriormente uma remediação digital desta obra com base na transformação da estrutura de colchetes numa estrutura hipertextual. No projeto atual, queremos explorar outra possibilidade que parece mais eficiente para descobrir as outras estruturas. Consiste em animações de texto que desenvolvem progressivamente no tempo as estruturas desde o nó inicial (o conjunto, as rimas…) até às frases finais. Esse tipo de remediação é uma "máquina de leitura" da obra, não uma versão

digital do livro, porque o texto de Roussel será o estado final da animação. Planeamos configurar a interface de acordo com várias estruturas de modo a que o leitor possa escolher entre quaisquer delas. Apresentamos um protótipo funcional em linha, aplicado a algumas dessas estruturas, mostrando os conceitos da interface, o modo de reconfiguração de *Nouvelles Impressions d'Afrique* e de que modo uma animação gerada pode ajudar a ler e entender a literatura produzida segundo restrições.

PALAVRAS-CHAVE

remediação; estruturas complexas; máquina de leitura; hipertexto.

I.OBJECTIVE OF THE PROJECT

We began working on *Nouvelles Impressions d'Afrique* (1932) by Raymond Roussel (1877-1933), because it is a very complex work including numerous interwoven structures (Salceda 1998, 2007, 2010).

The objective of the project is to design and produce a "digital universal reading machine" for a complex printed work. This machine is not an algorithm but rather a tool that makes structures visible and enhances their legibility. The goal is to help the reader understand and read their complexity.

II.CONCEPTS DEVELOPED IN THE PROJECT

The project develops several concepts:

Deconstruction/reconstruction: To produce this machine, we rely on the fact that a structure is a piece of data that is independent of the text in which it is implemented. Therefore, we can break the work into its different structures, as well as into its layout of words and media. To show a specific structure we just have to apply it again onto the specific set of media data it uses, and then show the result.

Visibility/legibility: We consider that legibility is a matter of data visualization. We then draw a distinction between the visualization of the structure and its legibility within the work.

Space and time: Rather than showing one of the final steps of the implementation of the structure, in the manner of a book, we consider that remediating a structure consists in reintroducing it in time into the set of media. To do so, we follow three steps. First, the media and structures are shown separately, which pertains to spatial visualization. Then, the structure is applied onto the media. It is a temporal process that pertains to data visualization in time. Finally, the result is shown as a printable static text. Again, this step pertains to the spatial visualization of data.

Global/local: Contrary to traditional remediation, we don't want to show all the structures of the work at the same time. In this case, there are 2 possibilities:

The first one is to unfurl the text by turning the work into an animated text. Since Jean-Marie Dutey's work *l'été*, programmed in 1989 and published in *alire*

4 in 1994, we know that animation is a very pertinent way to reveal the complexity of a printed work. However, when the structures are deeply interwoven, animation induces a specific point of view because linearization results in these structures being artificially arranged. In this case, proposing different animations providing different arrangements of the structures could prove useful.

The second one is to recreate only one structure at a time. In this case, at the beginning of the process, the totality of the media and structures can be shown but not correlated. Visibility is global. Only a local part of the work is recreated in the third step of the remediation process, by applying a given structure. Legibility is local.

III. THE WORK

Nouvelles Impressions d'Afrique is Raymond Roussel's last work. It was first published by Alphonse Lemerre in 1932. Jacques Sivan published a new version in 2004.[1]
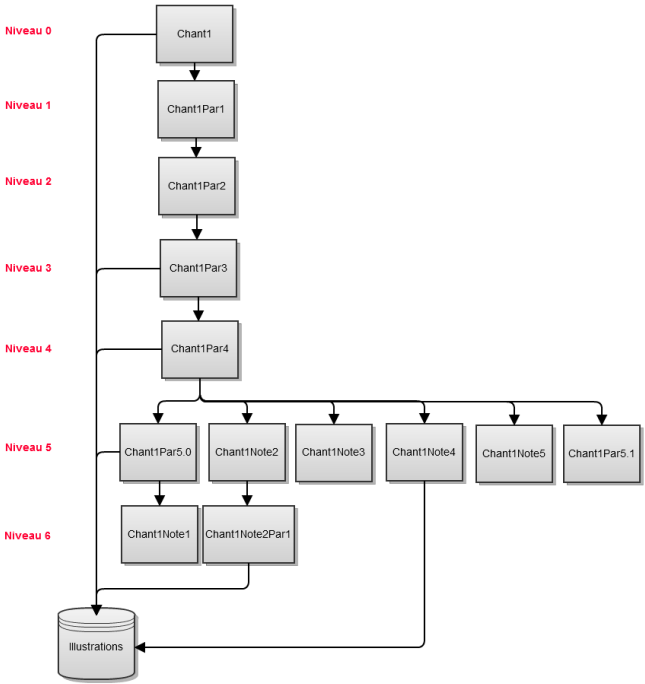

Figure 1. Tree structure of canto 1.

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1 Raymond Roussel, *Nouvelles Impressions d'Afrique*, Paris: Lemerre, 1932. On line Bibliothèque Nationale de France : [URL] http://gallica.bnf.fr/ark:/12148/bpt6k108582f. Other editions: Paris, Jean-Jacques Pauvert, 1977; Paris, Al Dante, 2004.

This work is a very complex one. It consists of four cantos and contains many structures and constraints. The most prominent structure consists of very large embedded textual parts. They play the role of interpolated clauses, although their contents are closer to fragments. This tree-like structure breaks the linearity of the text and makes the work very difficult to read on a linear medium such as a book.

Lemerre and Sivan use different approaches to show this tree-like structure. Lemerre implements it in the text with parentheses and footnotes. It favors the interpolated clause dimension of the structure. On the contrary, Sivan complies with Roussel's wish and uses colors, although he keeps footnotes. It favors the fragmentary dimension of the structure.
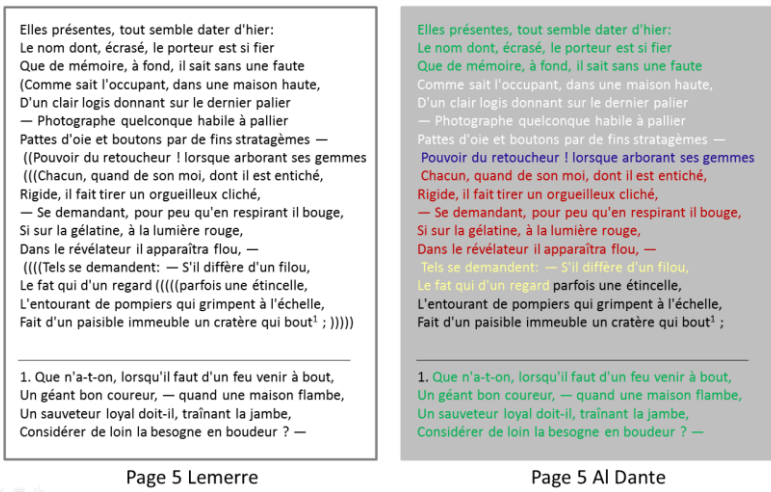

Figure 2. The same page in Lemerre and Al Dante editions of *Nouvelles Impressions d'Afrique* (Laitano and Bootz, 2013)

There are also other structures, like semantic sets of topics. For instance, following Salceda's classification, the first canto includes: the posing strikers, the questions without answer, pointless gestures (Salceda 2009). Semantic sets of topics allow for a semantic reading of *Nouvelles Impressions d'Afrique*. They are difficult to identify in the books and reading them as units is unusual.

There are also rhymes, homophonies and so on.

IV. DIGITAL REMEDIATIONS OF *NOUVELLES IMPRESSIONS D'AFRIQUE*

Several digital remediations of the work can be found in ebooks. They all try to reproduce the hypertextual tree-like structure of the work and replace both its visualization in parentheses and colors with links and nodes.[2]

We performed a first digital remediation in 2011, in the form of a website based on another alternative (http://www.rousselnia.fr/#). We considered that the structure itself is a content we have to remediate. In this case, we can have different points of view resulting in different treatments of the structures. We mainly developed two views called "linear" and "topographic" (Salceda *et al.* 2014a; Salceda *et al.* 2014b).

Figure 3. home page of the first *Nouvelles Impressions d'Afrique* digital remediation.

The linear view is closest to the books and ebooks. It implements the tree-like structure, yet uses transclusions instead of links. Ted Nelson introduces transclusion in his theory of hypertext. In transclusion, the node comes into the right place in the document from which the user requested this information.

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2   https://withhiddennoise.net/roussel/.

Figure 4. Linear view showing the transclusion process. The first image shows the node "chant1". A click on the anchor "faute" opens the node "chant1part1" in "chant1". A click on "stratagèmes" opens "chant1part2" in "chant1part1".

In the typographic view, we consider that the tree-like structure is not a reading but a writing constraint. In this case, this structure is shown but navigation through the work is not part of its tasks. The real structure of the remediation in this view is a star.
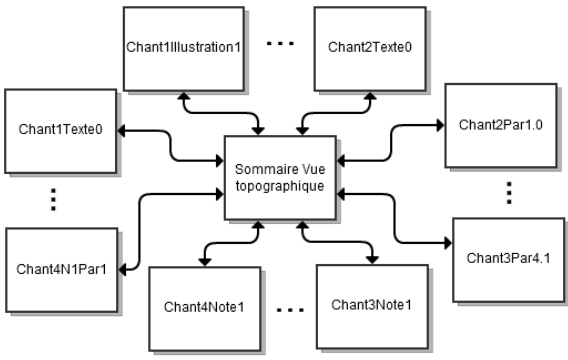

Figure 5. Star-like structure of the typographic view (Laitano and Bootz, 2013).

The summary is central to the star-like structure and all fragments of every canto are considered as equivalent and put on the same level. The summary consists of showing the structure, making it legible, but the content on which it is applied is then illegible. Navigation through the work relies on traditional links, and the different fragments the reader selects flap individually onto the summary. This flapping characteristic indicates the equivalence of all fragments in a star-like structure.

V.A GENERALIZATION OF TYPOGRAPHIC VIEW

The current project is a broadening of the typographic view to all structures of the work, those that are already known and those that are yet to be discovered. We remember from the typographic view the star-like structure and the disjunction between the visualization of a structure and the legibility of the text pertaining to this structure.

In order to expand the model to all structures, we describe the work with an entity-relationship diagram we implemented as a set of files. Each table can be managed with an excel file converted into a text format which the program will use. Completing it with new structures is then an easy thing to do.

Figure 6. Entity-relationship diagram of the work.
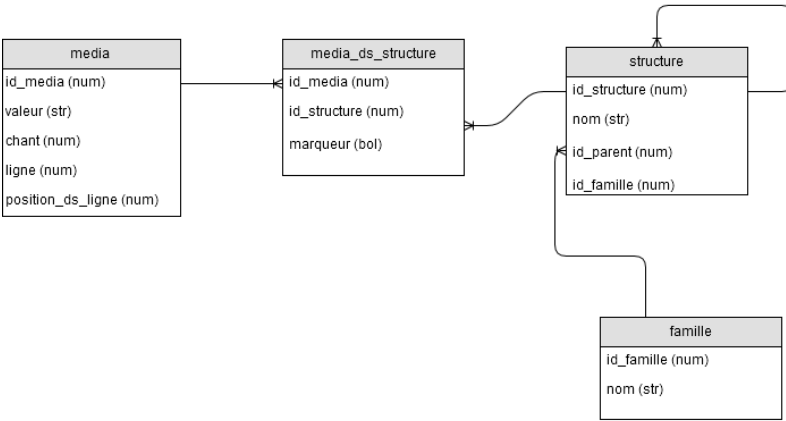
The media table is produced only once. It consists of entering in the table each word of the work located by 3 coordinates: the canto number, the line number and finally its position as a word in the line. I created a piece of software to automatically fill this table. This table is devoid of any structure mark, such as parentheses; it only shows the words and name of the pictures.

	A	B	C	D	E	F
1	id_media	valeur	chant	ligne	position_ds_ligne	
2	0	DAMIETTE	1	0	0	
3	1	:	1	0	1	
4	2	LA	1	0	2	
5	3	MAISON	1	0	3	
6	4	OU	1	0	4	
7	5	SAINT	1	0	5	
8	6	LOUIS	1	0	6	
9	7	FUT	1	0	7	
10	8	PRISONNIER	1	0	8	
11	9	Sans	1	1	0	
12	10	doute	1	1	1	
13	11	à	1	1	2	
14	12	réfléchir,	1	1	3	
15	13	à	1	1	4	
16	14	compter	1	1	5	
17	15	cela	1	1	6	
18	16	porte,	1	1	7	
19	17	D'être	1	2	0	
20	18	avisé	1	2	1	
21	19	que	1	2	2	
22	20	là,	1	2	3	
23	21	derrière	1	2	4	
24	22	cette	1	2	5	
25	23	porte,	1	2	6	

Figure 7. The beginning of the media table.

The structure and family tables only contain the name of the structure and of their sub-structures. For instance, line 16 of the excel file shows that "questions without answer" (questions sans réponse) is a sub-structure (id 14) of the "semantic set" structure (id 2).

	A	B	C	D	E
1	id_structure	id_famille	nom	id_parent	commentaire
2	0	0	niveau 0		
3	1	0	niveau 1	0	
4	2	0	niveau 2	1	
5	3	0	niveau 3	2	
6	4	0	niveau 4	3	
7	5	0	niveau 5	4	
8	6	0	niveau 6	5	
9	7	0	niveau 7	6	
10	8	0	niveau 8	7	
11	9	0	niveau 9	8	
12	10	1	ancre précédente		ancre précédant l'image
13	11	1	image	10	média image
14	12	1	légende	11	commentaire à Zoo
15	13	2	poseurs		
16	14	2	questions sans réponse		
17	15	2	gestes inutiles		

	A	B	C
1	id_famille	nom	
2	0	emboîtements	
3	1	images	
4	2	séries sémantiques	
5	3	rimes	

Figure 8. Extracts of the family and structure tables.

The media table is also used to build the part of the media_ds_structure table corresponding to the described structure, using excel. The media_ds_structure file only contains the id of each word involved in the structure, the id of the structure itself and a Boolean information indicating whether this word is an indicator of the structure or not. It is used, for instance, to locate the rhyme in a rhyme structure.

	A	B	C
1	**id_media**	**id_structure**	**marqueur**
1032	1796	14	false
1033	1797	14	false
1034	1798	14	false
1035	1799	14	false
1036	1800	14	false
1037	1801	14	false
1038	1802	14	false
1039	1803	14	false
1040	1804	14	false
1041	1805	14	false
1042	1806	14	false
1043	1807	14	false
1044	1808	14	false
1045	1809	14	false
1046	1810	14	false
1047	1811	14	false
1048	1812	14	false
1049	1813	14	false
1050	1814	14	false
1051	1815	14	false
1052	1816	14	false

Figure 9. Extract of the media_ds_structure table of the sub-structure "question without answer."

VI. THE PROTOTYPE

We wanted to test only the functionality and efficiency of the model, without addressing design. We created parts of the tables related to some structures of canto 1 and an html prototype showing the main steps mentioned above: firstly,

showing the structures and the content; secondly, showing the location of each selected structure onto the content; and thirdly, extracting the legible text of this structure.

The video[3] shows the extraction of three structures. The main visual, that is also the interface of the prototype, shows a checkbox for each structure implemented, and a horizontal text thumbnail of canto 1 (the first verse of the text is on the left, the last on the right). This visual corresponds to the first step of our method. In the video it lasts from the beginning to second 2:28. While clicking on the structure "questions without answer" (questions sans réponse) the location of the structure is colored on the horizontal text thumbnail. It appears that this structure is largely scattered on the text. It corresponds to the second step of the method. This step is shown from second 2:28 to 6:22. While clicking on the colored part of the text, a popup shows the entire legible text of this structure, removing portions of text that do not belong to the structure. This third step lasts from 6:23 to 18:20 on the video. The video continues by extracting two structures from the rhyme family: the rhyme in "porte" that is located around the beginning of the text (second step from 18:21 to 21:10; third step from 21:11 to 28:17) and the rhyme in "frais" that is located around the end of the text (second step from 28:18 to 33:00; third step from 33:01 to the end of the video).

VII.CONCLUSIONS

This prototype validates the theoretical model. We now have to fill in the tables with the other cantos and all of the actually known structures. We also have to deal with the design in order to create a real "machine made for reading" the work. We intend to use text animation to do this.

The treatment of the database is automatic. The machine will then be able to treat the structures that will be discovered in the future. We just have to create a back office to allow people to fill in the tables with these new structures.

The theoretical model is independent of the work. Therefore, it will be possible to use it with other complex printed works, regardless of their natural language.

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3   http://bootz.fr/nia2/navigation%20nia2%20prototype.mp4.

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