# Digital Scholarly Editions as Interfaces

# edited by

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# **Interfacing Literary Genesis**

Elli Bleeker and Aodhán Kelly<sup>1</sup>

#### **Abstract**

This article examines ways in which the principles and scholarship of genetic criticism can be communicated to an audience of non-experts, explored through the means of a case study. This takes shape in the Brulez Digital Exhibit (BDE), a result of a collaboration between different parties involved in the GLAM sector and led by the Centre for Manuscript Genetics at Antwerp. The digital museum exhibit conveys scholarship on the manuscripts of the work *Sheherazade of Literatuur als Losprijs* (1932) by Raymond Brulez, and has been integrated into the permanent exhibition space of the *Letterenhuis*, the literary archive and museum in Antwerp. The paper discusses what could be gained or learned from a collaboration with such partners during the development. It further explores the classification of the BDE as a form of interface and scholarly output of a text editing project. In conclusion, it shows how we can find new and more effective ways to increase the dissemination and outreach of the textual genetic research.

#### 1 Introduction

The collection of the *Letterenhuis* (the Archive and Museum of Flemish Literature) in Antwerp is composed of thousands of manuscripts and documents, which collectively represent the material traces of 200 years of Flemish literary history. Well-known literary works to *petites histoires* and forgotten masterpieces can be found there, on seemingly negligible scraps of paper or in carefully bound books. The archive is open to all who wish to study the collection, but in practice only a few respond to its allure. The handful of scholars and students in the archive's reading room have specific reasons to be there and determined research questions to answer – informing these visitors about the value of pre-publication materials would be like preaching to the choir.

It is a situation that scholarly editors are also familiar with. Together with archivists, they are gatekeepers for literary treasures, but it is not always that busy at the gates (Vanhoutte 101–2; Lavagnino 65; Pierazzo 150). Nevertheless, many people find it

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interesting to have a peek at how writers think, read, and write. They are keen to see the manuscripts of canonical works like Proust's *A la recherche du temps perdu* or Goethe's *Faust* – and are sometimes even prepared to pay a good price for that privilege. So the audience is, in principle, interested, the material is there, and the scholar eager to share: what is lacking? How can we (re)gain the public's attention in relation to writer's manuscripts? Is it a matter of presentation? The digital edition may offer an ideal platform for representing text in all its forms – in contrast to the impervious print edition – but as of yet there are few general procedures to translate these ideals to actual interface design (Porter). This paper argues that scholarly editors can play a major role in the development of visual ways to represent text and, as a result, gradually expand their role as textual curators. It follows that editors are not only to be concerned with the documentation, storage and preservation, but also with the digital representation and sharing of textual objects.

The paper illustrates this argument by means of a case study on the collection of stories Sheherazade of Literatuur als Losprijs (first published in 1932; henceforth Sheherazade) by Flemish author Raymond Brulez. Our study of Sheherazade follows a genetic orientation to text,<sup>2</sup> meaning that the focus is on how the text developed over time, reconstructing the process of writing based on the draft documents of the work. The documents are taken "as sources of evidence of textual development and change through time" (Van Hulle and Shillingsburg 36), in other words, they are testimonies of Brulez' writing process. These textual objects present their own set of challenges and opportunities for interface design and editorial curation. The material comprises of notes and rough sketches, heavily revised manuscript pages that testify to writer's struggle, corrected typescripts that show a publisher's intervention and censorship, and so on. The body of documentary material related to a literary work, including those writing notes and draft manuscripts, is called the genetic dossier or avant-texte.<sup>3</sup> Through a careful study of the avant-texte it is possible to reconstruct the development of a literary work. Seemingly insignificant scraps of manuscript, then, become pieces of a puzzle; interrelated nodes in a network of textual fragments. A team of researchers from the Centre for Manuscript Genetics (CMG) in Antwerp<sup>4</sup> set out to represent this complex network in a way that is appealing to a large audience. In close collaboration with external partners, the CMG created a digital museum exhibition of Sheherazade that showcases the avant-texte and introduces the user to the stories the documents convey. This resulted in the Brulez Digital Exhibit (BDE), a

This term, coined by Dirk Van Hulle and Peter Shillingsburg (2015), groups together all textual research into draft text and literary writing processes.

For a more detailed explanation of the concept of avant-texte, we'd like to refer to the online *Lexicon of Scholarly Editing*, initiated by Dirk Van Hulle and developed by Wout Dillen. See uahost.uantwerpen.be/lse/index.php/lexicon/avant-texte/ Accessed 24 Oct. 2017.

The researchers in question are Vincent Neyt, Dirk Van Hulle, Aodhán Kelly, and Elli Bleeker.

digital artefact that is based on scholarly research but intended to be used by a wider audience. The present paper sets out to reflect on the objectives and the results of the BDE project, looking at how its objectives relate to scholarly editing and interface design. In particular, we examine how to communicate the specific aspects of textual genetic research of *Sheherazade* to a non-specialist audience.

The paper is divided into four main parts. The first section looks at general interface design principles and considers their relevance to (digital) scholarly editing. It then dives deeper into the genetic orientation to text, by giving an account of its main research objectives and describing what can be found when we look at the avant-texte of Sheherazade from a textual genetic perspective. The third section, then, examines how a collaboration between scholarly editors and external partners led to a digital cultural artefact (i.e. the BDE) that resonates with different audiences. We review what this collaboration entails and how to conduct such a process productively. The fourth and final section addresses the questions of classification and evaluation of the BDE. We propose to consider the digital object not as a spin-off, but rather as one interface for the CMG's research findings. We examine whether the BDE can be classified as a scholarly output, and whether creating these kind of objects should count among the tasks of digital scholarly editors. The question of evaluation of the BDE, finally, is approached in two ways. On the one hand, we evaluate its efficacy based on user testing. On the other hand, we describe the challenges of evaluating this kind of digital object from a scholarly perspective. These challenges include - but are not limited to - providing access to the underlying code, documenting the argument we make through the interface, and the possibilities to reuse an idiosyncratic interface.

With this paper, we intend to shed new light upon a collaboration between different parties that was aimed at creating novel representations of text. By analysing the outcome of this partnership, we enhance our understanding of the function of interfaces of digital scholarly editions. This, in turn, contributes to a deeper reflection of the role of scholarly editors within the digital paradigm, of the tools they have to share their knowledge, and how multidisciplinary collaboration can help them to communicate a sense of the textual treasures contained in a work's *avant-texte*.

## 2 Interfaces and digital scholarly editions

# 2.1 The principles of interface design

The very concept of an interface is quite broad and ubiquitous. When examining which interface principles can be relevant for scholarly editions, therefore, it is useful to narrow the scope, and look at how interfaces are used for digital humanities projects. Based on the literature, we distinguish three possible functions of interfaces. First of all, an interface can be used to make a site's content accessible for an audience

broader than those who would normally visit the site; it can be "generous" in the sense that it can reveal the scope of a collection's contents (Whitelaw §3, §46). Mitchell Whitelaw describes how, "in revealing the complexity of digital collections, a generous interface would also enrich interpretation by revealing relationships and structures within a collection." (§3) This generosity is closely connected to a second principle of interface design, namely that an interface can best be "visually rewarding for the reader of research results" (Ruecker et al. 13). A visually attractive interface encourages the user to continue browsing the collection, making the use of the site enjoyable on a functional level. This may seem obvious, but Matthew Kirschenbaum points out that the interface of digital humanities resources "at times seem little loved" (online, n.p.). One possible reason for this is offered by Alan Galey, who describes the unfortunate tendency of DH to treat activities of text encoding and interface design as separate concerns that occur "at opposite ends of the research plan", thus missing the opportunity to model the relationship with the user in the interface (Galey 114). In this respect, Galey as well as Kirschenbaum identify two dangers of deferred interface design in a digital humanities project: first, that a hasty, under-resourced design phase is disproportionate to the influence of that design in the reader's experience; and second, that deferring the interface assumes content is distinct from, and precedes, form (Galey 111).

It can be said, then, that an interface benefits both from modelling the functional aspects of the design and from a certain focus on its aesthetics. Aesthetic design has been shown to increase the perceived usability and thereby the overall usability of a digital resource (Kurosu and Kashimura 1995). Indeed, the aesthetic appeal could be central to successfully engaging with the public. A third and final principle is that an interface needs to be as intuitive as possible in order to engage and sustain the attention of the user: users are more likely to "use trial-and-error methods at interactive exhibits than to read instructions" (Bachta et al. 2012). For that reason, they would first need to be able to intuitively identify: What am I looking at?; Why would I want to look at it?; What can I do with it? If these conditions are met then there is a much increased prospect of communicating the scholarly message.

### 2.2 Interfaces for digital scholarly editions

In the field of digital scholarly editing, meanwhile, the topic of interfaces has grown in importance and has furthermore been subject to considerable discussion. Nevertheless, as of yet, no standards for the development of interfaces for digital editions exist. One reason for the lack of standards seems to be that digital editors cannot agree whether they actually want one (Porter, footnote 6). The downsides of providing an interface

<sup>&</sup>lt;sup>5</sup> These are three principles of rich prospect interfaces for cultural heritage (Ruecker et al. 6).

for your edition are famously put forward by Peter Robinson who describes that, while a specific interface presents (a tool to explore) certain aspects of the edition, it obscures the rest of the underlying dataset<sup>6</sup> (Robinson "Five Desiderata"). Robinson proposes that this dataset be made available in its entirety - and under free licensing - for APIs and other forms of reuse. The same argument is made by Bodard and Garcés (85) who rightfully point out that making the edited texts as well as the digital framework fully available is crucial for the reproducibility and accountability of the editorial work. If the dataset is locked away and only accessible through an interface, the scholarly work lacks transparency. For that reason, Robinson states "your interface is everyone else's enemy" ("Five Desiderata"). Animosity aside, it is a truism that an interface steers or manipulates the ways in which a reader can use your edition has been pointed out by others as well. Indeed, an interface contains an argument about a collection (Ruecker et al. 2015; see also Nyhan), making the edition's interface an inextricable part of the editorial argument (Andrews and Van Zundert in "What Are You Trying To Say?"). It follows that the subjective characteristic of an interface should be made clear to users, and the workings of the interface itself should be documented and explained. What is more, it does not suffice to simply make the scripts and software available by uploading them in online repositories like GitHub or SourceForge: before datasets can be understood or reused by third parties they need to be properly documented as well.<sup>7</sup>

Nonetheless, as long as the editor is clear about the ways an edition's dataset is handled, having an interface can be advantageous. Some of these advantages are mentioned by Wout Dillen, who describes the interface as a tool for editors to make their presence known to the reader, just in case the latter is in need of an expert guide ("The Editor in the Interface."). The function of an interface for a digital edition, then, would be twofold: first, it offers the editors a tool to set forth their argument and highlight certain features they consider worthwhile; secondly, it provides users with a chance to view the text through an expert's lense, which, hopefully, leads to a deeper understanding of the edition's text. It should be noted here that Robinson, too, acknowledges the use of an interface for users that are not technically savvy enough to directly access and process the underlying dataset directly ("Why Interfaces Do Not and Should Not Matter"). In conclusion, then, we can say that the animosity of an interface depends on how heavily it influences the use of an edition, and whether

With "dataset" we mean everything that constitutes a digital edition, from source files (e.g. XML transcriptions), scripts and tools to the encoding guidelines, schemas, and the documentary material.

Another practical and hard-to-ignore issue with providing full access to the content of an edition is that some of the authorial material may still be copyrighted. In many cases, editors need to make provisions and partly secure the content of their edition. The debate about copyright and Open Access for digital scholarly editions (and Digital humanities research in general) is still very much ongoing, but not part of the scope of this article.

or not a user understands how the interface highlights and obscures parts of the collection. The interface of a scholarly edition appears to be much more than a glossy layer of design: it can guide the perspective of a user and thus indirectly communicate editorial knowledge.

Choosing to create something within a museum space as a form of engagement is indeed a little less common in textual scholarship. Still, Bailey-Ross et al. argue that public engagement in these spaces can and should form a core part of digital humanities projects as it can further inform research, improve learning, and increase the social impact of research (1-2). This is aided by the goals of these public facing institutions which are constantly and increasingly working towards establishing new forms of engagement and participation, by providing innumerable resources that facilitate visitor participation, interaction, and learning (4). Of course, the digital turn has had a transformative impact on the field of museum studies and its associated practices and concepts - just as we have seen in digital scholarly editing. Ross Parry has called the process of transformation the 're-coding' of museums – within which "notions of visit, of object, of collection, of expository space, of curatorial authority, have all become recodified" (14). Competition for attention in a museum setting, however, could be quite challenging and there may be a relatively small window of time for us to first engage a visitor's attention. A report conducted into the use of touch tables in museums suggested the average time using these devices was approximately two minutes (Goldman and Gonzales 2). Two minutes is certainly a short time within which to communicate a relatively complex message regarding textual genesis, but, hopefully, not impossibly short.

These observations suggest that digital scholarly editors could make good use of an interface. It can most notably be implemented to reach out to users that would otherwise not been part of the intended audience. Elena Pierazzo notes that while it seems "delusional" to hope for a large and general audience, scholarly editors may well commit themselves to creating "outreach editions" that still present the rich, fluid nature of text and its transmission history (Pierazzo 152). We are reminded of Whitelaw's generous interface, or the interface of Ruecker et al. for rich prospect browsing: interfaces that are rich and that represent the entire scale of the collection, while simultaneously providing sufficient tools to explore that collection and the complex relationships between the various items it contains.

# 3 The genetic orientation, curation, and Sheherazade

Let us turn now to some of these complex relationships as they can be found in the *avant-texte* of *Sheherazade*. The CMG has been working with Brulez' manuscript

material for some years now.<sup>8</sup> As mentioned above, the archival material is examined from a genetic orientation. This means that *writing* is understood to be a dynamic process, and *text* as a fluid entity with no specific beginning or end.<sup>9</sup> Based on the CMG's research, it is possible to (partly) reconstruct Brulez' writing process. We can, for instance, trace the development of a sentence across document borders – from note to manuscript to typescript – or verify external influences on Brulez' creation process. It is, however, difficult to convey these findings to non-experts or, for that matter, to anyone who is not distinctly familiar with Brulez' life and work.

The frustration regarding this topic is aptly summarized by Robert Darnton, who acknowledges that "any historian who has done long stints of research knows the frustration over his or her inability to communicate the fathomlessness of the archives and the bottomlessness of the past" (7). Darnton muses over ways to make available "the raw material embedded in the story" and specifically to provide readers with an awareness of "the complexities involved in construing the past" (7). While he is a book historian by trade, the yearning Darnton describes is well-known among scholarly editors too. Their research brings them to literary archives and boxes filled to the brim with documents. After an in-depth study of the content of these boxes, scholarly editors can form a plausible picture of the text's history, while remaining aware of the complexities inherent to the material. So if we, as editors, function both as gatekeepers to and as curators of a text, how can we guide users through a digital *avant-texte*? How can we relate to them the development of a sentence in *Sheherazade*, show Brulez' work methods, and reveal his sources of inspiration?

#### 3.1 The avant-texte of Sheherazade

The documents directly related to *Sheherazade* are spread over three archival boxes (identifiers B917/H2a, B917/H2bis, and B917/H3) in the archive of the *Letterenhuis*. For the most part, they contain notes and draft manuscripts in the author's hand, as well as typescripts and page proofs with authorial revisions. The stories of *Sheherazade* are written between 1928 and 1930, during the so-called golden age of the contemporary manuscript. <sup>10</sup> Similar to modernist authors such as James Joyce and Virginia Woolf, Raymond Brulez displayed a conscious interest in his own writing process. He believed

This entails a detailed study of the genetic dossier and a TEI/XML transcription of the manuscripts among others. Moreover, Dirk Van Hulle used the material for his courses on genetic criticism at the University of Antwerp, creating together with Vincent Neyt an interactive online environment for students: www.brulezarchive.org/.

Most editorial projects undertaken at the CMG follow this orientation to text, see the Samuel Beckett Digital Manuscript Project (2010 - ) on www.beckettarchive.org (Accessed 27 April 2017).

With regard to western manuscripts, in fact, this golden age has been defined as the period between 1750 and 1950 (Grésillon 11), a time when paper was inexpensive enough to be used for drafting and sketching, and when authors preserved these drafts out of an interest in the creative processes.

that the journey, or the writing process, was equally important as the destination, i.e. the literary work (Brulez 62). This led him to ardently collecting all material traces of that process, resulting in a vast collection of draft documents.

On a narratological level as well, *Sheherazade* constitutes an ideal candidate to communicate the principles of textual genetic research. Needless to say, it is inspired by *One Thousand and One Nights*, a collection of oriental folk tales compiled over the course of several centuries, the oldest version of which dates from the 9th century (Reynolds 271). In the protagonist of the Arabian frame story, Scheherazade, Brulez recognized a fellow story teller labouring to find plots and storylines. He epitomized the oftentimes difficult process of writing in his version of *Sheherazade*, by letting his heroine buy her life and her freedom with stories written for the sultan's diversion. Brulez later described the storyteller Sheherazade as patron saint of literature who is incarcerated by the Sultan, as her critic. The mental hard labour of Sheherazade acts as a metaphor to demonstrate the form of "torture" that a writer must endure (Brulez 61). This narrative provides a colourful metaphor that, along with the extant document material in the archive, makes an amenable feature to demonstrate *Sheherazade*'s textual genesis to users.

At first sight, the draft documents do not convey much information: they need to be presented in a certain order and context before they become meaningful. When trying to make sense of a writing process, a first intuition is often to distinguish a chronological order, or at least a sequential arrangement of the material. This ordering works relatively well for Brulez. In general, his work method can be described as part structural, part improvisation. He used pen and paper as cognitive aids, to structure his thinking and facilitate reflection. He usually started with making notes, then sketched a writing plan to help structure and organize the notes (see fig. 1).

The notes and sketches served as a basis for a first draft of the story: large parts of the text on the notes are incorporated in the manuscript. After using the text of a note, Brulez crossed it out to avoid reuse. The draft manuscripts served as a base for one or two typescripts which Brulez subsequently revised. The revised typescripts were sent to magazines or journals for publication, so for some stories there exist (corrected) page proofs. However, his process was not entirely linear and chronological: we can distinguish various successive layers of revision in the writing plans, manuscript, and typescripts. For instance, after changing the order of the stories in *Sheherazade*, Brulez returned to the writing plan and updated it. There are, of course, also the roads not taken or abandoned routes – so called "cul-de-sac" sentences (Van Hulle, "Collation de réécritures" 283). These are dead-ends in the writing process: fragments of text that did not make it into the published version. In short, various routes meander

<sup>11</sup> This is in addition to the fact that Brulez had quite an illegible handwriting.

<sup>&</sup>lt;sup>12</sup> In the terminology of Pierre-Marc De Biasi, Brulez' work method can therefore be placed between écriture programmatique and écriture à processus (De Biasi; Fierens).

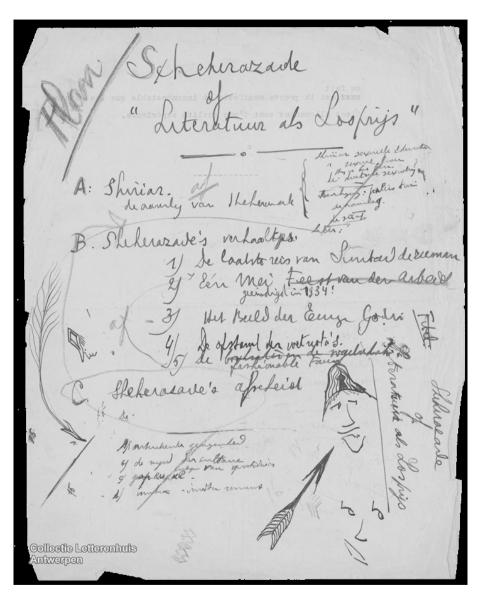


Figure 1: Plan for Sheherazade.

through the *avant-texte* of *Sheherazade*; together they map the journey that was Brulez' writing process. A chronological arrangement of the material, therefore, requires the inclusion of such deviations and divergences.

### 3.2 Genetic paths in the avant-texte

In trying to capture and represent some of these routes or pathways, we took some inspiration from the idea of a "genetic path" described by Paolo D'Iorio (see Bartscherer "Ecce HyperNietzsche"). In this model, the editor is a metaphorical pearl diver who collects beautiful gems from the bottom of the sea. Such a gem – a *pearl* – is a special element or unit in the archive. Pearls range in size and could consist of textual fragments, editorial commentary, or complete notebooks among others. For instance, if we want to study the development of a certain word, we could search for all pearls that contain this word, string them together in a chronological order, and thus generate a new sequence called a genetic path.

The concept of a *genetic path* that follows the development of a specific textual instance also underlies the revision narrative in John Bryant's theory of Fluid Text editing. In short, a revision narrative is a description of textual variance provided by an editor. It may "tell a complex tale of intentions and maneuvers with novelistic intensity and suspense" (Bryant 159). Accordingly, the editor is given a *carte blanche* when it comes to describing the poetics of textual variance – naturally within the boundaries of editorial methodology – which makes the revision narrative the primary means of communication between editor and reader. With this unconventional take on the classic form of the critical apparatus, which only records variance but makes no effort to explain it, Bryant proposes a means to "map out variation, chart paths from one version to another, and enable users to lead themselves along those paths" (123). In this setup the editor takes users by the hand and shows them how the text develops, on the way presenting them with interesting discoveries and persuading them to go exploring the *avant-texte* themselves.

The BDE consists of three genetic paths with revision narratives. One of them, named after *Sheherazade*'s frame story "Wat is Liefde zonder Verleiding",<sup>13</sup> concentrates on Brulez' working methods as described briefly above. It is intended to give users a peek "behind the scenes", a visit to the writer's workplace, and shows Brulez' particular way of writing. The path demonstrates the tactile and material aspects of the first stages in the writing process by zooming in on the way he arranges and processes the notes, and by showing how he used colour coding and letters to organize the narrative elements. The method of *bricolage* also constituted an important element in the composition process: for instance, Brulez sometimes cut up notes to synthesize

<sup>&</sup>lt;sup>13</sup> This translates to "What is Love without Seduction".

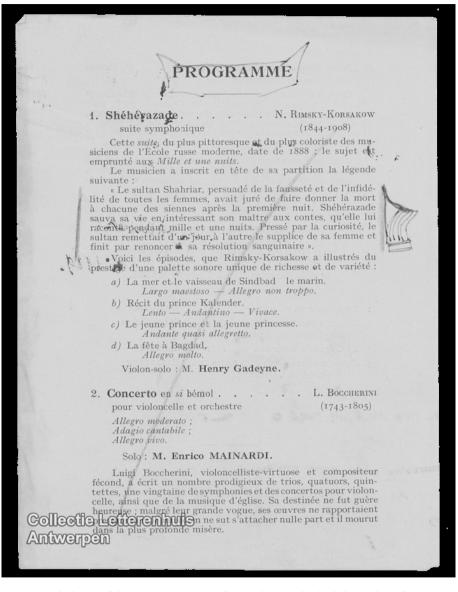


Figure 2: Brulez' copy of the concert programme for Rimsky-Korsakov's Shéhérazade performance in Oostende 1929.

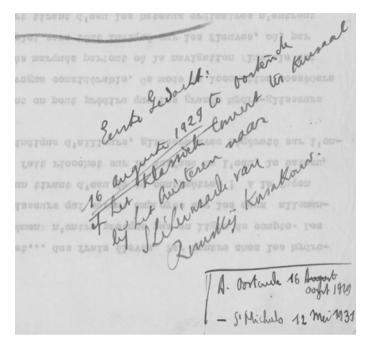


Figure 3: Brulez' inscription on cover of the draft writing notes for Sheherazade.

different textual fragments. Puzzling together the various loose snippets allows the reader the various loose snippets, but it allows the user to catch a glimpse of the abandoned roads and those *cul-de-sac* sentences. The notes, as such, provide material traces that transcend document borders. Stringing these traces one after another allows us to reconstruct genetic paths that indeed crisscross through the *avant-texte*, demonstrating how the textual fragments constitute a rhizomatic web of interrelated elements.

Another genetic path in the BDE illustrates Brulez' first moment of inspiration for the story collection and show some of the external sources that influenced the evolution of the work. In the summer of 1929, Brulez attended a symphony concert of the Russian composer Nikolai Rimsky-Korsakov's *Shéhérazade* performed in Oostende (Belgium). He kept a copy of the concert programme upon which he marked the summary in blue pencil (see fig. 2). Brulez later marked this moment of inspiration on the cover of his draft notes for *Sheherazade*: "First thought: 16th August 1929 in Oostende at the classical concert in the Kursaal when listening to Shéhérazade by Rimsky Korsakov" (see fig. 3). This path includes an audio recording of the symphony.

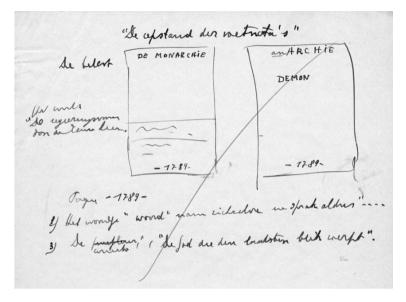


Figure 4: Plan for 'Opstand der Voetnota's'.

The third and final path delves deeper into one of the stories, "De Opstand der Voetnota's" <sup>14</sup> that contains wealth of literary references, ironic anachronisms, and allusions to contemporary politics and society that the collection of stories contains (Van Parys 130). Furthermore, this particular story has an interesting background when it comes to typography, which plays an important role in the story. The draft manuscripts, typescripts, and page proofs are therefore visually compelling (see fig. 4). Finally, it has an interesting publication history that illustrates the concept of "epigenesis", i.e. how text continues to develop after its (first) publication. In this case, the story changed appearance over the course of the years due to practical and ideological constraints of different publishers (see also Van Hulle "Letterenlaboratorium").

The individual genetic paths illustrate, one by one, three key concepts of the genetic orientation to text: exogenesis, endogenesis, and epigenesis.<sup>15</sup> Although the paths are only a fraction of what the *avant-texte* of *Sheherazade* contains, it is already quite

<sup>14 &</sup>quot;The Rise of the Footnotes"

The terms "exogenesis" and "endogenesis" were first coined by Raymonde Debray Genette (28). They mean respectively the gathering of external sources and the incorporation and processing of those sources into the text proper (see also De Biasi 42–4). Dirk Van Hulle expands upon these ideas by adding the term "epigenesis": the continuous development of the text after the moment of publication (Van Hulle 7).

a challenge to describe the textual and material relationships in sufficient detail, with respect for alternative routes and without oversymplifying the scholarship that went into the establishment of these paths. Indeed, only through the CMG's study of *Sheherazade*, it was possible to create three genetic paths that each communicate a certain "story" to the users of the BDE. As will be described in more detail in section 4, the paths consist of audio-visual material combined with editorial annotations. The users of the BDE are free to deviate from the sequential order in which the fragments are presented, which is intended to convey the meandering, non-linear aspect of a writing process.

In this respect, it is interesting to consider the remarks of Paul Rosenbloom who argues that great science typically has three attributes: veracity, importance, and novelty (221–2). Rosenbloom claims to be less interested in the methods, as long as they are convincing and lead to something new and compelling. According to him, researchers can be too focussed on veracity, while he personally tends to learn more from things that are important or present novel conjectures. This argument could also be applied to textual scholarship that is traditionally extremely focussed on the veracity of texts and editorial methods. If we want to be able to communicate our knowledge of texts with broader audiences, then we may need to place more emphasis on convincing users and readers of the importance of our topics, and on isolating interesting novelties within our research in order to capture their attention.

This careful and thoughtful process of selection must then be performed in much the same way as the curator of a museum must decide upon selecting a tiny percentage of their collection to put on display, which is interesting, informative, and reflective of the entire collection of objects. The British Museum, for example, is only able to place 1% of their collection on public display in Bloomsbury at any one time, which must be a rather arduous process. <sup>16</sup> We, as scholarly editors, in an equivalent curatorial context with our chosen documents and texts, might find it very confronting to select a mere 1% of our scholarship that must be communicated in an engaging and representative fashion. Participating in this act of curation not only involves selecting and presenting static material objects, but also communicating our knowledge to the user in the form of a revision narrative. As such, we hope to show users how enticing the content of the boxes in a literary archive can be.

# 4 Building the Brulez Digital Exhibit

As said, the BDE is the result of a collaborative effort between textual scholars, web designers, and a cultural heritage institution, and it relies on the strengths of all parties.

<sup>&</sup>lt;sup>16</sup> See the Fact Sheet of the British Museum collection: www.britishmuseum.org/pdf/fact\_sheet\_bm\_collection.pdf.

The previously existing relationship between the CMG and the *Letterenhuis* was a fairly traditional one in which, primarily, an archive provided scholars with access to materials. This digital exhibit project allowed the two groups to collaborate in a new way and on something that was mutually beneficial. The partnership with the developers by the Antwerp communication agency Prophets, proved to be both useful from a practical side of creating the exhibit and also by offering another perspective, that of an enthusiastic but uninformed audience in the area of genetic criticism. This initial audience became part of the process through which the communication of the scholarly research results and objectives were defined and refined. A balance had to be struck with adhering to more scholarly research objectives while also presenting information in such a way that was both understandable and interesting for nonexpert users. There is considerable value in this type of interaction as has been argued by Ruecker et al.: "the connection between graphic design and academic research has implications for the ongoing need for improved communication between the academic and non-academic worlds" (13). A notable outcome of this relationship was a stronger emphasis on the importance of being selective with content and refining it significantly in order to ensure that the most suitable interface design was implemented.

As said above, the communicative aim of the BDE is to showcase the multiplicity of genetic research and the features of genetic criticism by emphasizing that textual genesis is not a linear process towards a final, finite state of the text, but a transformative and dynamic process in which each textual state is of equal importance. The BDE is designed to present users with a very first impression of the different aspects of genesis, a concept illustrated through the material evidence from the archival boxes of *Sheherazade*. A relatively detailed description of its structure, navigation, and aesthetics is necessary in order to express the importance of the process and outcomes of interface design for the *Brulez Digital Exhibit*. This is, furthermore, needed in order to classify the exhibit as a form of publication and to attempt to situate it as a form of interface among the existing research outputs in the field of textual scholarship. Finally, describing the decision making process that was involved in building the exhibit could further enable the evaluation of the outcome.

#### 4.1 Structure of the BDE

The BDE is structured quite similarly to the story collection of *Sheherazade* itself, with a top level grid much like the frame story and two sub-grids or sub-stories, all containing genetic paths. As such, we addressed the observation of Kirschenbaum, who argues that "an interface, whether the windows and icons of a website or the placement of a poem on a page, can somehow be ontologically decoupled from whatever "content" it happens to embody" (524). The top-level grid, simply called

Sheherazade of literatuur als losprijs, introduces the user to the concepts of the BDE and to the writer and this particular work. This top-level also introduces the first genetic feature, the inspiration, through materials connected to the Rimsky-Korsakov concert (thus touching upon the concept of exogenesis) and Brulez' conceptualization of writing as a sea journey. The first of the two sub-grids, Wat is liefde zonder verleiding, guides users through the genetic path that demonstrates the planning, note taking, cutting, pasting, and restructuring of the plan until it reaches a published table of contents. This addresses the materiality of writing and Brulez' working method of cut-and-paste (bricolage) as it is described above. The second sub-grid is the genetic path of De opstand der voetnota's that explains the concept of the story as well as demonstrating its evolution through plans, drafts, typescripts, and publications. Each step is conveyed as a slide with visual and verbal information: several images and a caption with a short explanation. The combination of text, images, audio and video files provides considerable flexibility to craft a dynamic telling of the genetic paths.

## 4.2 Navigation

The initial slideshow presentation that was used to brief the web developers on the content of *Sheherazade* and the overall concepts of the genetic research proved to be highly effective and had therefore a great impact on the final design in which users click through the successive stages of a genetic path in a sequential order. Users can navigate through the sequence by using the arrows on the right and left of the screen or the numerical navigation bar on the bottom right. As such, the narrative of this genetic path is set up as a linear story in which the manuscript fragments are chronologically ordered, whereby the user may follow a premeditated route through the *avant-texte*. Some first time users may prefer this option to exploring the material, but users are not bound by the constraints of the narrative: they can leave it or access it at any point. The transition between slides, too, does not have a *linear* feel to it; rather, it swivels and spins from one frame to another. It is one of the aesthetic features that – hopefully – convey the sometimes non-directional process of writing even though the story of that process is told in a linear narrative.

This additional navigation and user freedom adheres to common user experience (UX) practices. For instance, Jakob Nielsen and Rolf Molich stressed the importance of "user control and freedom" and "flexibility and efficiency of use" (??). User control and freedom refers to how "users often choose system functions by mistake and will need a clearly marked emergency exit to leave the unwanted state without having to go through an extended dialog [...]" (Preece et al. 501). Flexibility and efficiency of use refers to "accelerators – unseen by the novice user – may often speed up the interaction for the expert user such that the system can cater to both experienced and inexperienced users [...]" (502). In analogy with Brulez' metaphor of writing,

then, the BDE allows its users to wander around and be blown off course as well. A second feature of the navigation addresses the aforementioned principle of *rich* prospect browsing (Ruecker et al.). This suggests that the primary webpage needs to provide users with a good visual overview of all the content available to them, understand how they can call it or manipulate it, and be in full control of the display and manipulation tools (3–4). This corresponds with the intention of giving the user an idea of the interrelated, networked structure of Brulez' writing space. Accordingly, the homepage is visually portrayed as a messy writer's desk where all the elements contained in the exhibit were laid out.

Taken together, the navigation and visualization of the BDE deal with a certain duality in genetic criticism. On the one hand, it is important to convey the development of text. Text is linear by nature and can be represented in a sequential manner, but these characteristics do not apply to its development and composition process. When we construct a path we establish a chronology. By constructing a sequential path, a chronology in the textual constitution is established that implies a certain linearity. On the other hand, there is also an attempt towards capturing and conveying the nature of thought – both the thoughts of Brulez and of the editors – that can be seen as an interconnected network of associations and fragments, interwoven in a rhizomatic fashion. This duality is not problematic but suggests specific ways of visualization in which the two means of perceiving – linear and rhizomatic – are not mutually exclusive but mutually informative.

## 4.3 User experience and reusability

The concept of a genetic path in the form of a dynamic narrative that can be accessed at any point is adopted to present the user with in-depth information about the textual genesis of *Sheherazade*. It presents a scholarly hypothesis, but with a minimal threshold. By clicking through the path from beginning to end, the user is guided through an editorial argument. Keeping in mind the duality of genetic criticism, it can be said that these genetic paths are visual representations of the linear structure of text or, more precisely, of the scholarly argument about its composition. While the landing page, in its simulation of a writer's desk, represents the networked or rhizomatic nature of the writing space. Here, the visual arrangement expresses an aspect of writing that is difficult to put into words. It is, however, only by stitching together these different fragments that a coherent, meaningful whole emerges.

Arguably the most challenging design ambition of the BDE was to find a means to visually represent the physical dynamism of the writing process, in other words to demonstrate the movement, change, and non-linearity of text production between the notes, drafts, typescripts, proofs, and publications. The solution offered by the web developers for this visualisation was to create animations of the materials that

could be integrated into the exhibit as videos by users. Two of the three genetic paths are introduced by short video animations that set the scene and provide a visual framework for the path in question and the related documentary material. Set to the music of Rimsky-Korsakov's *Scheherazade*,<sup>17</sup> the two videos show the animated manuscripts of Brulez: letters appear on the page, documents are blotted with ink or marked with red pencil, words are crossed out – in short, the full dynamics of writing in motion. The animations are not intended for viewing outside of the exhibit as they do not provide sufficient contextual background knowledge for the viewers alone. While the information presented in the genetic path clarifies the animations, the videos contribute to the narrative by making the story of the genesis more dynamic.

The underlying code for a blank template of the digital exhibit will be made available on GitHub<sup>18</sup> along with some installation documentation in the near future. It is also being investigated how to apply a Creative Commons licence that is as open as the content will allow. In this way, we hope that the BDE can maximise its contribution to the scholarly community. It is possible that researchers at the CMG may decide to add further genetic paths to the exhibit in the future or apply the software's framework for use with another writer. It is actually fitting that the overall project may never be "finished". In line with the idea of genetic criticism, which values the process over the final product, the BDE is an intermittent product of an on-going research process.

## 5 Classification and evaluation

#### 5.1 Content and classification

Usability testing was conducted during the build phase in the form of two comprehensive user observation sessions in which the subjects were asked to navigate the entire site and to speak their thoughts aloud, while team members recorded notes of their actions and thoughts. These tests helped identify issues in the usability of the website, in particular the navigation logic, which was relayed back to the web developers. It also helped identify where the content of the exhibition needed improvement and clarification, either in terms of the order of the narrative or difficulties with concepts and language. What became very apparent was that the exhibit in this demo stage initially presented far too much information to hold user's attention, which resulted in another round of team curation to clarify and reduce the content. As said above, this tendency towards brevity is something which goes against the natural instincts or initial desires of many a scholarly editor who, ideally, wants to share their detailed knowledge with the world. Indeed, Philip Gaskell describes that

<sup>&</sup>lt;sup>17</sup> The music used in the animations is a recording of *Scheherazade* conducted by Leopold Stokowski in 1934 (CC BY-NC-SA 3.0).

<sup>&</sup>lt;sup>18</sup> See: github.com/centre-for-manuscript-genetics.

it may be tempting for an editor to suppose that he should present all the evidence concerning every version of his text, and should annotate practically every word of it; tempting cause the inclusion of everything would relieve him of the difficulty of deciding what to omit, and would also guard him against possible criticism for having omitted what he should have included. [...] [The editor] will often want to record his hard-won expertise even when it does not directly illuminate the text. But his job is to convey the author's work to his readers, to show off his own scholarship; and the readers are interested not in the editor but in the edition. (Gaskell 6–7)

Identifying a selection of the more important research findings may provide editors with an opportunity to situate the value of the scholarship in a broader context and better disseminate the documentary materials and background knowledge. With regard to the BDE, such a curative approach to the content proved to be an extremely challenging activity: it required the input of four scholars from the CMG as well as feedback from designers and users. This alone suggests that the creation of outreach publications for dissemination, in order to be successful, can be treated as a critical scholarly endeavour. The resulting product can, therefore, be deemed to be "scholarly". As the outcomes of the interface design had a substantial influence on the curation and selection of content, thus the content and form of this digital exhibit are almost inextricably linked. Design and curation, then, are not two separate processes, but activities that are better performed in tandem with each other, that should also be treated as a critical endeavour.

If we consider the BDE in light of the remarks on scholarly editions and interfaces, it becomes clear how the approach of genetic paths assigns the editor the role of textual curator. Consequently, the BDE can be seen as a manifestation of Dillen's argument for an editor as guide to help a user make sense of the content of an edition (above, section 1). But where Dillen suggests that the editor lay low, only to present herself when explicitly called upon, the BDE gives the editor a prominent platform. When it comes to the classification of the BDE in relation to a digital scholarly edition, it is easiest to start with a definition ex negativo. First of all, it cannot be defined as a derivative or spin-off of a digital scholarly edition, simply because the digital scholarly edition of Sheherazade is still under construction. Neither does it offer an exhaustive, critical representation to the complete text of Sheherazade. Yet, the BDE does have many characteristics of a digital scholarly edition: it is a fluid publication, it communicates findings of scholarly editing research according to a certain orientation to the text, and it offers a digital "surplus" that cannot be provided by an analogue platform. In fact, the BDE appears to fall under Pierazzo's definition of a digital scholarly edition as "an interpretative representation of historical documents which encompass a combination of primary sources surrogates, edited text(s), and tools to exploit them" (Pierazzo 200). Within the field of museum studies, it can also be argued that museum itself is a "medium" – "a three-dimensional, multi-sensory, social medium in which knowledge is given spatial form. However, they are also themselves *full of* media" (Parry 11). From this perspective, this form of digital exhibit could then count as yet another "medium".

Given the BDEs rather atypical position among the existing forms of scholarly outputs, and considering the audience with which it intends to communicate, we propose to classify it as an *interface*. As editing projects produce more than one interface for different audiences, the BDE is just one of the interfaces to Brulez' *Sheherazade*, and the scholarly edition that is currently under construction at the CMG is simply another interface for another audience. Both interfaces are derived from the same texts, materials, and scholarly research activities regardless of who the audience might be. A digital exhibit is created for different purposes than a digital edition and this inevitably means that it enables a different form of user interaction. Editors typically create objects that are targeted at *readers* or *researchers*, but taking the museum as a metaphor and preparing digital objects for *visitors* might be useful to conceive the way in which we communicate and engage with broader publics. As a result, the overall research being done on Brulez at the CMG can be defined as a *project*; the BDE being one of the results and deliverables of the project.

#### 5.2 Evaluation

Defining the BDE as an interface to a scholarly editing project further means that the principles discussed under section 1 should apply. In recap, it was suggested that a digital interface should be "generous" in the way it reveals the complex relationships of the content of the collection and in the way it is visually rewarding. Ideally, it also supports browsing at an enjoyable level and in intuitive ways. When it comes to scholarly editions, specifically, it is important that the edition's dataset is not obscured and remains available, as it happens under open access or open source licenses. Moreover, it needs to be clear that the interface communicates a scholarly argument and that its workings inevitably influence how a user interacts with the material. This way, the editor becomes a guide who is, particularly in the case of the BDE, present to point out interesting aspects of a text that can otherwise only be appreciated after a thorough examination of the material and the writer's creative process.

For the BDE as interface to comply with these principles, its dataset needed to be made available. As said, the exhibit is based on the CMG's scholarly research and editorial work, but at the time of writing, the digital edition proper is not yet ready to be launched. In due time, the BDE will link to the edition – and vice versa – which will also provide the TEI/XML transcriptions and the project's encoding

guidelines. As mentioned in section 3, the code that makes up the interface of the BDE will be made available in GitHub under a CC-license. It will be provided with documentation that, along with this article, describes the editorial orientation and objectives fundamental to its development. It remains to be seen whether this setup provides users with adequate means to sufficiently understand the functioning of the BDE and for reviewers or scholars to determine the efficiency of the BDE in communicating the textual genesis of *Sheherazade*. A second focal point is whether the way in which we provide access to the BDE's code will allow other (genetic) editors to "recycle" the format, or whether it turns out to be too idiosyncratic, that is, too attuned to Brulez' features. Because the code has not yet been made available online, the scope of the present article excludes such an evaluation of possible reuse. Nevertheless it would be valuable to compare other implementations of the *Sheherazade*-framework to assess its potency for communicating and disseminating textual genetic research.

## 6 Reflections and conclusions

It is a rare and precious opportunity for any scholarly editor to create a digital exhibition of their documentary material in collaboration with a specialist in web design. Apart from the obvious design expertise, the close collaboration with external partners from non-academic backgrounds has had several other consequences. First, it proves a useful instrument for reflecting upon the message one wants to convey. Working together with the designers from Prophets and having them as our first audience was a helpful way to learn to communicate about *Sheherazade*'s genesis. It provided an opportunity to better formulate and shape our editorial arguments and findings to a public of interested lay persons. As the creation of a digital exhibit is an iterative process of going back-and-forth between consultations, design, and testing, it is a good exercise in modelling. The modelling aspect occurs as well when identifying aspects of editorial research (and research findings) that are potentially of interest to an audience of non-experts. It encourages scholarly editors to think about ways to present their content and their argument in a clear manner – yet without oversimplifying them.

Secondly, it affects the role of the editor as textual curator. An exercise in modelling also is an exercise in restricting and, in our case, not each and every detail of *Sheherazade*'s *avant-texte* and Brulez' work methods can be included in the content of the BDE. In fact, the idea of having multiple interfaces may be soothing for editors that face the unfortunate task of limitation: a user's experience of the text would no longer rely completely on the functionality of one interface – depending on their interests and technical skills, users have at their disposal multiple entry-points to the edition's dataset. While the interfaces proper can be created together with other

parties, the editors are largely responsible for documenting the motivation behind their methods and objectives, and how the interfaces manipulate the edition's dataset. Another task for editors and textual scholars would be the evaluation of the interface: does it work as intended? Does it present users with an editorial perspective on the text, or does it provide users with tools for further explorations? As the topic "interface design" is relatively novel for the field of digital scholarly editing, it may well be that some of these questions are answered in the negative. A continuous self-evaluation, therefore, is crucial for further developments in this area. The situation is captured by Peter Shillingsburg, who notes that "attempts to see provisional or temporary relations and even harmonies in the complexity are not to be abandoned because perfection is not available to us" (Shillingsburg 23). While it is reasonable that a complex textual situation cannot be represented in a simple and uncomplicated manner, the representation needs to be understandable or else it misses its goal.

This paper set out to look critically at ways to communicate the specific aspects of textual genetic research to a wider public. The paper first looked at the general principles of interfaces for digital heritage collections and singled out some important issues regarding interfaces and scholarly editions. Where interfaces can be set up to present an all-encompassing and attractive overview of the collection, they can simultaneously steer or influence the user's engagement. When used to convey a scholarly argument and facilitate a certain use of the data, interfaces can also obscure or obstruct other uses. These risks can be addressed and significantly reduced by clearly communicating the scholarly argument(s) and by providing other ways – other interfaces – to access the edition's data.

The large collection of extant material combined with the materiality of Brulez' work method and the fact that the hard labour of writing and storytelling is one of the main themes of the work, makes *Sheherazade* an ideal case study for a genetically-oriented interface. In the documentary material of *Sheherazade* we find notes, manuscripts, typescripts – all with authorial revisions – that allow us to order the documents more or less chronologically, from a first moment of inspiration to a corrected page proof. Creating an interface that reflected the genetic orientation entailed, *inter alia*, a focus on the process of writing rather than on a "final" product. As a result, the BDE's interface was designed to bring forward the editorial presence by ordering the material as little storylines or pathways: these paths are our expert interpretations of Brulez' writing process. By highlighting certain material (documents, photographs, or musical fragments), the users are presented with the creative agencies that may influence the development of a literary text.

The case study has further shown that collaboration between scholarly editors and external partners to create a digital cultural artefact can result in something that is more than the sum of its parts and can resonate with different audiences. The interface design of the BDE has a far greater aesthetic appeal than what could be produced

in house at the CMG. The success of this shared enterprise will hopefully serve to highlight that working with commercial companies is not an inherently fraught filled pursuit for academic projects with funding limitations. The partnership with the *Letterenhuis* provided the rather expensive hardware for the installation, which to some extent compensated for the expense of outsourcing the design and development; and of course, it further provided the physical space in their exhibit area along with an audience for our scholarship.

The fourth section described in more detail how the BDE can be understood and classified as an 'interface' – one of possibly many interfaces for the *Sheherazade* research. If we take this interface as, on the one hand, reflecting a scholarly perspective and, on the other hand, influencing the ways in which a user can access an edition, it becomes clear how it defines the relationship between the editor and the user. In the case of the BDE, this relationship is one where both sides are active and present: the editor by setting out paths through the content; the user by clicking through the successive stages or, conversely, by deviating from the path. The interface should be deeded scholarly due to the rigour through which it has been created both in performing the genetic textual research, and through the process of curating the content and narrative. Accordingly, it can be deemed to be a "scholarly" output for a non-scholarly audience.

A pending issue is the evaluation of the BDE as a particular interface and digital artefact. The article discussed a number of ways in which such an evaluation can be supported, such as providing access to the scripts, documenting the digital framework, and clearly stating the scholarly intentions that led to its creation. But, as pointed out in section 4, the development of interfaces can benefit from more (and more diverse forms of) user testing. With regard to the BDE, we may decide to add further genetic paths to the exhibit in the future or to apply the software for use with another writer. It will be interesting to see whether the framework can be applied to other, but similar, use cases. If such applications are successful, this might contribute to the establishment of particular interface principles for the genetic orientation to text. To encourage reuse, users will be invited to download and implement the software as they see fit. In order to properly assess the reusability of the code, an open and ongoing dialogue on the topic is warranted, so we hopefully request that any forms of reuse are reported back to us.

The main goal of the BDE project was to communicate and disseminate textual genetic research to a non-expert audience. While the research can be complex, we found that there is little reason why the key findings cannot be understandable and accessible to more than a small community of dedicated scholars. The BDE is therefore intended to give users a chance to consider text from a genetic orientation, whilst keeping the threshold as minimal as possible. In order to attain this goal, the BDE needs to convey the dualism of the writing process, i.e. both its linear aspects and

its networked, "rhizomatic" nature. It attempts to let the user interact with both aspects, thus using the strengths of linear sequences (i.e. the genetic paths) as well as a complete and "generous" overview (i.e. the landing page as the writer's desk). It was found that this particular mode of presentation can benefit the dissemination of genetic criticism because it presents an adequate representation of the concept of "text under development" without overburdening the user with information.

Typically, textual genetic scholars have a tendency to lose themselves in teleological hermeneutics: producing author-centered studies that appeal to exclusively to an audience of the converted. Yet the combination of text and images, of linear and networked, has the potential of engaging the user in "an act of imagination" (Sousanis 61). Similarly, the BDE combines the strengths of different modes of visualization (sequential and simultaneous), using the linear nature of the verbal expression in combination with the relational nature of the writing space. By using the appeal of multimedia content (digital facsimiles, images, music, video, and text), the end-user is engaged to become the associate of the editor, a "researcher in arms" as it were. She's provided with an awareness of the diverse material that constitutes the *avant-texte* and the various ways in which this material can be interpreted. In the BDE, the user is the actor who animates words and images, and transforms a static presentation into something dynamic. As such, we hoped to convey our hypothesis regarding the genesis of *Sheherazade* in a meaningful way, and to bring to life the documents of the *avant-texte*.

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