

Mapping  
Subjectivity  
On the Applicability  
of GIS and  
Sentiment Analysis  
Tools to Stendhal's  
*Voyages en France*

---



---

Charlotte Vrielink  
Master Thesis  
ReMa Literary Studies

Radboud Universiteit



---

Écrire, c'est lutter, résister;  
écrire, c'est devenir  
écrire, c'est cartographier  
je suis un cartographe

(Deleuze, *Foucault*, 51)

## Acknowledgements

I would like to offer words of thanks to all those who never ceased to offer their support and motivational words, and joined me in my enthusiasm for this incredibly interesting subject. I would like to thank my family, friends, fellow students and professors at Radboud University for their positivity and inspiring conversations. I am much obliged to my colleagues at the CREATE research group at the University of Amsterdam, who supported me in the publication process of the QGIS map. Carlijn, Bob and Pien: many thanks for your dedicated assistance in the annotation process of the sample texts. I would also like to thank Alex Buiks and my fellow study group members for the inspiring group spirit.

However, above all, I would like to express my deepest gratitude towards my two supervisors. Marc Smeets and Roel Smeets, who have been nothing but supportive throughout the entire process, and from whom I have learnt a great deal, both for the literary and digital aspect of this thesis. As Deleuze says in the quote above: writing can be a struggle, but it can also be a formative process. The latter is true for me, and that is mainly because of your supervision: *un grand merci*.

---

# CONTENTS

<b>Summary</b>	5
<b>Introduction</b>	6
<b>Chapter 1   Theoretical Framework</b>	15
1.1 The Spatial Humanities	15
1.2 Literary Cartographies	18
1.2.1 Mapping Literature	18
1.2.2 Static & Interactive Maps	23
1.3 Stendhal's Spatial Subjectivity	28
1.3.1 Spatial Subjectivity	28
1.3.2 <i>Un tourisme intérieur</i> : Stendhal's Spatial Subjectivity	31
<b>Chapter 2   Methodology</b>	38
2.1 Phased Plan	38
2.2 On The Importance Of Scale	40
2.3 Testing Tools & Selecting Software	41
<b>Chapter 3   Results</b>	55
4.1 GIS	55
4.1.1 Mapping Stendhal: base maps	55
4.1.2 Heat maps	60
4.1.3 Analysis of mappings	60
4.1.4 Mapping time	66
4.2 Sentiment analysis	67
<b>Conclusion and discussion</b>	72
GIS	72
Sentiment Analysis	73
The Roads Not Taken	74
Further Research	75
<b>Bibliography</b>	77
<b>Attachments</b>	82
<b>Chapter 2   Methodology</b>	82
1: Sample texts	82
2: SummarizeBot – results for sample texts	85

---

**Chapter 3 | Results**

	88
3: Making of base maps – data tables	88
4: QGIS base maps	103
5: ArcGIS heat maps	110
6: Time-slider	115
7: Sentiment analysis – base tables	116
8: Sentiment analysis - visualisations	123

---

---

## SUMMARY

### Mapping Subjectivity

#### On the Applicability of GIS and Sentiment Analysis Tools to Stendhal's *Voyages en France*

This research project is an overture to the exploration of modern digital tools in the study of 19th-century French literature. The following research question will be addressed:

**To what extent are computational GIS and Sentiment Analysis tools suited to enhance our understanding of Stendhal's *Voyages en France*?**

In order to answer this question, I have systematically discussed two types of tools (GIS and Sentiment Analysis) on their ability to produce new insights into Stendhal's French travels and their effectivity for these types of research questions in general. While the methodological part of this thesis could be described as exploratory or experimental, it does not exclude the possibility of producing surprising results and offer new insights about Stendhal's work, as is illustrated by relevant examples from the case study. Computational methods and tools (various types of GIS Technology and Sentiment Analysis) help us find patterns that usually escape the human eye and allow the user to create large databases, combine multiple layers of information on maps. The application of these tools will be accompanied by a thorough evaluation of the effectivity of its functioning for this particular corpus and research question.

The chosen case study is Stendhal's *Voyages en France*. Stendhal's (1783-1842) characteristic writing style, a mixture of a quest for a "dry" realistic documentation and a strong individuality and subjectivity, certainly holds true for his *Voyages en France*. We see the world through the eyes of a writer whose mind and body can be so affected by travelling and new impressions that even a psychological disorder related to travelling was named after him ("The Stendhal Syndrome"). This makes Stendhal's work particularly suited for an analysis of sentiments.

To conclude, this research project has multiple uses: it will evaluate the use of new digital tools (QGIS, ArcGIS Online, SummarizeBot) for the study of 19<sup>th</sup> century French travel literature. Next to this main goal, it also discusses the origins of tourism in France, and Stendhal's typical *égotisme*.

---

## INTRODUCTION

*J'aime les beaux paysages, ils font quelquefois sur mon âme le même effet qu'un archet bien manié sur un violon sonore ; ils créent des sensations folles...*

- Stendhal, *Mémoires d'un touriste*, 5th of May 1837

### **In Defence of a *Computationally Enhanced Close Reading***

In the last decades, we have seen how a so-called “spatial turn” has had a profound impact on the theoretical framework of humanities research. In his work *Deep Maps and Spatial Narratives*, David J. Bodenhamer notices an explanation for this recent amplified interest in spatial issues:

A continuous thread links the first spatial turn [...] with the one we have experienced more recently, but it is likely that this second turn will have a more profound influence on the theory and practice of the humanities, in large measure because of the digital revolution that has accompanied and facilitated it.<sup>1</sup>

As comes to the fore in this quote, and as will become apparent in this thesis, the spatial turn and the so-called digital turn often go hand in hand these last decades: the former in the theoretical underpinning of the research, the latter in the methodology section. Thanks to this digital revolution, which reinforced the heightened focus on space instead of time, researchers are invited to be experts in a certain area or region instead of experts in a certain time period. I personally believe that, in this “epoch of space”, it would be very refreshing to redefine the generally standard divisions between experts in medieval culture, 18th-century literature, post-World War II studies, etc. Before we dive into the precise methodology and the exact phased plan of this thesis, let us start by looking at this new field that has arisen with the digital turn, the Digital Humanities, and discuss some of the lively debates that have accompanied its rising popularity.

Although humanities research has made use of technology since the 1940s, under the heading of “Humanities Computing”,<sup>2</sup> the Digital Humanities, a vast academic field in which humanities research is carried out with the use of digital sources and digital methods, are one of the fastest growing scientific areas in the humanities. The Digital Humanities are booming: eponymous study programmes and minors are being started at universities,<sup>3</sup> various Digital Humanities Labs or research groups are

---

<sup>1</sup> David J. Bodenhamer *et al.*, *Deep Maps and Spatial Narratives* (Bloomington IL 2015) 8.

<sup>2</sup> Edward Vanhoutte, ‘The Gates of Hell. History and Definition of Digital | Humanities | Computing’. In Melissa Terras, Julianne Nyhan & Edward Vanhoutte (eds.) *Defining Digital Humanities. A Reader*. Farnham: Ashgate Publishing, p. 119-156.

<sup>3</sup> Some examples in the Netherlands include the Master’s programme ‘Digital Humanities’ at Rijksuniversiteit Groningen, the ‘Digital Humanities’ minor at Leiden University, and the minor ‘Digital Humanities and Social Analytics’, a

---

founded, and conferences around this theme (such as the DH2019 conference organised in July 2019 at Utrecht University) attract thousands of attendees.

At the same time, not all humanities scholars are equally enthusiastic about this thriving development. Critics are sceptical about the use of digital methods in their research field for different reasons. In these cases, the Digital Humanities are often seen as the absolute counterpart of qualitative historical or cultural research, and they would undermine the exact thing that distinguishes humanities research from other types or scientific work: close reading, thorough research into a limited corpus from a limited research period, where human interpretation of the products of the human mind or a careful contextualisation and nuancing of historical events is essential and indispensable. If qualitative statements and research questions are at the very core of the study of literature, and the qualitative aspects of our research is what makes the humanities stand out, how could quantitative analyses be useful or even relevant for literary studies? Furthermore, the digitalisation and the quantification of sources and methods could hinder the research process because of the fact that only a limited kind of (quantitative) questions could be asked, and there would be a risk that the humanities faculties would be taken over by beta scientists without care for nuance and the cultural-historical context.<sup>4</sup>

Recently, Marc van Oostendorp, professor of Dutch and Academic Communication at Radboud University, wrote a number of articles on the limitations of the so-called *distant reading*, a term coined by literary scholar Franco Moretti in 2000.<sup>5</sup> It describes a research method that is the counterpart to close reading (the study of a single book or a limited corpus of books), as distant reading look at larger patterns “it allows you to focus on units that are much smaller or much larger than the text: devices, themes, tropes—or genres and systems”.<sup>6</sup> According to Van Oostendorp, distant reading “[...] remains at the surface, and keeps seeing novels as collections of words”.<sup>7</sup> He concludes that the use of it could in fact result in some interesting analyses, but that the problem resides in the way the texts are *read*: “Reading is something a computer cannot do. That is, if you understand it as: reading a text and giving it meaning”.<sup>8</sup> Van Oostendorp’s allegations are certainly not unfounded: while more and more refined techniques are being developed that can recognise a text’s theme or style, a computer will never be able to completely replace the interpretative character of a human analysis. But this is exactly the crux: the replacement. Almost all (often understandable) concerns of critics are based on a false opposition between qualitative and quantitative research, between close and distant reading. Some examples of this false opposition have been mentioned above. Advocates of the Digital Humanities, however, plea for a combination of qualitative and quantitative methods, where one method is not superior to the other.

The debate on mixed methods already existed before the rise of the Digital Humanities. Theorists in this debate distinguish two kinds of research: quantitative and qualitative research. Purists

---

collaboration between the Vrije Universiteit Amsterdam and the University of Amsterdam.

<sup>4</sup> For an overview of these and other critiques in the debate on the Digital Humanities, see: José van Dijk, ‘Big Data, Grand Challenges: On Digitization and Humanities Research’, *Kwalon* 21:1 (2016) 8-18, as well as: Stephan Besser en Thomas Vaessens, ‘Digital Humanities: the Next Big Thing? Enkele notities bij een ontluikend debat’, *Tijdschrift voor Nederlandse Taal- en Letterkunde* 129:4 (2013) 191-204.

<sup>5</sup> Franco Moretti, ‘Conjectures on World Literature’, *New Left Review* 1 (2000) 54-68.

<sup>6</sup> *Ibid.*

<sup>7</sup> Marc van Oostendorp, ‘Het probleem van distant reading’, *Neerlandistiek: Online tijdschrift voor taal- en letterkundig onderzoek*, 17 september 2018, <https://www.neerlandistiek.nl/2018/09/het-probleem-van-distant-reading/>, my translation.

<sup>8</sup> Marc van Oostendorp, ‘Kunnen computers lezen?’, *Neerlandistiek: Online tijdschrift voor taal- en letterkundig onderzoek*, 13 januari 2019, <https://www.neerlandistiek.nl/2019/01/kunnen-computers-lezen/>, my translation.

---

on either side on the spectrum believe that is not possible to combine the two methods of research. This idea is called the “incompatibility thesis”, which states that “qualitative and quantitative research paradigms, including their associated methods, cannot and should not be mixed”.<sup>9</sup> However, since the end of the 20th century, new theories have arisen that advocate a combination (total or to a certain degree) of these qualitative and quantitative research paradigms, in the format of ‘mixed methods’.

Can this new approach completely overcome the incompatibility between the two divergent strands of thought? Sometimes, but not always, is the answer given by Manfred Max Bergman. He states that “mixed methods research cannot claim to bridge the unbridgeable gap between positivism and constructivism”,<sup>10</sup> but he also argues that “mixed methods design is able to provide an alternative to mono method designs, [...] for specific research questions, under certain circumstances, and given enough resources”.<sup>11</sup> Johnson & Onwuegbuzie share this statement that mixed methods research is not the final and absolute solution to the incompatibility of qualitative and quantitative research, but they recommend a so-called ‘contingency theory’, which “accepts that quantitative, qualitative, and mixed research are *all superior under different circumstances*”.<sup>12</sup>

Therefore, following this strand of thought, we could say that the mixed methods approach could be seen as a separate third way, as the researcher is able to choose between the three different options: quantitative, qualitative, and mixed research. This is also visible in the division of the strengths and weaknesses per approach in the article by Johnson & Onwuegbuzie. However, it would be more plausible not to accept these absolute divisions between the approaches, but to place them on a continuum in which the approaches are not at all, slightly or considerably mixed, from monomethod to fully mixed.<sup>13</sup>

Applying this debate to literary studies in his work *Macroanalysis: Digital Methods and Literary History*, Matthew Jockers explains why neither close or distant reading is perfect: with a close reading approach, the research corpus is often limited to some (canonical) works, and with a macroanalytical approach – he prefers this term over distant reading, because he believes that a computer doesn’t actually read, only analyses – there is a reasonable chance that details and subtext in a work are missed. Accordingly, analyses on the two scales should co-exist.<sup>14</sup> Jockers therefore proposes a blended approach:

It is exactly this sort of unification, of the macro and micro scales, that promises a new, enhanced, and better understanding of the literary record. The two scales of analysis work in tandem and inform each other. Human interpretation of the “data”, whether it be mined at the macro or micro scale, remains essential. Although the methods of inquiry, of evidence gathering, are different, they are not antithetical, and they share the same ultimate goal of informing our

---

<sup>9</sup> R. Burke Johnson and Anthony J. Onwuegbuzie, “Mixed Methods Research: A Research Paradigm Whose Time Has Come”, *Educational Researcher* 33:7 (2004), 14.

<sup>10</sup> Manfred Max Bergman, “The Straw Men of the Qualitative-Quantitative Divide and Their Influence on Mixed Methods Research”, *Advances in Mixed Methods Research*, 2011, 12.

<sup>11</sup> *Ibid.*

<sup>12</sup> R. Burke Johnson and Anthony J. Onwuegbuzie, “Mixed Methods Research: A Research Paradigm Whose Time Has Come”, *Educational Researcher* 33:7 (2004), 22.

<sup>13</sup> *Ibid.*, 19-20.

<sup>14</sup> Matthew Jockers, *Macroanalysis: Digital Methods and Literary History* (Champaign IL 2013) 9.

---

understanding of the literary record, be it writ large or small. The most fundamental and important difference in the two approaches is that the microanalytic approach reveals details about texts that are, practically speaking, unavailable to close readers of the texts.<sup>15</sup>

The most important added value of a macroanalytical approach is that it provides the researcher access to scales that surpass human perception, and therefore gain better insight into the cultural-historical context in which the individual work was made or in which certain historical events took place.

However, a “post-Moretti wave” of researchers have nuanced the unbridled positivism about the Digital Humanities as expressed by well-known figures such as Moretti and Jockers, that was often the source of polemic debates in the humanities. Distant reading, they state, is not necessarily *better*. In 2017, Paul Fleming concluded that Moretti had not yet been able to bridge the gap between close and distant reading: “In Moretti’s overdetermined scene of confronting close and distant reading [...] one sense the tragic structure he sees between the two interpretive modes has not been resolved”.<sup>16</sup> This wave of researchers agree with Jocker’s proposition of a blended approach (between macro and micro scales). Long & So strive for a method that “synthesizes humanistic and computational approaches”,<sup>17</sup> while Piper offers “a methodological polemic against the either/or camps of close versus distant reading”.<sup>18</sup> However, they believe it should be taken one step further. Not only should computational research be “checked” by close reading, it should be a model of “circular discovery”<sup>19</sup> (in Piper’s terminology) in which the two modes continuously influences each other. In this kind of *recursive modelling*, the fluctuation between distant and close reading should move in two directions. Close reading after a computational analysis is not the ending point of the research, but offers input for reflection on the model itself, and inspiration for the adaption and enhancement of the computational model. Similarly, the computational model could “lead to new and unexpected exemplary passages, new ways of reading, because one is reading different things, that is, new examples”,<sup>20</sup> according to Fleming.

Thus, I’d like to speak of a so-called *computationally enhanced close reading*,<sup>21</sup> to reduce the false opposition as much as possible. Both qualitative and quantitative research methods will appear in my thesis, sometimes simultaneously, sometimes in separate phases. For each phase, I will thoroughly explain why I made the choice for one or both of the methods, and which consequences, advantages and limitations come with these choices; after all, quantitative, qualitative, and mixed research could all be “superior under different circumstances”.<sup>22</sup>

---

<sup>15</sup> *Ibid.*, 26.

<sup>16</sup> Paul Fleming, “Tragedy, for Example: Distant Reading and Exemplary Reading”, *New Literary History* 48-3 (2017): 453.

<sup>17</sup> Hoyt Long & Richard Jean So, “Literary Pattern Recognition: Modernism between Close Reading and Machine Learning”, *Critical Inquiry* 42:2 (2016): 236.

<sup>18</sup> Andrew Piper, “Novel Devotions: Conversational Reading, Computational Modeling, and the Modern Novel”, *New Literary History* 46-1 (2015): 69.

<sup>19</sup> *Ibid.*, 68-69.

<sup>20</sup> Paul Fleming, “Tragedy, for Example: Distant Reading and Exemplary Reading”, *New Literary History* 48-3 (2017): 452.

<sup>21</sup> A comparable term, ‘computationally assisted close reading’, is described in Lucas van der Deijl & Roel Smeets, “Tussen close en distant. Personage-hiërarchieën in Peter Buwalda’s *Bonita Avenue*”, *Tijdschrift voor Nederlandse Taal- en Letterkunde* 134:2 (2018): 143.

<sup>22</sup> This section was partly inspired by my article on the use of Digital Humanities in Theatre History departments. See: Charlotte Vrielink, ‘In kaart gebracht. Een digitale theatergeschiedenis van Amsterdam: GIS als brug tussen distant en close reading’, *Ex Tempore* 38:1 (2019), 96-113.

---

An important point to make here is that the quantitative and/or computational part of the research project - which have the advantages of speed, accuracy, and scale - should never be the only step the researcher takes: the distant reading (or macroanalysis) phase should be followed by an interpretative human close reading of the results, *and* should lead to an evaluation and enhancement of the model itself. The computational method is not a goal in itself, but should always be used to serve a computationally enhanced close reading of a text and to answer specific research questions.

In this thesis, I am going to test and investigate the applicability of two types of recently developed computational tools (GIS and Sentiment Analysis, which will be thoroughly explained in Chapter 2) on a specific literary genre, 19<sup>th</sup> century French travel writings. In this thesis, I will investigate the following research question:

**To what extent are computational GIS and Sentiment Analysis tools suited to enhance our understanding of Stendhal's *Voyages en France*?**

Computational methods help us to find patterns and organise information in a way that usually escapes the human eye or would cost much more time to do manually. As we are dealing with travelogues, using maps as organizing elements will provide us with tools to distinguish information on the grounds of theme, period and/or place. The goal is to create maps that would not be able to be printed on paper but are essentially digital, as they show information that is interactive. The advantage of making digital maps is that it enables the user to change the information presented to him, for example with a sliding bar, to change between different time periods, to zoom in on a particular city to have more precise information, to select certain thematic information: one could choose to have literary quotes appear on the maps, or a map of sentiments, one could add images, hyperlinks, routes. In this way, the enriched map can be adapted to the researcher's needs at any time. Another digital tool that will be used (also in combination with GIS) is sentiment analysis, in order to determine the relationship between place and emotion. However, as it are very recent tools, thorough evaluation is required. Therefore, this thesis could be considered an exploration into the applicability of these digital tools for these type of research questions and corpus.

In the following section, I will introduce the selected literary genre (19<sup>th</sup> century French travel writings) and my choice of case study in order to test the applicability of the tools: Stendhal's *Voyages en France*.

***19<sup>th</sup>-century travel writing***

Of course, travelling existed before the 19<sup>th</sup>-century. Until the end of the 17<sup>th</sup> century, travelogues were mainly written by people for whom writing was a secondary goal of their journey, as they had other professional, economic or political purposes. Their authors included missionaries, pilgrims, scientist, explorers, soldiers, merchants, sailors and diplomats.<sup>23</sup> It was not until the end of the 17<sup>th</sup> century that travelogues started to gain a certain literary aspect. An intellectual shift allowed purposes other than practical matters as the motive for travelling: looking for curiosities, the sentimental and the aesthetic, the philosophical and the desired. The most notable illustration of these type of voyages was the Grand Tour, during which many young men crossed the European continent as part of their

---

<sup>23</sup> C. W. Thompson, *French Romantic Travel Writing: Chateaubriand to Nerval* (Oxford: Oxford University Press, 2011), 5.

---

*Bildung* experience, whose objective was to return as adult men.

More and more attention was given to the relationship between the narrator and the inevitable “other” (Montesquieu’s *Lettres persanes* being a potent example). The foundation had been laid out for a “progressive valorisation of feeling and sensibility”<sup>24</sup>, with works such as Sterne’s *Sentimental Journey Through France and Italy* or even Rousseau’s *Rêveries d’un Promeneur solitaire* stressing (in a true Romantic spirit) the workings of the inner mind rather than the outlook of the exterior landscape. The boundaries between travelogue and novel became increasingly fluid, as travelogues contained anecdotes, poetic descriptions and dialogue, and could therefore be considered as a true *literary* genre.

The years following Waterloo saw a rise in travel for hedonistic pleasure. The tone of the travelogues was less serious and more playful and subjective, which resulted in the subgenre “voyages d’impressions”. The style could be humorous, and play on the particularities of the genre by publishing pastiches and parodies or more serious forms of travel writing. Moreover, the autobiographical factor (as had been the case with Chateaubriand and Rousseau), remains important in this time.

Stendhal’s travels typically fall within these developments of the genre: they have no educational, instructive or commercial goal; as the author travelled for travel’s sake, to observe, to document, to enjoy. It also has a strong autobiographical aspect: the distinction between author and narrator is often difficult to make. In this comprehensive overview of the genre, Thompson states that of the main objectives of Stendhal’s *Mémoires d’un touriste* was “the wish to guide and inform” the reader about the “relatively remote provinces and corners of France, a discovery which would gradually shape a more comprehensive geographical and human image of their country in French minds than most had previously held”.<sup>25</sup> Or, as Stendhal himself puts it: “Il n’y a presque pas de voyages en France ; c’est ce qui m’encourage à faire imprimer celui-ci”.<sup>26</sup> I do not entirely agree with the supposed originality, this might have been the case at the turn of the 19<sup>th</sup> century, but by 1838, multiple travelogues on the French province had been published, including Aubis Louis Millin’s *Voyage dans les départements du Midi de la France* (1807-1811) and Prosper Merimee’s *Notes d’un voyage dans le Midi de la France* (1835) and the series *Guide pittoresque du voyageur en France* (1834-1838).<sup>27</sup> Therefore, the originality of the work does not reside in the destination, but in the approach of the author, where the “le regard porté sur les lieux et les événements donne lieu à une vision toute personnelle – égotiste”.<sup>28</sup>

### ***Stendhal between Italy and France***

Stendhal (1783-1842), pseudonym of Marie-Henri Beyle, a French writer who combined romantic, realist and autobiographical elements in his works such as *La Chartreuse de Parme* and *Le Rouge et le Noir*, is well known for his love for Italy. After his first crossing of the Alps with the Napoleonic army, his Italophilia never ceased to grow: he spent some time in Milan, occupied the post of French consul in Civitavecchia and Trieste, and even his epitaph, which he wrote himself, reads: "Errico

---

<sup>24</sup> Ibid., 8.

<sup>25</sup> Ibid., 291.

<sup>26</sup> Stendhal, *Voyages en France* (Paris: Éditions Gallimard, Bibliothèque de la Pléiade, 1992), 3.

<sup>27</sup> Victor Del Litto, “Introduction”, in Stendhal, *Voyages en France* (Paris: Éditions Gallimard, 1992), xvii and xxix.

<sup>28</sup> Ibid., xix.

---

Beyle, Milanese: visse, scrisse, amò" ("Henri Beyle, Milanese: he lived, wrote, loved"). In fact, his admiration for the country was so profound and intense that a psychological phenomenon has been named after him: the Stendhal Syndrome. This is "a psychosomatic response—tachycardia, vertigo, fainting, confusion and even hallucinations—when the 'victim' is exposed to particularly beautiful, or large amounts of, art in a single place—e.g., Florence (Italy), which has a high concentration of classic works; the response can also occur when a person is overwhelmed by breathtaking natural beauty",<sup>29</sup> and its name was inspired by the similar experience of Stendhal himself when he visited Florence in 1817.

Considering this abundantly clear focus on Stendhal's admiration for Italy, it is perhaps no surprise that other aspects of his travels largely remain unnoticed. For the French writer did not only travel to his beloved Milan and Florence; he also visited Switzerland, Germany and Holland, but he made various long trips in his very motherland as well, for example in 1829 and 1838.

While knowing that Stendhal usually had nothing but praise for Italy, we could say that his travel writings on France are remarkable since they are more varied in tone: what does Stendhal write about the country, the cities, the buildings, the mores of the people, this France he both loathes and loves? To illustrate his discord, it suffices to take a look at the way he speaks of Grenoble, his native city: he often expresses negative views on this city where he lost his mother at the age of seven and describes how he couldn't wait to get out of there and leave the provincialism behind; however, in *Mémoires d'un touriste*, when he visits Grenoble at the 27<sup>th</sup> of August 1837, a few years before his death, he describes the city as follows: "Cet ensemble est bien voisin de la perfection: j'étais ravi au point de me demander comme à Naples : Que pourrais-je ajouter à ceci, si j'étais le Père éternel?"<sup>30</sup> ("This whole scene is indeed close to perfection: I was thrilled up to the point where I asked myself, just like in Naples: What could I possibly add to this, if I was the eternal Father?").

### **Corpus**

It is therefore that I have selected Stendhal's *Voyages en France* as my case study for this thesis: Stendhal being an avid traveler, the destination, but mostly because of the tone, which could be described as very personal, subjective and impressionist (more on this in Chapter 1). Here, I will describe the practical aspects that have also partly determined the choice of corpus. When deciding on the corpus for a digital humanities project, there are two limiting factors. The first is that the text has to be available in a digital, searchable format (.txt for example), and this is certainly not yet the case for every book. Moreover, this digital version has to be reliable as well, as many books digitized with OCR (Optical Character Recognition, where an image of page is scanned by a computer programme and automatically turned into a textual document) still contain many mistakes, which creates the so-called 'noise' in the computational treatment and analysis. Secondly, the size of the corpus has to be in conformity with the time frame of the master thesis, and is also dependent on the time it takes to prepare this corpus for computational analysis and to treat the results afterwards.

During the design of this research project, I had already established the idea that studying the provincial travels in France would be the most original angle to study Stendhal's égotisme, and the most suitable corpus to answer my research question. However, as Stendhal has left many of his works

---

<sup>29</sup> "Stendhal syndrome." *Segen's Medical Dictionary*. 2011. Farlex, Inc. 16 Dec. 2017 <https://medical-dictionary.thefreedictionary.com/Stendhal+syndrome>.

<sup>30</sup> Stendhal, *Mémoires d'un touriste* (ed. V. Del Litto), Paris, Folio Classique, 2014, p. 594.

---

unfinished after his death - some texts not even surpassing the ‘scattered notes’ phase - the selection of a specific set of texts was not obvious from the start. In principle, my starting point is the *Pléiade* edition of Stendhal’s *Voyages en France* (edited by Victor del Litto, 1992), which not only contains his well-known *Les Mémoires d’un Touriste*, but also the titles *Voyage en France*, *Voyage dans le midi de la France*, and a wide array of annexes, compiling various scattered notes. Work published by Les Éditions Gallimard in their *Bibliothèque de la Pléiade* series is widely considered to be the most comprehensive, most complete and most qualitatively annotated versions of works by acclaimed French authors, and are often the standard in scholarly research. Therefore, although on the larger side, this seemed the perfect corpus: complete and reliable. However, Gallimard does not offer a digital, searchable version of this book, and neither did they positively respond to my request for a digital version for research purposes, as they are quite protective of their editions. The *Pléiade* edition is 1581 pages long, so to insert the texts manually would completely undermine the advantages of a digital/computational approach: I might just as well take that time to close-read all those pages myself. The OCR option was not viable either: not only would I have to scan all those pages, but no OCR method was accurate enough for this type of corpus (scanned pages) at the start of my thesis, which would seriously harm the reliability of the digital texts.

There are many websites that offer digital versions of millions of books, such as Project Gutenberg<sup>31</sup> and the HathiTrust Digital Library.<sup>32</sup> However, the same aspect that makes this research topic so interesting (most of the texts are not well-known and have hardly been used for scholarly research yet) is an obstacle here: the texts I need are not digitized on any of these sites.

After much trial and error, I came to an unexpected yet satisfactory solution. I bought the *Oeuvres complètes* by Stendhal on iBooks, after which I managed to extract the files and convert them into an e-pub format, which I then could upload into the Calibre software on my desktop. This is not an ideal process for future literary research projects, because it takes many complex detours, but in the end, the files were made available for use.

An important note here is that these *Oeuvres complètes* only include Stendhal’s published books, *Mémoires d’un touriste* and *Voyage dans le midi de la France*, and exclude the selected unpublished material that Gallimard did publish in their *Pléiade* edition: the *Voyage en France* section, and the short extracts from his journals that narrate his earlier visits to places in the French province. A consequence of this situation is that the two published books (which make up the largest part of the *Voyages en France* bundle) can be used for all the computational analyses in this thesis, whereas the unpublished sections cannot. These unpublished sections will be used in the parts where close reading plays an important part in the design of the digital analysis. In the rest of this thesis, I will be very clear for each section, where I will explain which parts of the corpus were used and why. Generally, this means that all the elements will be included for the digital mapping section, but only the complete digital texts (the published books) can be used for sentiment analysis.

## Research design

The thesis will start with an overview of the field of the spatial humanities, and more specifically, static and digital/GIS literary maps, after which I will turn to the case study: I will explore Stendhal’s

---

<sup>31</sup> [https://www.gutenberg.org/wiki/Main\\_Page](https://www.gutenberg.org/wiki/Main_Page)

<sup>32</sup> <https://www.hathitrust.org/>

---

approach to spatiality, that is deeply rooted in subjectivity (Chapter 1). Chapter 2 is dedicated to the methodology, where the digital elements of the research are elaborately discussed and evaluated. Finally, Chapter 3 will analyse the results of the GIS Mappings and the Sentiment Analyses. The thesis will end with a conclusion that will include new insights into Stendhal's French travelogues, as well as reflections on the applicability of the digital tools.

---

## CHAPTER 1: THEORETICAL FRAMEWORK

### 1.1 The Spatial Humanities

#### *Introduction: The Spatial Turn*

April 15th, 2019, Île de la Cité. Dark clouds assemble ominously above the beating heart of the capital. The city known for its lights is now illuminated by a less welcome type of glare. With its age of over 850 years, the Notre-Dame Cathedral is both drenched in history, but at the same time has also stepped out of time, as it had achieved a status of eternity in the eyes of most people: it had always been there, and nobody questioned it would always be there in the future. Few buildings in the world can surpass this combination of age, worldwide renown, and symbolism. However, the surreal experience of seeing this icon of eternity burn was not only witnessed by Parisians, tourists and passersby, but was available to the eyes of the world while the fire was still ongoing: from New-Zealand to Alaska, people held their breath while the central spiral collapsed as they watched a live-stream on YouTube.

This estranged experience is an extreme example of the majorly altered relation between time and space in present-day society. Time and space can never be completely independent of each other, but the ways in which they are related changes throughout history, as the focus usually lies on one of the two. Some fifty years ago, Michel Foucault was one of the first to announce a shifted balance between time and space. In a speech given in Tunisia in 1967 (not published until 1984 as “Des espaces autres”) on the famous concept of the heterotopia, he announced almost prophetically that we have come to live in a society that is no longer defined by time, but can be seen as the “age of space”.

As we know, the great obsession of the nineteenth century was history: themes of development and arrest, themes of crisis and cycle, themes of accumulation of the past, a great overload of dead people, the threat of global cooling. [...] The present age may be the age of space instead. We are in an era of the simultaneous, of juxtaposition, of the near and the far, of the side-by-side, of the scattered.<sup>33</sup>

As Foucault described, “[s]pace itself, in the Western experience, has a history”.<sup>34</sup> In the introduction of *The Novel Map: Space and Subjectivity in Nineteenth-Century French Fiction*, Patrick Bray describes how, ironically, it is in fact the transformation of physical space in nineteenth-century France that has caused what Foucault calls “the great obsession” with history.<sup>35</sup> The centralisation, abstraction and homogenisation of French space, caused by the division of national space into drawn-up *départements*, was reinforced by the rapid developments in transportation technologies (such as trains), which resulted

---

<sup>33</sup> Michel Foucault, *Aesthetics, Method, and Epistemology* (New York: The New Press, 1998), 175.

<sup>34</sup> *Ibid.*, 176.

<sup>35</sup> Patrick M. Bray, *The Novel Map. Space and Subjectivity in Nineteenth-Century French Fiction* (Evanston IL: Northwestern University Press, 2013), 12.

---

in “compressed” space.<sup>36</sup> The consequence of this centralisation, standardisation and compression of space was that time had to be standardized as well, for example in order for rail schedules and telegraphs to function appropriately across the country. Before this standardization, each town had its own time, based on local solar measurements. Moreover, this new character of time was enhanced by the “obsession” with various ways to measure and analyse the course of time: theories of history, genealogy, evolution and progress.<sup>37</sup> The so-called “epoch of time” was established.

What changed since the end of the nineteenth-century, that made Foucault announce the arrival of “the age of space” in 1967? In *Spatiality*, Robert Tally discerns four factors that have played a part in the shifted focus from time to space. First of all, the atrocious events of the Second World War caused the abandonment of the nineteenth-century belief that history is “a progressive movement towards ever greater freedom and enlightenment”.<sup>38</sup> Atomic bombs and concentration camps forced many people to question the beatific function of time: the mere passage of time no longer equalled an increasing development from barbarism to civilisation.<sup>39</sup> A second factor for the growing importance of space is the rapidly increasing level of mobility in the world. During and after the war, massive movements of populations (soldiers, exiles, refugees, explorers) took place on a scale that had never been seen before. According to Tally, displacement is an important cause of the heightened attention to space in the post-war era: “Displacement, perhaps more than a homely rootedness in place, underscores the critical importance of spatial relations in our attempts to interpret, and change, the world”.<sup>40</sup> Tally mentions different geopolitical developments as the third reason: decolonisation, neocolonisation, and globalisation shook up spatial relations around the world.<sup>41</sup> The most recent development, and the fourth aspect, is a new kind of time-space compression. Whereas the time-space compression of the nineteenth century (caused by railways, the steam engine and the telegraph) resulted in a standardisation of time, the revolutionary technological advances of the twentieth-century version (air travel, telephones, space travel, satellites and the Internet) changed the time-space balance to such an extent that Tally speaks of an “unconscious overcoming of place”.<sup>42</sup> The Notre Dame livestream is a poignant example of this phenomenon.

### ***Spatial Humanities***

After the new focus on space had been established in society, it found its way to academia soon after, most notably in Foucault’s speech. However, the immense popularity of the so-called “spatial humanities” did not start until the late twentieth-century. This tipping point, after which space was deemed a subject worthy of thorough investigation at humanities faculties, is called “the spatial turn”, a term first coined by Edward Soja in 1989.<sup>43</sup> In a short period of time, myriad terms have arisen and many articles and books have been published in this ever-growing field of research that are the spatial humanities. The scope of this rapidly expanding and prolific field, where neologisms seem to be coined

---

<sup>36</sup> Ibid.

<sup>37</sup> Ibid.

<sup>38</sup> Robert Tally, *Spatiality* (London: Routledge, 2013), 12.

<sup>39</sup> Ibid., 13.

<sup>40</sup> Ibid.

<sup>41</sup> Ibid., 13-14.

<sup>42</sup> Ibid., 14.

<sup>43</sup> Edward W. Soja, *Postmodern Geographies: The Reassertion of Space in Critical Social Theory* (London: Verso, 1989).

---

faster than the accompanying sources can be read, has become far too fast to discuss all of its subfields in this chapter.

Therefore, I will take *Pour une géographie littéraire* by Michel Collot as the starting point of this chapter, which provides the reader with a general overview of the field, and does so from a specific French point of view, as his overview is largely based on multiple examples from the history of science, philosophy and literature in France, from Frédéric Mistral to Antoine Compagnon. In the first part of the book, entitled “Orientations”, Collot starts with an introduction on the spatial turn, followed by a summary of a handful of French precursors to the spatial humanities (such as André Ferré, who already published *Géographie de Marcel Proust* in 1939).<sup>44</sup> He then dedicates three separate chapters to three different approaches to the “literary geographies”: a geographical, a geocritical, and a geopoetic approach. In the second part of this work, entitled “Explorations”, he applies the broad panorama of ideas presented in “Orientations” to several specific case studies, among which the works of Jules Barbey d’Aurevilly, Michel Butor and Claude Simon. For the purposes of this chapter, I will focus on the three different approaches to literary geography, as it will serve as a foundation for the theoretical underpinning of this section, and will allow me to streamline the multitude of theories and ideas in the spatial humanities into three general categories.

### ***Three approaches to literary geography***

The first approach, the geographical approach, looks at the spatial context in which the books were produced (a geography *of* literature), or analyses the geographical places the texts refer to (geography *in* literature).<sup>45</sup> Moreover, the geocritical approach goes beyond a mere detection of places in literature, but aims to analyse the representations and meaning of space in texts.<sup>46</sup> This is similar to but should not be confused with the field of imagology, which looks at the representations of *people* in those places. Lastly, the geopoetic approach is the most complex point of view. It investigates the connections between literary creation and space, and the way the form of literary works is inspired by the very places they describe.<sup>47</sup> This focus on form is similar to ecopoetics, but geopoetics concerns itself with space in general, whereas ecopoetics pays particular attention to the natural environment. It is important to note that one approach does not necessarily exclude the other, and that the approaches are usually complementary. In 1.2, I will discuss the geographical approach, as this section is concerned with different forms of literary cartographies. The geocritical and the geopoetic approach will return in the section on “spatial subjectivity”.

---

<sup>44</sup> André Ferré, *Géographie de Marcel Proust* (Paris: Sagittaire, 1939).

<sup>45</sup> Michel Collot, *Pour une géographie littéraire* (Paris: Éditions Corti, 2014), 11.

<sup>46</sup> Ibid.

<sup>47</sup> Ibid.

---

## 1.2 Literary Cartographies

### 1.2.1 Mapping Literature

In the last couple of years, literary cartographies have become a popular subject, in the humanities, but perhaps even more so for the non-academic public.<sup>48</sup> Strikingly, a study on literary cartography does not even have to include actual maps. *Literary Cartographies: Spatiality, Representation, and Narrative* (2014) by Robert Tally, a compilation of essays on the narrative mapping in works of literature (Hardy, Brontë, Cervantes, etc.) does not feature a single image of a map. Tally considers the novel writer to be a cartographer: by means of words, he creates a mental map in the reader's mind.<sup>49</sup> He mentions James Joyce as an example of this narrative mapping, who had once stated that his aim for *Ulysses* was "to give a picture of Dublin so complete that if the city one day suddenly disappeared from the earth, it could be reconstructed out of my book".<sup>50</sup> Thus, according to Tally, who quotes J. Hillis Miller, "a novel is a figurative mapping".<sup>51</sup>

Since (digital) mapping will play an important part in my work, in this section, I will focus only on academic works (excluding the popular-scientific publications) featuring actual images of maps. This section also excludes works that study (historical) maps that were already in literary works at the original publication, such as *La carte de Tendre*, an imaginary map of the "topography of the different stages of love" that was published in the first part of *Clélie, Histoire romaine* (1654) by Madeleine de Scudéry. Many interesting studies on these kind of historical maps (subjects include medieval mappamundi, Dante, Stevenson and Swift) can be found in the recently published and very well-rounded *Literature and Cartography: Theories, Histories, Genre* (2017).<sup>52</sup>

Thus, this section will discuss recent studies in which literary scholars have produced new maps themselves, in order to gain better insight into one or multiple literary works, or the development of literature as a whole. These maps can be divided into two categories: "static" maps (which do not lose any content or possibilities when printed on paper) and interactive maps. Before I dive into the various types of mappings, I will first critically engage with the idea of literary mapping itself, and the challenges it may entail. Does literary cartography have added value for the study of literary works?

---

<sup>48</sup> Some popular publications (since 2015) include Sarah Baxter, *Literary Places* (London: White Lion Publishing, 2019); Huw Lewis Jones & Philip Pullman, *The Writer's Map: An Atlas of Imaginary Lands* (London: Thames and Hudson, 2018); Laura Miller, *Literary Wonderlands: A Journey Through the Greatest Fictional Worlds Ever Created* (New York: Black Dog & Leventhal, 2016); John Sutherland, *Literary Landscapes: Charting the Worlds of Classic Literature* (New York: Black Dog & Leventhal, 2018); Pieter Steinz, *Gids voor de wereldliteratuur* (Amsterdam: Nieuw Amsterdam, 2015); Andrew DeGraff, *Plotted: A Literary Atlas* (San Francisco: Orange Avenue Publishing, 2015). Based on Steinz (2015), Dutch newspaper *De Volkskrant* created an interactive map with literary locations all over the world: <https://www.volkskrant.nl/kijkverder/2018/lezenoplocatie/#/>.

<sup>49</sup> Robert Tally, *Literary Cartographies: Spatiality, Representation, and Narrative* (New York: Palgrave Macmillan, 2014), 1-12.

<sup>50</sup> Frank Budgen, *James Joyce and the Making of Ulysses, and Other Writings* (Oxford: Oxford University Press, 1989), 69, quoted in Tally (2014) 1.

<sup>51</sup> J. Hillis Miller, *Topographies* (Stanford: Stanford University Press, 1995), 19, as quoted in Tally (2014) 1.

<sup>52</sup> Anders Engberg-Pederson (ed.), *Literature and Cartography: Theories, Histories, Genre* (Cambridge MA/London: The MIT Press, 2017).

---

## *(Un)Mappable? Critiques of Literary Cartographies*

Why mapping? What is the added value of creating maps for literary research? In *Graphs, Maps, Trees: Abstract Models for Literary History*, Franco Moretti asks himself the same questions. First of all, Moretti writes, the creation of maps is a good way to prepare your chosen corpus for analysis. One reduces all the information present in the source to just some elements: with a literary text, this could be a physical movement, such as a walk or a road trip, of the protagonist; for historical research, an example could be an investigation into the social economic situation of different neighbourhoods by plotting income and taxes per parcel. By systematically choosing only a few elements, you can abstract the data from their narrative, cultural or historical context, which results in a model that gives a clear overview of the chosen elements.<sup>53</sup> Moreover, Moretti expresses the hope that these new abstract objects, the maps, are “more than the sum of their parts”:<sup>54</sup> they will show patterns that were not visible to the reader at the underlying level. He stresses that the map itself is no explanation, but at the very least, it offers a model for the rearrangement of the narrative, cultural and historical elements in an abstract and non-random manner, which sometimes causes hidden patterns to come to the surface.<sup>55</sup>

Literary cartography has not been spared of some controversy and critiques, both from more beta-oriented geographers as well as from critical literary scholars.<sup>56</sup> Here, I will focus on three frequently occurring critiques: the contested value of literary cartography, the (im)possibility of mapping imaginary places, and the absence of subjectivity.

### *The value of literary cartography*

First of all, the following questions are often posed: what exactly is the added value of literary cartography? What scientific interest do we gain by visualising literary information on a map? Does it transcend a mere illustration of information that is already known? In a response to these doubts, Barbara Piatti starts by admitting that literary cartography can never be perfect or complete; there will always be uncertainties to be taken into account in the process of literary mapping: “These range from the unavoidable incompleteness of the primary sources (with respect to a certain landscape or region) to the individual reading of the text that clearly differs from expert to expert, to name just two seemingly problematic aspects”.<sup>57</sup> So if a literary mapping is often incomplete and prone to multiple subjective interpretations, why should we proceed to produce them anyway?

According to Piatti, the key lies in our conception of these maps: they should not be seen as endpoints, but as starting points of further research. They are intermediate results, and its function varies from “pure *illustration* (to present something that could also be explained in a text), to *inspiration* (the process of mapping or in some cases its impossibility may lead to a new train of thought), and finally to *instrument* (in the best-case scenario something will be visible on the maps that could not be seen without them)”.<sup>58</sup> Piatti aims for the last function (maps as hermeneutic tools), where maps encourage the researcher to return to the primary source material with new questions to be answered.

---

<sup>53</sup> Franco Moretti, *Graphs, Maps, Trees. Abstract Models for Literary History* (London/New York: Verso, 2005) 53.

<sup>54</sup> Ibid.

<sup>55</sup> Ibid., 54.

<sup>56</sup> For a detailed overview of the debates in this field, see Tania Rossetto, “Theorizing Maps with Literature”, *Progress in Human Geography* 38:4 (2014) 513-530.

<sup>57</sup> Barbara Piatti, “Literary Cartography: Mapping as Method”, in Anders Engberg-Pederson (ed.), *Literature and Cartography: Theories, Histories, Genre* (Cambridge MA/London: The MIT Press, 2017), 48.

<sup>58</sup> Ibid., 58.

---

Maps should be an explicit *intermediary* result, as the final step of the research process should always employ the interpretative qualities of the humanities scholar, who is able to “weigh ambiguities, compare, contextualize, enlighten historical references, juxtapose several readings, combine, and include other methods and instruments”.<sup>59</sup> In some cases, the map itself is not even the most important product of literary cartography, if the process of mapping of even the impossibility of mapping a certain text can lead to new trains of thought.

In her conception of literary maps as intermediate results and hermeneutic tools, Piatti has undoubtedly been inspired by Moretti, who already in 1998 stated that “[p]lacing a literary phenomenon in its specific space – mapping it – is not the conclusion of geographical work; it’s the *beginning*. After which begins in fact the most challenging part of the whole enterprise: one looks at the map, *and thinks*”.<sup>60</sup> This idea still holds true when we turn from static maps to their digital counterparts, as GIS experts David Cooper and Ian Gregory also stress in their work on the English Lake District: “However, there is a need to remain alert to the fact that the principal work of the geographical literary critic should be to offer new spatial readings of the literature of landscape and environment; and that, as a result, the critical reflection on, and interpretation of, the GIS that we have produced remains an ongoing project”.<sup>61</sup>

### *Mapping imaginary places*

Another critique prompted by Piatti and Stockhammer focuses on the problems that are encountered when mapping fictional or imaginary places in literary texts. With our case study, I will probably not experience these difficulties: whilst it is probably a fictional text, and whilst we cannot be sure that Stendhal actually visited these places, at least we can point to a clear geographical referent for each chapter in the travel journal; the toponyms are quite easily identifiable and are enriched with a dense description of places in these existing French cities or towns, which makes the allocation of the places in the fictional text to real geographical places relatively undisputed and straightforward.

However, the process of matching real and fictional places becomes much more challenging with literary works that “create a whole new place, without limits – imaginary kingdoms, cities, countries, continents, solar systems invented with all these pieces”.<sup>62</sup> According to Collot, the obstacles that the cartographer is confronted with when dealing with these kind of texts include the fact that the contours of these fictional spaces can be vague and uncertain and do not always comply with existing physical, political and/or administrative borders, the localisation of these places can be ambiguous, the places could be fragmentary and leave the completion of their description to the reader’s imagination, and they can refer to historical places that no longer exist.<sup>63</sup>

Both Robert Stockhammer and Barbara Piatti have reflected extensively on these problems and have given some suggestions for the way forward. Stockhammer points to the use of base maps as a problematic habit in mapping imaginary places. Base maps, which contains all sorts of real

---

<sup>59</sup> Ibid., 58-60.

<sup>60</sup> Franco Moretti, *Atlas of the European Novel 1800-1900* (London/New York: Verso, 1998) 7.

<sup>61</sup> David Cooper and Ian Gregory, “Mapping the English Lake District: A Literary GIS”, *Transactions of the Institute of British Geographers* 36:1 (2011) 106.

<sup>62</sup> Michel Collot, *Pour une géographie littéraire* (Paris: Éditions Corti, 2014), 81.

<sup>63</sup> Ibid., 82.

---

geographical information and have a mimetic function (to reality), can be misleading to the reader.<sup>64</sup> He takes Marcel Proust's "Combray" as an example: in the first volumes of the novel, it seems identifiable with Illiers, the small town near Chartres where the author's family lived and which he visited frequently in his youth; so identifiable in fact, that the town of Illiers has been officially renamed Illiers-Combray in 1971, the centenary of Proust's birth. However, later on in the novel, many references to the First World War ("the battle of Méséglise") seem to situate Combray some 250 km west of Illiers, closer to Reims.<sup>65</sup> In this case, a mimetic base map would not suit the complexity of this literary location. Stockhammer claims that a more artistic, alternative form of mapping is the solution to these obstacles. These alternative maps should be able to convey the *literariness* of the texts: they should abandon a desire for referencing to a geographical reality, but should focus instead on rendering a spatial *understanding* of the text.<sup>66</sup> Nevertheless, Stockhammer admits that he is not able to give concrete examples at the moment, and that pinpointing his caution against the use of base maps is all he can do at this point.<sup>67</sup>

Piatti sees possibilities in the use of GIS software for mapping fictional places. Different shapes and colours can indicate the degree of incertitude with regards to the precise location of a literary place. For her literary map of the Lake Lucerne region, which includes 150 fictional accounts, she used point symbols for exact settings and ellipsoid symbols for vague locations (this larger symbol visualises the "zone of action"). Ellipsoid symbols in another colour (purple in her case) show vague zones of action in which the settings are invented or where the landscape is (partly) transformed.<sup>68</sup> A more detailed and technical description of these techniques for visualising incertitude in literary fictional places can be found in "Mapping Literature: Visualisation of Spatial Uncertainty in Fiction" by Anne-Kathrin Reuschel and Lorenz Hurni.<sup>69</sup>

However, Piatti pleads for alternative, artistically oriented maps of fiction as well, where correct distances and map scales are left behind. She then reflects on what these kind of maps might look like:

These might include a kind of fluid, multidimensional map, which changes smoothly between scales and layers; maps that include "foggy zones" where the text opens up blank, unwritten spaces as opposed to richly elaborated settings; maps that play with distortions; or maps that could merge georeferential elements with invented places and spaces.<sup>70</sup>

Unfortunately, whilst both Piatti and Stockhammer have inspiring ideas, they are unable to surpass the conceptional stage and give concrete examples of these fictional mappings, as they believe that "for the moment, such ideas still belong to the future".<sup>71</sup> However, the possibility of the ideal of a "multidimensional map" that "changes between scales and layers" is greatly improved by the recent

---

<sup>64</sup> Robert Stockhammer, "The (Un)Mappability of Literature", in Anders Engberg-Pederson (ed.), *Literature and Cartography: Theories, Histories, Genre* (Cambridge MA/London: The MIT Press, 2017) 91.

<sup>65</sup> *Ibid.*, 84-91.

<sup>66</sup> *Ibid.*, 85.

<sup>67</sup> *Ibid.*, 86.

<sup>68</sup> Barbara Piatti, "Literary Cartography: Mapping as Method", in Anders Engberg-Pederson (ed.), *Literature and Cartography: Theories, Histories, Genre* (Cambridge MA/London: The MIT Press, 2017), 46-47.

<sup>69</sup> Anne-Kathrin Reuschel and Lorenz Hurni, "Mapping Literature: Visualisation of Spatial Uncertainty in Fiction", *Cartographic Journal* 48:4 (2011), 293-308.

<sup>70</sup> Barbara Piatti, "Literary Cartography: Mapping as Method", in Anders Engberg-Pederson (ed.), *Literature and Cartography: Theories, Histories, Genre* (Cambridge MA/London: The MIT Press, 2017), 60.

<sup>71</sup> *Ibid.*, 60.

---

developments in GIS technology, that allows users to stack multiple layers on top of each other (cf. section 1.2.3). Perhaps, with these technologies, the discussed concepts could be turned into “convincing realizations as actual cartographic visualizations”<sup>72</sup> in the near future. To be continued...

### *The absence of subjectivity*

Next to his caution against base maps,<sup>73</sup> Robert Stockhammer also raises caution against the conversion of words into data<sup>74</sup>, but perhaps his most important caution is the one against the use of traditional projections.<sup>75</sup> He claims that “map projections mathematically eliminate *any* individual point of view”<sup>76</sup> since mapmaking is usually associated with a what Gérard Genette would call a *focalisation zéro*, whereas the narrator of a text does not possess the same point of view. To illustrate this difference an objective and subjective focalisation, he gives the example of an extremely distorted vision of geographical reality in Saul Steinberg’s map of New York and the United States, entitled “View of the World from 9<sup>th</sup> Avenue”, on the cover of a 1976 *New Yorker*.<sup>77</sup> From the point of view of the metropolitan New Yorker, the distance between 9<sup>th</sup> and 10<sup>th</sup> Avenue seems equally large as that between the Hudson River and the Pacific Ocean: we see the world through the eyes of a person that clearly believes New York is the bustling centre of the world.

Michel Collot expresses a similar critique on the absence of the *vécu*, the lived, in the geographical approach to literary cartography. When discussing Moretti’s mappings of the Paris of Gustave Flaubert’s *L’Education sentimentale*, he notes that: “[...] aucun artifice cartographique ne peut montrer le paysage urbain qu’évoque ici Flaubert, pour la bonne raison qu’il n’est pas seulement regardé par son héros, mais respire, écouté, ressenti. Ce n’est pas un espace objectif mais un espace subjectif, à la fois perçu, vécu et imaginé”.<sup>78</sup> Collot admits that maps are usual to visualise a geography of literature (both its production and reception) or the geographical referents in a text, but that they are not able to take notion of the way in which the text gives form and meaning to these spaces. Collot builds his argument on the undeniable subjective nature of literary texts:

[La carte] objective et rationalise un espace irréductiblement subjectif, qu’elle désocialise en le vidant de ceux qui l’habitent ou le fréquentent. Elle le réduit au visible, alors qu’il est aussi perçu par d’autres sens, ressenti et imaginé. Elle en fournit une vision aérienne et panoramique, alors qu’il est construit à partir d’un point de vue nécessairement partiel.<sup>79</sup>

In short, Collot states, maps thus deprive literary spaces from their horizon.<sup>80</sup>

All this does not mean that a geographical approach is by definition a bad thing: as we have seen above, it can lead to new insights and new research questions, and can function as an illustration, an

---

<sup>72</sup> Ibid., 65.

<sup>73</sup> Robert Stockhammer, “The (Un)Mappability of Literature”, in Anders Engberg-Pederson (ed.), *Literature and Cartography: Theories, Histories, Genre* (Cambridge MA/London: The MIT Press, 2017) 86.

<sup>74</sup> Ibid., 90.

<sup>75</sup> Ibid., 87.

<sup>76</sup> Ibid.

<sup>77</sup> Saul Steinberg, “View of the World from 9th Avenue”, *The New Yorker*, March 29, 1976, <http://saulsteinbergfoundation.org/essay/view-of-the-world-from-9th-avenue/> (accessed July 21, 2019).

<sup>78</sup> Michel Collot, *Pour une géographie littéraire* (Paris: Éditions Corti, 2014), 76.

<sup>79</sup> Ibid., 83.

<sup>80</sup> Ibid.

---

inspiration and an instrument. However, is desirable to complement this type of mappings with a more subjective, partial approach to space in literature. This is what I will discuss later on in this Chapter when I talk about spatial subjectivity.

## 1.2.2 Static & Interactive Maps

In my thesis, I will exclusively create interactive maps to analyse my case study. However, this does not mean that screenshots of these maps (as present in the Attachments section) do not have any value at all; it just means that they contain more information and are easier to navigate/alter in the digital version. In order to demonstrate the sometimes vague boundaries between static and interactive maps, I will first discuss some major literary cartographers that have used static mapping, after which I will move on to relevant examples of interactive mapping.

### *Static Mapping*

Moretti is often seen as the founding father of modern literary cartography. In many of his books and essays, literary geography takes on an important role, but more specifically, literary cartography and the use of maps are highlighted in *Atlas of the European Novel 1800-1900* (1998) and *Graphs, Maps, Trees* (2005). In *Atlas of the European Novel*, the Italian literary scholar uses maps as an analytical instrument for the study of space in literature as well as the study of literature in space: examples of the former are maps of Jane Austen's England, in which he maps the locations mentioned in her six novels,<sup>81</sup> and a map featuring different journeys in the European *Bildungsroman*,<sup>82</sup> whereas analyses in the latter category concern the production and consumption side of literature, and include studies into the European distribution of French novels<sup>83</sup> and into the publication sites of their British counterparts.<sup>84</sup> After a critical review of the *Atlas* by Italian geographer Claudio Cerreti - who states that Moretti is dealing with geometry, but not with geography, and the figures in the *Atlas* are rather diagrams than maps<sup>85</sup> - Moretti decides to abstract his maps even further, to the point where he dismisses the original base map entirely, and only presents a diagram with a schematic visualisation of the points, because he believes the relationships between the location points are more important than the points as such.<sup>86</sup>

Another important figure in modern literary cartography is Swiss Germanist Barbara Piatti, who led the large-scale research project "A Literary Atlas of Europe" (2006-2014) at the Institute of Cartography and Geoinformation at the ETH Zürich. This project took three diverse geographic cases as its starting point: Prague as an urban space, the coastal region of North Friesland, and the mountainous landscape in the region of Lake Lucerne.<sup>87</sup> The chosen corpus consisted of a multitude of narrative texts in the named regions from 1750 to the present day (Piatti mentions maps with 150 fictional accounts for the Lucerne-Gotthard region, and 113 prose texts for the North Friesland map). This resulted in several prototype maps based on a newly developed set of symbols. Compared to Moretti's work, this "Literary

---

<sup>81</sup> Franco Moretti, *Atlas of the European Novel 1800-1900* (London/New York: Verso, 1998) 19-23.

<sup>82</sup> *Ibid.*, 65-68.

<sup>83</sup> *Ibid.*, 179.

<sup>84</sup> *Ibid.*, 165.

<sup>85</sup> Claudio Cerreti, "In margine a un libro di Franco Moretti. Lo spazio geografico e la letteratura", *Bollettino della Società Geografica Italiana*, 1998, p. 141-148, as quoted in Moretti (2005) 54.

<sup>86</sup> Franco Moretti, *Graphs, Maps, Trees. Abstract Models for Literary History* (London/New York, 2005) 54-55.

<sup>87</sup> Barbara Piatti, "Literary Cartography: Mapping as Method", in Anders Engberg-Pederson (ed.), *Literature and Cartography: Theories, Histories, Genre* (Cambridge MA/London: The MIT Press, 2017), 50.

---

Atlas of Europe” was already much more detailed and precise, made possible by the use of new digital tools. According to Piatti, these tools contribute to a better visualisation of fuzzy data, vague locations and blurry lines that are caused by the inevitable uncertainties that come with literary cartography (for example by using automated subtle colour gradation). They also create a clearer distinction between visited space (or the actual setting) and projected space (places that are only alluded to, for example in dialogue, but which the protagonists never actually visit in the course of the novel), by means of a different symbol or label. Moreover, they are able to show the “weight” of the locations: the bigger the label of symbol, the more often a certain location is mentioned.<sup>88</sup>

It is important here to distinguish between maps that were made with the help of modern digital tools, as described above, and maps that are inherently digital, interactive, and would lose a part of the displayed information if they were to be printed on paper. A striking example of a research project that employed recently developed computational methods to parse through thousands of texts, yet resulted in static maps, is “The Emotions of London” from the Stanford Literary Lab (Ryan Heuser *et al.*), which computationally analyses a multitude of novels and uses colour gradation and weighted labels and symbols to visualise the emotions that are associated with different London locations in different time periods.<sup>89</sup> Because of the mere size of the corpus, and the complex calculations for each historical period and location that are the consequences of this scale, it would not have been possible to conduct this research manually. However, the maps are equally effective in print as they would be online, and thus are not interactive; these kind of maps will be discussed in the following section.

## ***Digital Mapping & GIS***

In the humanities, the use of maps, both abstract models and veracious projections, is nothing new. These last years however, especially since the rise of the Digital Humanities, scholars increasingly make use of the so-called GIS techniques and software. GIS is short for Geographical Information System, a combination of a database and a digital mapping system in which every element in the dataset is linked and ‘georeferenced’ to give it a location on the world map. The main advantage of GIS vis-à-vis static, printable maps is that GIS offers a digital platform to stack multiple map layers on top of each other in order to create composite images. Roughly speaking, there are two types of map layer in a GIS: a raster layer and a vector layer. A raster layer is often considered the basis or the “background” of the composite map; it is an image that is made out of pixels, such as a satellite photograph, a map indicating terrain height, a road map, but it could also be a historical map. On the contrary, vector layers are not images, but are made out of points and paths. Vector layers can take on different forms. Vector points are simply reflections of the multiple geocoordinates (the longitude and latitude) from the dataset. Paths (which are lines) connect these vector points, such as rivers or roads. When a collection of vector points is connected by multiple paths which create a closed figure, it is called a polygon. Polygons can have different meanings depending on the map level: it could indicate the size of an individual house, but

---

<sup>88</sup> Cartographic examples that elucidate these techniques can be found in Barbara Piatti, “Literary Cartography: Mapping as Method”, in Anders Engberg-Pederson (ed.), *Literature and Cartography: Theories, Histories, Genre* (Cambridge MA/London: The MIT Press, 2017), among which figure 2.3 and figure 2.6 are especially potent.

<sup>89</sup> Ryan Heuser *et al.*, “The Emotions of London”, Pamphlets of the Stanford Literary Lab, 13, 2016, <https://litlab.stanford.edu/pamphlets/> (accessed June 10, 2019).

---

also the parcels in the land register, of even the size on an entire city.<sup>90</sup>

GIS users can combine, alter and order these different map layers as they please, to find the rendition that optimally contributes to answering a specific research question. The number of possible combinations that could be made in a GIS are equally infinite as the number of vector and raster layers that could be added to the map. Moreover, it goes without saying that switching between different levels and scales, by means of zooming in and out, is much more self-evident on interactive digital maps than it is on static maps. Therefore, GIS could almost literally be seen as a bridge between distant and close reading.

In this section, I will not discuss the specific techniques of digital mappings, which will be thoroughly explored and applied to my case study in the following Methodology chapter. Here, I will present a variety of types of mappings that are made possible with the developments in GIS software. Not necessarily a literary map, but a great introduction to the advantages of an interactive digital GIS map is the AfricaMap by Harvard University,<sup>91</sup> an extremely elaborate yet still user-friendly collection of geographic, demographic, linguistic, political, environmental, historical and economic data. The user is in charge of choosing the layers that he or she deems most suitable to his or her (scientific) needs.

In the last couple of years, literary studies have also started to get their fair share of GIS mapping projects. The most projects on digital literary cartography take a certain city, region or country, and provide a map of locations in the chosen area that are the setting of literary works or are referred in those texts. In some cases, only the respective book is given, while in other cases, the exact literary quote is displayed in which the place is mentioned. These maps can also differ in the scale of a literary text-location association, from entire cities to a specific house in a specific street. Some well-functioning examples of these kind of digital literary maps are the “Mapping St. Petersburg” project at University College London,<sup>92</sup> the “Cultural Atlas of Australia” (showing films, plays and novels) by the University of Queensland,<sup>93</sup> and the “LitLong 2.0: Edinburgh” project by the University of Edinburgh and the University of St. Andrews.<sup>94</sup> The last project features an incredible amount of very detailed references to buildings, streets and parks in the Scottish city, and is also available and perfectly effective on a mobile app (“LitLong Edinburgh”), which is even more user-friendly than the desktop website.

The next category of digital maps are thematic maps. Even though one could argue that *all* literary maps are already thematic maps, as they employ the particular theme of literature,<sup>95</sup> I distinguish between the “general” literary maps as described above, and “thematic” literary maps that focus on specific narrative themes or elements in literary texts. A fine example of this is the “Literaturlandkarten der Schweiz: Streifzüge durch das Land der Dichtung” project by Barbara Piatti

---

<sup>90</sup> Charles Travis, *Abstract Machine. Humanities GIS* (Redlands CA, 2015) 5.

<sup>91</sup> “AfricaMap”, Center for Geographic Analysis at Harvard University, <http://worldmap.harvard.edu/africamap/> (accessed July 4, 2019).

<sup>92</sup> Sarah J. Young and John Levin, “Mapping St. Petersburg: Experiments in Literary Cartography”, <http://mappingpetersburg.org/site> (accessed July 12, 2019).

<sup>93</sup> Jane Stadler *et al.*, “Cultural Atlas of Australia”, <http://australian-cultural-atlas.info/CAA/search.php> (accessed July 12, 2019).

<sup>94</sup> James Loxley *et al.*, “LitLong 2.0: Edinburgh”, <https://litlong.org/> (accessed July 12, 2019).

<sup>95</sup> For a reflection on the possibility of referential mappability in literary maps and the distinction between thematic maps and general reference maps concerning literary cartography, see Robert Stockhammer, “The (Un)Mappability of Literature”, in Anders Engberg-Pederson (ed.), *Literature and Cartography: Theories, Histories, Genre* (Cambridge MA/London: The MIT Press, 2017) 79.

---

and Anne-Kathrin Weber, commissioned by the Swiss Embassy in Berlin, which offers various literary maps of Switzerland, with themes such as “love scenes”, “sites of death”, “imaginary trips” (projected places), “future worlds” (featuring dystopian and utopian futures for Switzerland) and “imaginary place names”.<sup>96</sup> All the maps are interactive and offer more information about each location via mouse over. Another project that features thematic maps is the above-mentioned “Mapping St. Petersburg” project, but this example is based on a very specific close reading of a single text: Dostoevsky’s *Crime & Punishment*. It features thematic maps focusing on (amongst other things) the various institutions in the novel, the time of the setting (morning/afternoon/evening/night), indoors & outside, mapping ambiguity, etc.<sup>97</sup>

The “Mapping the Lakes” project at Lancaster University<sup>98</sup> uses a corpus that is most similar to my own (and therefore serves as one of the most important sources of inspiration), as they analyse two well-known travel journals by Thomas Gray (1769) and Samuel Taylor Coleridge (1802), whose textual accounts of the English Lake District have become classics. The affiliated researchers, David Cooper and Ian Gregory, describe in an accompanying article that they designed “four main stages to the spatial narrative that [they] have used to structure [their] cartographical readings of the geo-specific texts by both Gray and Coleridge”.<sup>99</sup> After the logical first step of retracing the writers’ movements through space on *base maps*, they create *analytical maps* by using density smoothing and heat maps (more on this technique in chapter 2), to visualise quantitative geo-specific data. In the third step, which falls in the category of *exploratory maps*, the authors have chosen shift to a more subjective literary GIS and to focus on the writers’ emotional responses to named locations by creating so-called *mood maps*. Lastly, the fourth tier is an *interactive* one, as it allows the user to move through the Google Earth landscape that is linked to the literary data.<sup>100</sup> Another example of this more subjective take on spatiality has been discussed above in “The Emotions of London” (2016) research by the Stanford Literary Lab.<sup>101</sup>

A relatively new and promising type of digital mapping is “deep mapping”, coined by David Bodenhamer, in which the *sense* of a place is thickened. Deep maps are typically multimedia, multi-layered and structurally open to contributions from both experts and external contributors (the larger public). Bodenhamer explains that “in its methods deep mapping conflates oral testimony, anthology, memoir, biography, images, natural history and everything you might ever want to say about a place, resulting in an eclectic work akin to eighteenth and early nineteenth-century gazetteers and travel accounts”.<sup>102</sup> This new creative space might “encompass the beliefs, desires, hopes, and fears of the residents and help show what ties one place to another. A deep map is a way to engage evidence within

---

<sup>96</sup> Barbara Piatti and Anne-Kathrin Weber, “Literaturlandkarten der Schweiz: Streifzüge durch das Land der Dichtung”, <http://www.literatur-karten.ch/de/karten> (accessed July 12, 2019).

<sup>97</sup> Sarah J. Young and John Levin, “Mapping Dostoevsky”, [http://www.mappingpetersburg.org/site/?page\\_id=494](http://www.mappingpetersburg.org/site/?page_id=494) (accessed July 12, 2019).

<sup>98</sup> David Cooper *et al.*, “Mapping the Lakes: A Literary GIS”, <https://www.lancaster.ac.uk/mappingthelakes/index.htm> (accessed July 13, 2019).

<sup>99</sup> David Cooper and Ian Gregory, “Mapping the English Lake District: A Literary GIS”, *Transactions of the Institute of British Geographers* 36:1 (2011) 94.

<sup>100</sup> *Ibid.*

<sup>101</sup> Ryan Heuser *et al.*, “The Emotions of London”, Pamphlets of the Stanford Literary Lab, 13, 2016, <https://litlab.stanford.edu/pamphlets/> (accessed June 10, 2019).

<sup>102</sup> David Bodenhamer, “The Potential of Spatial Humanities”, in David Bodenhamer, John Corrigan and Trevor Harris (eds.), *Spatial Humanities: GIS and the Future of Humanities Scholarship* (Bloomington IN: Indiana University Press, 2010), 27.

---

its spatio-temporal context and to provide a platform for a spatially-embedded argument”.<sup>103</sup> A literary cartography project with a very similar theoretical and methodological design is “Mapping Emotions in Victorian London”, a crowdsourcing (and therefore as “structurally open” as a deep map) by the Stanford Literary Lab.<sup>104</sup> The map of the English capital is enriched with multimedia elements such as a historical base map, literary quotes and historical photographs, to give a more subjective and ‘human’ face to the spatial representation of the past.

One of the most recent developments in GIS Software is the possibility of creating *story maps*. Canadian geographer Sébastien Caquard already noted the need for a combination of maps and narrative elements that results in a geospatial storytelling: “Neither cartography nor narrative on their own can capture the essence of place: both are required to get a better sense of it”.<sup>105</sup> *Story maps* are interactive digital maps, that usually do not leave the user entirely free to browse to the available data on the map, but take the user by the hand and guide him or her through the multitude of information in a predetermined order, adding additional informative texts, images and/or statistics with each step. This type of mapping is very user-friendly, even for people with no prior experience in using digital maps, as all that is usually required is a click of the mouse to continue the story. A well-designed (yet not very diverse) example of a literary story map is the “Digital Literary Atlas of Ireland, 1922-1949”, developed by Trinity College Dublin.<sup>106</sup> This map guides readers through the Irish landscape by showing information on fourteen Irish writers and their texts. However, brand new software by Esri (“ArcGIS StoryMaps”) enables the researcher to combine multiple interactive maps, narrative sections and multimedia documents, so in theory, it could result in a combination of all the above-mentioned types of mapping in one single story map, whilst being user-friendly to both experts and the general public.

In this research project, I will create base maps (including a time-slider), heat maps (to pinpoint clusters), and mood maps (that show sentiment), as these are most suited for my research question, and for the specific character of Stendhal’s work, that is known for its abundance of subjectivity and sentiment. For my Stendhal case study, I also see fruitful possibilities for thematic maps (such as infrastructure, cultural institutions, restaurants), deep maps (for example with drawings from the manuscripts) and story maps (revisiting his journeys, step-by-step). Unfortunately, as these are rather time-consuming, I had to make a selection that would fit within the framework of this research project.

In the next section of this chapter, I will take a closer look at my case study, and analyse the role of spatiality within the texts.

---

<sup>103</sup> David Bodenhamer, John Corrigan and Trevor Harris (eds.), *Deep Maps and Spatial Narratives* (Bloomington IN: Indiana University Press, 2015), abstract.

<sup>104</sup> Stanford Literary Lab, “Mapping Emotions in Victorian London”, <https://www.historypin.org/en/victorian-london> (accessed July 13, 2019).

<sup>105</sup> Sébastien Caquard, “Cartographies of Fictional Worlds: Conclusive Remarks”, *Cartographic Journal* 48:4 (2011), 224.

<sup>106</sup> Charles Travis and Richard Breen, “Digital Literary Atlas of Ireland”, <http://cehresearch.org/DLAI/> (accessed July 13, 2019).

---

## 1.3 Stendhal's Spatial Subjectivity

### 1.3.1 Spatial subjectivity

In this section, I will look at the ways Stendhal approached spatial issues in his works. First, let's return to the initial discussion of the three different approaches to literary geography (not to be confused with literary cartography, which is a subfield) as presented by Michel Collot. To briefly resume his point, Collot defined the geocritical approach as a method that goes beyond a mere detection of places in literature, but aims to analyse the representations and meaning of space in texts.<sup>107</sup> Moreover, the geopoetic approach investigates the connections between literary creation and space, and the way the form of literary works is inspired by the very places they describe.<sup>108</sup> However, the exact definition of these two concepts greatly differ per scholar and the differences between the geocritical and the geopoetic approach are not always very clearly defined. The most notable figure and perhaps the founding father of geocriticism is Bertrand Westphal, who wrote the foundational manifesto "Pour une approche géocritique des textes".<sup>109</sup> Here, I will adhere to the usage by Collot. He distinguishes between the two approaches on the basis of objectivity and subjectivity. In a review of *Pour une géographie littéraire*, Joshua Parker clearly describes Collot's vision on the difference between geocriticism and geopoetics:

Collot may be muddying the waters of such an idealized project, but draws attention to geocriticism's tragic flaw: ideally, it offers an **objective** view of a place's image in literature, while in most cases, if only for practicality's sake, a selection of authors and texts must be made. Ideally, geocriticism takes an amalgamation of literature to draw almost sociologically or anthropologically neutral conclusions. Collot's geopoetics, without discouraging this bold project, reminds us of the importance of the more **subjective** view, of **individual**, bodily movement through place and landscape, encouraging us to look at how landscapes and lands inform the shape and texture of the literary texts we enjoy.<sup>110</sup>

This research project therefore automatically inclines towards the realm of the geopoetics, as I will investigate the thoroughly subjective view (as we will see later) of a single author, and not a large corpus of multiple writers who all write about the same places, which would give the analysis a somewhat more objective character.

Collot's geopoetics also focus on the similarities between the form of the text and the content of the context concerning spatial relations (for example, by looking at the text's genre, not unlike Bakhtin's *chronotope*)<sup>111</sup>. For this genre of travel writings in the form of a journal, we could say that the very concise chapters with short sentences are similar to the fragmentary and hasty character of Stendhal's journey: both this itinerary and his novel are a collection of individual fragments (chapters or halting places in his route), but which are nevertheless interrelated and which show some degree of cohesion.

---

<sup>107</sup> Ibid., 11.

<sup>108</sup> Ibid.

<sup>109</sup> Bertrand Westphal, "Pour une approche géocritique des textes", *La Géocritique mode d'emploi* (2000) 9-40.

<sup>110</sup> Joshua Parker, "Geography, Geocriticism, and Geopoetics", *American Book Review* 37:6 (2016) 9, *emphasis added*.

<sup>111</sup> Michel Collot, *Pour une géographie littéraire* (Paris: Éditions Corti, 2014), 121-128.

---

## The Human Touch

Before I will dive into Stendhal's take on spatial subjectivity, I will briefly relate some well-known ideas on a subjective approach to space, developed by famous historians, philosophers, geographers and literary scholars in the last decades, in order to provide context to his take and spatiality.

The first strand of thought focuses on a human, social aspect of space which breaks down a longstanding tradition of a binary way of thinking about space. Geographer Edward Soja, who published *Thirdspace: Journeys to Los Angeles and Other Real-and-Imagined Places* in 1996, built his theory upon similar ideas about socially produced space that Henri Lefebvre and Michel Foucault had developed in the late 1960s and early 1970s. According to Soja, these works have long remained misunderstood by the academic world. In his 1974 work *La Production de l'espace*, Lefebvre criticised the existing binary form of the modes of analysing space: the first mode approaching human geography in the form of spatial practices (concrete, mappable things in space); the second mode being a more subjective version, that focused on mental representations of space (thoughts about space). These two modes were entitled "perceived space" and "conceived space" by Lefebvre, who noted that both modes came with significant limitations.<sup>112</sup> In his seminal essay "Des espaces autres", which we have already come across in the beginning of this chapter, Foucault expressed a similar critique of the existing two dominant modes of thinking about (social) space, as Soja explained in an interview with Christian Borch:

[...] they were insufficient to understand the simultaneously real and imagined "other spaces" in which we live, in which our individual biographies are played out, in which social relations develop and change, in which history is made.<sup>113</sup>

As a solution to this limited array of analyses, both Lefebvre and Foucault came up with a third mode of analysis to fill the gap between real and imagined places: Lefebvre called this *lived space* ("*l'espace vécu*"), Foucault chose to name it "*des espaces autres*", and coined the term *heterotopology* as a method to analyse these significantly different spaces.<sup>114</sup> Edward Soja, inspired by Lefebvre's perceived-conceived-lived space trialectic and Foucault's heterotopology, describes the real and material spaces as "Firstspace" and the mental and imagined space as "Secondspace". His "Thirdspace", then, continues the "critique of the binary logic that has dominated traditional ways of thinking about space and geography for at least the past century"<sup>115</sup> like Foucault and Lefebvre did, but also aims to establish a critical balance between history, society and space when thinking about the spatiality of our lives, contrary to Marxist theory which privileges historical progress and class structures.<sup>116</sup>

## With Body and Soul

Michel de Certeau's narrative "practice of space" functions like a reversed form of geopoetics; here, literary texts do not mimic the environment in their form, but the other way around: according to De Certeau, the city is like a collection of letters (the individual places, such as buildings), and the people walking through the city create the text by combining the different places. In the chapter "Walking in

---

<sup>112</sup> Christian Borch, "Interview with Edward W. Soja: Thirdspace, Postmetropolis, and Social Theory", *Distinktion: Journal of Social Theory* 3:1 (2002) 113-120.

<sup>113</sup> *Ibid.*, 113.

<sup>114</sup> *Ibid.*

<sup>115</sup> *Ibid.*, 114.

<sup>116</sup> *Ibid.*, 113-114.

---

the City” from his book *The Practice of Everyday Life* (1980), De Certeau therefore claims that space is a practised place. He distinguishes between place and space: places are the letters, the nodes, the points on the map, and what he calls space is actually spatialisation: it is what happens when the letters, the points are connected by the practitioner of space.<sup>117</sup> The result is that *space*, in De Certeau’s definition, is highly subjective: he compares the composition of a novel to the composition of a path in the city. This “art of composing a path” (“*tourner un parcours*”) is therefore thoroughly individualistic: every “long poem of walking” is influenced by changing modalities, such as the time, the path taken, the walker and the intensity of the walk, and is a combination of individual style and societal norms (pre-determined paths and routes as organised by the government).<sup>118</sup>

Contrary to De Certeau, Gaston Bachelard’s *poetics of space* does not look at the grand urban space, but rather at the at the personal, emotional response to (very) small or specific (interior) places in our personal lives, from attics to children’s bedrooms. This study into space at microlevel, published as the classic work *La Production de l’Espace* (1957) is described by Bachelard as “the systematic psychological study of the sites of our intimate lives”.<sup>119</sup> However, Patrick Bray is critical of Bachelard vision of the power of “the intrinsic qualities of specific types of places” (mostly interior spaces) to create poetic images: “Bachelard’s treatment of the transformation of space as image in a literary text risks simplifying the ever-changing relation between writing subject and textual space to a series of recurring topoi”.<sup>120</sup> We will discuss Bray’s ideas on spatial subjectivity in nineteenth-century French fiction in the next section.

Lastly, an approach towards spatial subjectivity that focuses specifically on physicality and the *bodily* experience in the definition of *topopoetics* by Sten Pultz Moslund. In his analysis of the corporeal experience of space in novels, he looks at the interconnections between place, language and bodily sensation, which he calls the *langscape* (language-landscape) of the novel. Moslund explains the need for this neologism: “Whenever we move away from landscapes to *langscapes*, we also move from the detached contemplation of place as scenery and enter into the complex cultural and sensuous experience of place as a **lived-in** world”.<sup>121</sup>

In the following section, I will discuss how this importance of subjectivity, of lived experience, in texts on spatiality has come to the fore in nineteenth-century French travel writing in general, and Stendhal’s work in particular, and analyse how the above-mentioned concepts are applicable to Stendhal’s *Voyages en France*, where the inseparable relationship between spatiality and individual emotion is omnipresent.

---

<sup>117</sup> Timotheus Vermeulen, “Space is the Place”, April 24, 2015, <https://frieze.com/article/space-place> (accessed July 27, 2019).

<sup>118</sup> Michel de Certeau, “Walking in the City”, in *The Practice of Everyday Life* (Berkeley/Los Angeles/London: University of California Press, 1984) 99-100.

<sup>119</sup> Gaston Bachelard, *The Poetics of Space* (Boston: Beacon Press, 1969), 8.

<sup>120</sup> Patrick M. Bray, *The Novel Map. Space and Subjectivity in Nineteenth-Century French Fiction* (Evanston IL: Northwestern University Press, 2013), 9.

<sup>121</sup> Sten Pultz Moslund, “The Presencing of Place in Literature: Toward an Embodied Topopoetic Mode of Reading”, in Robert Tally (ed.), *Geocritical Explorations: Space, Place and Mapping in Literary and Cultural Studies* (New York: Palgrave Macmillan, 2011), 31, *emphasis added*.

---

### 1.3.2 *Un tourisme intérieur*: Stendhal's subjective spatiality

#### A call for subjectivity

From the 1830s onwards, it became fashionable to write impressionistic, subjective travelogues (which Thompson classifies as “impressions de voyage”) in France, which could be meant in a serious way, or rather like a parody of the genre. The importance of objectivity and truthfulness, in which the travel writer becomes invisible, became less and less important: “[...] all of these writings confirm the connection for Romantics of travel and the play of the imagination, be it by the freedom provided by the disruption of routine or by the memories that travel stimulated or by the resemblance of journeying to the fantastic evolution and intensity of dreams”.<sup>122</sup>

Patrick Bray aims to explain this heightened desire for subjectivity in nineteenth-century French travel writing by looking at two factors that could have caused it. First, the transformation in the literary field, with the emergence of the autobiography (after Rousseau's *Confessions*) and the novel (as the dominant literary genre) allowing more room for the expression of subjective, creative and individualistic thought.<sup>123</sup> Next to this literary context, a cultural context contributed to this shift towards subjectivity as well: a result of the standardisation and centralisation of time and space in French (as discussed in chapter 1) was a discrepancy between a standard and a personal, subjective experience of time and place, a difference that was then highlighted in literature.<sup>124</sup> In *Literature and Cartography*, Bray introduces the concept of the *novel map*, which he believes to be present in all nineteenth-century French novels, “that function like conventional maps while also portraying an impossible harmony between an individual rooted in a specific place and moment, and the freedom of becoming other across space and time”.<sup>125</sup> In this chapter, he only applies this “cartographic projections of subjectivity” to the works of Staël, Verne, Balzac and Houellebecq, but in his 2013 monograph *The Novel Map: Space and Subjectivity in Nineteenth-Century French Fiction*, Bray gives two close reading examples of a *novel map* in Stendhal's oeuvre: one being a study of his youth in his parental home in Grenoble, and the other being a birds-eye view of Rome, while Stendhal reflects on the past, present and the future, both featuring in *Vie de Henry Brulard*. Bray's analysis of the *novel map* does not feature an actual map, but is more like a close reading of the subjective landscape the author has created in his novel.

In the remainder of this section, I will only look at ideas about subjectivity in Stendhal's travel writings about France, with *égotisme* (as discussed in the Introduction of this thesis) playing a pivotal role. For more information on egotism in other works by Stendhal, see e.g. “L'expression de l'égotisme dans les romans de Stendhal” by Daniel Moutote.<sup>126</sup>

---

<sup>122</sup> Christopher W. Thompson, *French Romantic Travel Writing: Chateaubriand to Nerval* (Oxford: Oxford University Press, 2011), 127.

<sup>123</sup> Patrick M. Bray, *The Novel Map. Space and Subjectivity in Nineteenth-Century French Fiction* (Evanston IL: Northwestern University Press, 2013), 11.

<sup>124</sup> *Ibid.*, 12.

<sup>125</sup> Patrick M. Bray, “Conceptualizing the Novel Map”, in Anders Engberg-Pederson (ed.), *Literature and Cartography: Theories, Histories, Genre* (Cambridge MA/London: The MIT Press, 2017), 282.

<sup>126</sup> Daniel Moutote, “L'expression de l'égotisme dans les romans de Stendhal”, *Cahiers de l'Association internationale des études françaises* 26 (1974) 203-218.

---

## Égotisme

An important characteristic of Stendhal's writing, his so-called "égotisme", is something which makes doing research on his travel writings particularly interesting. This "égotisme", a strong focus on individualism and subjectivity, is described by Xavier Darcos:

Qu'on le nomme « beylisme » ou « égotisme » (mot choisi par Stendhal), un individualisme systématique donne son unité à toute l'œuvre stendhalienne. L'auteur est omniprésent. [...] Par ailleurs, les œuvres de Stendhal sont souvent inachevées, surchargées de notes ou de dessins, comme si l'auteur vivait avec elles, y apportant des ajouts au gré de son existence. Car la vie (disons plutôt « le vécu ») est expérience et sensation.<sup>127</sup>

At first, it may seem strange that the work of a writer who is often considered one of the main precursors of realism can be defined by such a strong individualism and even subjectivity. If one's goal is to write the truth, the reality, how can one's writing be so clouded by personal judgments and individual sensations? However, despite his "égotisme", it has always been Stendhal's goal to "be truthful" ("être vrai"), and if not about the whole society, then at least about himself. His works are born out of the necessity to analyse himself, and by including even the smallest details ("les petits faits vrais", which vary from real political affairs to the colour of his tie) in his works, he seeks to find out the truth about his inner self. Darcos also discusses Stendhal's relationship between realism and individualism: "Le réalisme n'exclut pas une forme de subjectivité. Contrairement à Balzac qui se veut exhaustif, Stendhal s'en tient à de "petits faits vrais", choisis par lui pour produire un effet de réel".<sup>128</sup> ("Realism does not exclude a form of subjectivity. Unlike Balzac, who likes to be exhaustive, Stendhal holds on to "small true facts", chosen by him to create a truthful effect").

This characteristic of Stendhal's writing style, the mixture of a quest for a "dry" realistic documentation and a strong individuality and subjectivity, certainly holds true for his travel writings about France. The travelogues contain historical surveys, small "true" details such as the distance between cities and the price of a cup of coffee, sensitive readings of foreign mores and aesthetic judgments. In the following section, we will see how Stendhal's typical *égotisme* becomes apparent in his travelogues on France.

### Stendhal's travelogues: immediateness & subjectivity

According to Dominique Fernandez, Stendhal had three main reasons to write and publish his *Voyages en France*. Firstly, to get to know the French *province* that was not yet a very popular destination among travellers; secondly, to be able to show that the Parisian supremacy was not as evident as was usually acclaimed; and lastly, for commercial reasons: he needed to earn a living, and the travelogue was a popular and prolific genre.<sup>129</sup> It was not a regular travel guide: it contained no order, no plan, no

---

<sup>127</sup> Xavier Darcos, *Histoire de la littérature française*, Paris, Hachette, 2013, p. 282. Translation (my own) : "Whether we call it "beylisme" or "égotisme" (the term chosen by Stendhal), a systematic individualism is what unites the works of Stendhal. The author is ubiquitous. [...] Moreover, the works of Stendhal are often left unfinished, overloaded with notes or drawings, as if the author lived with them, and continued to add elements during his lifetime. For life (or rather: "the lived") is experience and sensation."

<sup>128</sup> *Ibid.*, p. 281.

<sup>129</sup> Dominique Fernandez, "Preface", in Stendhal, *Mémoires d'un touriste* (Paris: Éditions Gallimard, 2014) 7-8.

---

logic, and was written in accordance with the mood of the author. Fernandez distinguishes two rules that Stendhal must have followed: “*Écrire vite*”, to write quickly, and “*Rester soi-même*”, to stay true to himself.<sup>130</sup> I will elaborate on Stendhal’s application of this double rule of immediateness and subjectivity by looking at the different characteristics that belong to his egotist style of writing the travelogues: the form of the journal, the fluid borders between fact and fiction, the impressionistic writing style, and the focus on his *tourisme intérieur*.

#### *The form of the journal*

One of the originalities of Stendhal’s *Voyages en France* is that he wrote it in the form of a *journal intime*, a personal diary. His predecessors usually wrote in the past tense, or in the form of an epistolary novel.<sup>131</sup> According to Stendhal, this diarist way of writing was the only way of writing quickly and conveying his ideas without delay, as he mentions in the incipit of his *Mémoires d’un touriste*: “Ce n’est point par égotisme que je dis *je*, c’est qu’il n’y a pas d’autre moyen de raconter vite”.<sup>132</sup> Next to the advantage of rapidity, which also allowed the “sensations to be conveyed in their immediateness”,<sup>133</sup> the form of the personal diary is very fitting for Stendhal’s second rule, “*Rester soi-même*”: the almost direct form of communication and the confidential tone cause a feeling of authenticity, and the seemingly unstructured and chaotic compilation of fragments can be interpreted as a proof that the author wrote in a spontaneous manner: “Le désordre apparent qu’il est aisé de relever au fil des pages est une garantie de la spontanéité du « diariste »”.<sup>134</sup>

#### *Fluid borders between fact and fiction*

This heightened focus on the self, as a main characteristic of *égotisme*, also comes to the fore in Stendhal’s choice of narrator. Here, he constantly moves between fact and fiction, between autobiography and novel. In the extracts from his journal, it is logical that he positions himself, and thus the narrator, as the author Stendhal. However, in his *Mémoires d’un touriste*, he puts on a mask: the mask of a fictional iron merchant (“*marchand de fer*”). This specific mask, the iron merchant, a tradesman, was not chosen carelessly: it allows Stendhal to dwell on economic and social matters in the different regions, while the character is still highly ranked enough to also air his opinion on more humanist subjects, and it gives him a credible reason to travel across the country.<sup>135</sup>

This play between the author and his fictional characters is a pivotal element in Stendhal’s work. Not only does he use to leave the reader questioning to what extent the narrator or main character in his novels is a reflection of himself (for example, the name of the character Henry Brulard in *Vie d’Henry Brulard* is an obvious play on his own name, Henri Beyle), his whole persona as an author is shrouded in mystery as well, as his *nom de plume* Stendhal is not his real name either: Henri Beyle borrowed it from the German city Stendal, the birth place of art historian Winckelmann. This type of

---

<sup>130</sup> Ibid., 11.

<sup>131</sup> Victor Del Litto, “Journal de voyage et journal intime chez Stendhal”, in Victor Del Litto and E. Kanceff (eds.), *Le Journal de voyage et Stendhal* (Genève: Éditions Slatkine, 1986), 11.

<sup>132</sup> Stendhal, *Voyages en France* (Paris: Éditions Gallimard, Bibliothèque de la Pléiade, 1992), 3.

<sup>133</sup> Victor Del Litto, “Journal de voyage et journal intime chez Stendhal”, in Victor Del Litto and E. Kanceff (eds.), *Le Journal de voyage et Stendhal* (Genève: Éditions Slatkine, 1986), 12.

<sup>134</sup> Ibid. 12-13.

<sup>135</sup> For more information on the specific mask of the iron merchant, and the history and development of the iron trade in 19<sup>th</sup>-century France, see Victor Del Litto, “Introduction”, in Stendhal, *Voyages en France* (Paris: Éditions Gallimard, 1992), xli-xlvii.

---

fictionalized autobiography is what Dominique Fernandez calls Stendhal's "énième dédoublement romanesque"<sup>136</sup>, his umpteenth fictional duplication, after he had already done so in so many of his works.

Moreover, Stendhal's travelogues sometimes seem less like a novel and more like a column, or correspondence, as he addresses his readers directly: "Je ne sais si le lecteur sera de mon avis", "Je demande la permission de présenter [...]" , "Si j'avais à dire au lecteur quelque aventure d'un grand intérêt [...]", "Je vais me permettre une chose énorme ; si vous êtes une dame, daignez passer six pages [...]"<sup>137</sup> In this way, he reinforces the sentiment that the text is written from a personal point of view.

Another important element to discuss when talking about the fluid borders between fact and fiction are the different places (cities, towns, natural environments) that Stendhal (seems to have) visited. Almost all Stendhal scholars question if he actually visited all the places he describes in his travelogues. Michel Arrous does not mention specific places, but is sure that even if Stendhal had traveled to some place, he certainly also consulted other textual sources. Ironically, exactly these anecdotes (such as a comic or crime story), that Stendhal read or heard elsewhere, and do not come from his authentic self, Stendhal believes them to enhance the credibility of his stories by anchoring them in reality: "Je ne me suis pas engagé, comme on voit, à donner des anecdotes nobles et intéressants; il suffit, pour mon objet, qu'elles soient vraies et assez récentes".<sup>138</sup> Dominique Fernandez is more firm and states that Stendhal lied about visiting Saint-Étienne, Clermont-Ferrand and many other cities.<sup>139</sup> Victor del Litto agrees on the impossibility of Stendhal truly having visited certain places (such the Massif Central). He states that, Stendhal being pressured by his publisher and not having the time and means to visit all places himself, he resorted to secondary sources for inspiration or quite simply plagiarism. Sources he consulted include *Voyage dans le départements du Midi de la France* (1807-1811) by archeologist Aubin Louis Millin, and many works by his friend Prosper Mérimée.<sup>140</sup> Del Litto also notices inconsistencies in the text itself. For example, he narrator claims to have visited the city of Vienne with a fictional English friend in the morning of the 7<sup>th</sup> of June (a visit that lasted 12 hours),<sup>141</sup> but a few pages later, he tells his reader that he and the same English friend went to see a salon in the city hall of Lyon at the same time ("Ce matin, mon Anglais et moi nous sommes allés voir dans un salon de l'hôtel de ville [...]").<sup>142</sup> These kind of inconsistencies seem to betray the fact that Stendhal did not actually visit the described places, especially when combined with the presence of the fictional English friend.

In short, with all these masks and all these geographical inconsistencies, we should not rely too much on the plausibility of the narrator and the visited places, and whether they reflect the experiences of the author or of secondary sources. Those kind of investigations would deserve a large study of its own. However, as is a key element of many literary research projects, we do not look at the facts, but at how they are *represented* in literary works of art. Here, we do not seek final and factual answers about Stendhal's specific movements in space, as a biographer would, but we investigate the

---

<sup>136</sup> Dominique Fernandez, "Préface", in Stendhal, *Mémoires d'un touriste* (Paris: Éditions Gallimard, 2014), 19.

<sup>137</sup> Michel Arrous, "Le narrateur dans les *Mémoires d'un touriste*", in Victor Del Litto and E. Kanceff (eds.), *Le Journal de voyage et Stendhal* (Genève: Éditions Slatkine, 1986), 28-30.

<sup>138</sup> *Ibid.*, 31.

<sup>139</sup> Dominique Fernandez, "Préface", in Stendhal, *Mémoires d'un touriste* (Paris: Éditions Gallimard, 2014), 27.

<sup>140</sup> Victor Del Litto, "Introduction", in Stendhal, *Voyages en France* (Paris: Éditions Gallimard, 1992), xxix.

<sup>141</sup> Stendhal, *Voyages en France* (Paris: Éditions Gallimard, 1992), 125.

<sup>142</sup> *Ibid.*, 130.

---

ways in which Stendhal chose to present his narrator and the various locations, whether completely, partly or barely true to reality.

### *Impressionistic writing style*

Not only is Stendhal's writing style very subjective and personal, these personal views are also subject to change. His sentiments are depending on a multitude of circumstantial factors, such as his physical health, a bad lunch, greyish weather, etc. Stendhal scholar Dominique Fernandez called this rapid change of sentiment *impressionistic*, just like the famous movement in art history that blossomed in the 1870s: it captures a moment, a fleeting impression, the opposite of fixed or eternal. Fernandez describes Stendhal's travelogues as 'a series of personal points of view': "Son livre n'est pas un guide, [...] pas un exposé objectif [...] mais une suite de points de vue personnels, qui reflètent son humeur du moment, son goût du moment".<sup>143</sup>

An example of this changing view is the way he speaks of Montpellier. In an extract from his *Voyages en France* (dated September 9, 1837), Stendhal describes the southern city as a beautiful and charming place: "Montpellier est une fort jolie ville bâtie sur un tertre, ce qui fait que plusieurs rues sont en pente ; c'est, selon moi, un des plus grands avantages".<sup>144</sup> However, a year later, these charming ascending streets have become the source of much frustration, as he talks about Montpellier in his *Voyage dans le Midi de la France* (May 1, 1838): "Montpellier est une des plus laidees villes que je connaisse, mais d'une laideur à elle, qui consiste à n'avoir pas de physionomie. On monte et on descend sans cesse ; ce sont des petites rues étroites."<sup>145</sup> Perhaps his declining health, or a bad night's sleep, made him detest the sloping roads he very much liked the year before. Therefore, none of the impressions is less true than the other; comparable Monet's paintings of the Rouen Cathedral at different moments during the day and year, Stendhal sees the same city in a different light and under changing circumstances. As Fernandez explains: "Il n'a jamais menti, il a toujours été sincère. [...] son point de vue a changé".<sup>146</sup>

By mentioning the influence of health, sleep, mood and food, we touch upon another rather recent development in literary research, known as the affective turn. Affect (a concept made famous by Spinoza, Bergson, Deleuze and Guattari) places emphasis on embodied experiences. I also mentioned the bodily experience in spatial humanities in Chapter 1 by discussing the theories of De Certeau, Bachelard and Moslund (cf. Chapter 1.3.2). Again, this is a subject that would deserve a study of its own, which is why I have chosen to not to go into the general affect theorists indicated above. Focusing on the bodily experience would require extensive close reading (in order to pinpoint the different influences on the body), and the main goal of this thesis is to investigate whether distant reading can add something to our understanding of Stendhal's work.

### *Tourisme intérieur*

Perhaps the most important characteristic of Stendhal's travel writing is the intention with which he

---

<sup>143</sup> Dominique Fernandez, "Préface", in Stendhal, *Mémoires d'un touriste* (Paris: Éditions Gallimard, 2014), 17.

<sup>144</sup> Stendhal, *Voyages en France* (Paris: Éditions Gallimard, 1992), 549.

<sup>145</sup> *Ibid.*, 704.

<sup>146</sup> Dominique Fernandez, "Préface", in Stendhal, *Mémoires d'un touriste* (Paris: Éditions Gallimard, 2014), 17.

---

travels. What is the goal of travelling for this recently developed protagonist, the “*touriste*”? The originality of Stendhal’s literary project resides in this question. Whereas other travel writers try to erase themselves as much as possible, to paint a picture of a landscape that is as objective as possible, Stendhal has no intention of being an invisible author. For Stendhal, it is impossible to leave his personality behind when visiting a place; it is always there with him, and always influences his point of view. As Michel Arrous described it, it was no ordinary travelogue, but “véritable exercice biographique au travers duquel se fait jour la différence stendhalienne”.<sup>147</sup>

So why does this tourist travel? According to Victor del Litto, it is all about the dialectic between “the viewer” (*le regardant*) and “the viewed” (*le regardé*): “Qu’est-ce voyager sinon confronter, et parfois affronter, son moi avec un univers inhabituel et dont le moi a besoin de la même manière que tout organisme vivant a besoin d’oxygène?”.<sup>148</sup> In this way, the subjective, sentimental element is not only allowed, it is essential: this tourist does not travel for the acquisition of new knowledge, but rather to test and verify his existing knowledge, and to discover himself.<sup>149</sup>

I personally think the phrase used by Dominique Fernandez to describe this same dialectic is equally powerful as apt: Stendhal’s tourism is a *tourisme intérieur*. His goal is not to meticulously describe his route or the points of interests in a city in an objective and rational manner, but to look at what it does *to him*. It is an exploration of memories, sensations, moods, daydreams. According to Fernandez, this is what still makes the texts appeal to readers today, almost two centuries after its publication: whilst the French landscape and society has changed tremendously, the vivacity and freshness of his sensations remain unaltered.<sup>150</sup> This self-portrait as a tourist should then be seen as a small ‘sample’ of his thoughts:

Il n’est question que de se peindre soi-même, de faire son autoportrait en touriste, de nous donner un échantillon de sa pensée, voire un bulletin de santé sur l’état de son cœur et de ses jambes. Le goût d’être sincère, la religion de la sensation toute pure éclatent ici comme dans aucun autre livre de Stendhal.<sup>151</sup>

This, above all, is the essence of Stendhal’s original style. Not only are his views on the visited places fundamentally subjective, and subject to constant change; in fact, one could say that the true subject matter of his travelogues are not at all the visited places, but that the author himself (disguised or not) is the main topic. In short: it is not as much a study of actual nature, as it is of human nature.

When I think about the suitability of these characteristics for computational analyses, there are possibilities and challenges to be found. The form of the journal is particularly apt for the design of the base maps, as it provides me with a clear division in small chapters about distinctive places, and allows me to date the narrator’s stay in a certain place. It goes the same for the third characteristic, his impressionistic writing style: the dating of the entries allows us to appoint his notes to a certain moment in time, and enables us to compare entries on the same place on different moments. The second

---

<sup>147</sup> Michel Arrous, “Le narrateur dans les *Mémoires d’un touriste*”, in in Victor Del Litto and E. Kanceff (eds.), *Le Journal de voyage et Stendhal* (Genève: Éditions Slatkine, 1986), 27.

<sup>148</sup> Victor Del Litto, “Journal de voyage et journal intime chez Stendhal”, in Victor Del Litto and E. Kanceff (eds.), *Le Journal de voyage et Stendhal* (Genève: Éditions Slatkine, 1986), 12.

<sup>149</sup> *Ibid.*

<sup>150</sup> Dominique Fernandez, “Préface”, in Stendhal, *Mémoires d’un touriste* (Paris: Éditions Gallimard, 2014), 12.

<sup>151</sup> *Ibid.*, 17.

---

characteristic, the fluid borders between fact and fiction, does not really lend itself to a cartographic analysis; in this case, a stylometric study would be able to discern similarities (or even plagiarism) between Stendhal and other literary sources where he might have taken his inspiration from. Finally, I will study his pervading subjectivity, his *tourisme intérieur*, by performing multiple sentiment analyses on the different books in the *Voyages en France*.

---

---

## CHAPTER 2: METHODOLOGY

### 2.1 Phased plan

#### Towards a Digital Text

The first step of the computational part of this thesis - following the preliminary qualitative study into Stendhal's works, the concept of "égotisme", and the issues in the spatial humanities - was the selection and creation of a searchable, digital corpus.

This process has extensively been described in the Introduction. It is important to note that the difficulty of obtaining a digital version of your preferred research corpus varies greatly according to the popularity of the text (canonical works are widely available), the language of the corpus (English being the most popular) and other factors such as the copyright issues of specific editions. Moreover, each digital literary scholar should evaluate the reliability of the digital text that is encountered (for example, when it was automatically produced with the use of OCR). Then, the researcher can decide with which degree of accurateness he or she is content (thereby including possible 'noise' in the results), and explain this degree of accurateness in his/her research publications.

For this research project, it is safe to say that the degree of accurateness of the digital corpus is very high: the original source was already a high-quality digital text (an e-book), which I merely converted into another format. For other parts of the creation of the dataset (see below), I manually collected the data by close reading, so the chances of a large number of mistakes (such as the ones caused by automatic extraction) are fairly small to neglectable.

This is not to say that all results of the computational analyses in this thesis (mostly in the sentiment analysis section) are entirely undisputed; however, an important distinction must be made here. The possible 'noise' in these cases will be caused by the different types of analysis software (see below), and not by the texts that are 'fed' to these tools. It goes without saying that eventual noise caused by the tools will be thoroughly discussed and evaluated whenever it occurs.

#### Creating A Database

This research project deals with travel journals. Accordingly, the fundamental elements of the manually created dataset are locations, geographical locations, mostly located in France (some exceptions in Italy and Spain). These locations will be the basis of all the different datasets. In this project, I will perform various computational analyses that can be divided into two groups: the literary mappings part, and the sentiment analysis part. The analyses and research results of the two groups are often intertwined, but mostly require their own type of dataset.

First of all, it is necessary to discuss the set-up of Stendhal's travel journals in order to understand the way in which the datasets are created. His journals consist of hundreds of very small chapters, that usually describe one day in one specific place. For example, a chapter could be entitled: "Grenoble, le 10 août" (*Mémoires d'un touriste*), or "Toulouse, le 25 avril 1838" (*Voyages dans le Midi de la France*). Rarely, chapter titles describe a voyage from one place to another, such as "De Marseille à Grenoble par la route des Alpes, 27 mai 1806" (*Annexes*). Therefore, in order to trace his journey, one simply has to follow the chapter locations and dates. As might be expected, there are exceptions to this rule, which will be taken into account. Naturally, there are advantages and disadvantages to this method,

which will be discussed in a more in-depth manner in the small digression below, “On the importance of scale”. In general, here - exceptions aside – the base rule is that the distinction between the different components (ID’s) of the dataset is made according to the chapter divisions in the books.

In order to perform computational sentiment analysis, we need the full digital texts to feed to the software. I have already extensively described the process in which these digital texts were selected and obtained. These digital texts were then divided following the base rule above: on the basis of chapters boundaries.

The dataset for the literary mappings is more complex. The datasets that make up the underlying (base) level of the digital maps, all in csv-format, are all made manually, in order to ensure a correct basis to the digital maps, a basis that is free of the afore-mentioned ‘noise’.

The datasets were manually created in Excel, and afterwards converted to CSV-files in order to be suitable for use in GIS software. I divided the Pléiade edition of the *Voyages en France* into four parts: the two published books, *Mémoires d’un touriste* and *Voyage dans le Midi de la France*, the hitherto unpublished *Voyage en France* section, and a collection of scattered notes about his travels in his various journals, which I entitled “Early Stendhal”. The first three parts were created in roughly the same manner. An example of these datasets is given in figure 1, that belongs to the *Voyages dans le Midi de la France*. Each location is given an ID (first column) and is given the name of the place as it appears in the chapter title (second column, “Placename”). The ID is necessary to structure the route in a chronological manner onto the maps. Then, the coordinates (the longitude and latitude) were all manually inserted and verified. This was necessary because there are many places in France that occur more than once: for instance, there is a place called Verrières in Belgium, but also a Verrières-le-Buisson in the vicinity of Paris.

ID	Placename	Longitude	Latitude	Notes	Start date	End date	Notes on data
1	Paris	2.3488	48.85341		1838-03-08	1838-03-09	
2	Angoulême	0.15944	45.649440		1838-03-10	1838-03-11	
3	Bordeaux	-0.57944	44.837780		1838-03-11	1838-03-21	
4	Lesparre	-0.93778	45.306940		1838-03-21	1838-03-21	
5	Pauillac	-0.74861	45.200000		1838-03-21	1838-03-22	
6	Bordeaux	-0.57944	44.837780		1838-03-22	1838-03-25	Exact start date unknown
7	Toulouse	1.441940	43.604440		1838-03-27	1838-03-29	
8	Agen	0.61861	44.203060		1838-03-29	1838-03-31	End date unknown
9	Bordeaux	-0.57944	44.837780		1838-04-01	1838-04-14	End date unknown
10	Dax	-1.031318	43.423715		1838-04-15	1838-04-16	
11	Bayonne	-1.476390	43.492500		1838-04-16	1838-04-17	
12	Béhobie	-1.762460	43.345000		1838-04-17	1838-04-18	
13	Fontarabie	-1.791480	43.362240	In Spain (Hondarribia in Basque)	1838-04-17	1838-04-18	
14	Bayonne	-1.476390	43.492500		1838-04-18	1838-04-19	
15	Pau	-0.37	43.300830		1838-04-20	1838-04-21	
16	Tarbes	0.07444	43.232780		1838-04-21	1838-04-22	
17	Auch	0.58861	43.645280		1838-04-22	1838-04-24	End date unknown
18	Toulouse	1441940	43604440		1838-03-25	1838-04-26	
19	Carcassonne	2351390	43215830		1838-04-27	1838-04-29	
20	Narbonne	3003610	43184720		1838-04-29	1838-04-30	
21	Montpellier	3877230	43610920		1838-04-30	1838-05-03	
22	Marseille	5376390	43296670		1838-05-06	1838-05-16	
23	Toulon	5930560	43125000		1838-05-17	1838-05-19	
24	Le Luc	6312780	43394720		1838-05-19	1838-05-20	
25	Cuers	6070830	43237500		1838-05-20	1838-05-20	
26	Grasse	6925280	43658060		1838-05-20	1838-05-21	
27	Cannes	7021390	43552500		1838-05-21	1838-05-22	

Figure 1: Dataset of locations in the *Voyages dans le Midi de la France*

In the “Notes” section, certain noteworthy elements were described. Then, in the sixth and seventh column, I have noted the start and end date of Stendhal’s visit to this particular place. These dates are obtained by close reading: I have to scan through the texts to find mentions of transportation, arrivals, departures, etc. Stendhal is usually very precise about these kinds of practical information, but not always. In these cases, I have noted uncertainties in the “Notes on data” section.

The dataset for “Early Stendhal” (figure 2) had to be created in separate way. This is the case because the nature of the texts and chapters in this section is truly different. Here, Stendhal does not describe single cities, towns or natural environments, but entire journeys from one place to another, during which he visits many places. Therefore, I have read all of these chapters closely, and noted all the different legs of the journeys. In order to describe (to the GIS software) which places were visited during the same journey, I added the column “Group” (second column). In this way, we can distinguish between different journeys that did not take place at the same time, but often with a break in between. The ID, Placename, Longitude and Latitude categories are still the same. When known, I added the date on which Stendhal visited the place in the “Date” and “Year” column. Since this dataset was created by close reading, I wrote down many notes to justify why I had decided on a particular place, a particular date, etc.

ID	Group	Placename	Longitude	Latitude	Chapter name	Date	Year	Notes
1	A	La Vallée du Gré	5.75069	45.21133	La Vallée du Gré	5-Sep	1801	Specific location: Mor Sources: see Notes Pléiade p. 1442
2	B	Genève	6.14302	46.21055	Genève	30-03 -04-	1804	
3	C	L'Albenc	5.43971	45.22504	De Grenoble à N July	1805	Journey to Marseille to follow his first love Mélanie Guilbert; Stendhal would live there from 25-07-1805 for almost a year (left Marseille for Grenoble on 1805	
4	C	Saint-Marc	5.31994	45.15412	De Grenoble à N July	1805		
5	C	Valence	4.89236	44.93339	De Grenoble à N July	1805		
6	C	Bourg-Saint-Pont	4.64707	44.36919	De Grenoble à N July	1805		
7	C	Pont-Saint-Avignon	4.64808	44.26103	De Grenoble à N July	1805		
8	C	Avignon	4.80553	43.94932	De Grenoble à N July	1805		
9	C	Beaucaire	4.64427	43.80724	De Grenoble à N July	1805		
10	C	Aix-en-Provence	5.44743	43.52974	De Grenoble à N July	1805		
11	C	Mer à Mari	5.37532	43.29463	La Mer à Mari	1805	Specific location: Rue Beauvau (Pl. p. 787: "Première vue de la mer de ma vie, de la Vista. La diligence s'arrête dans la rue Beauvau."	
12	D	Mer à Mari	5.37532	43.29463	La Mer à Mari	8-May	1805	
13	E	Marseille	5.37756	43.29302	Dans les environs de Marseille	Aug-Sept	1805	Precise location: 14 Rue Ventura. Marseille (Stendhal's house while living in Marseille for 10 months) source: <a href="https://defigrandesecoles.lexpress.fr/ecs-le">https://defigrandesecoles.lexpress.fr/ecs-le</a>
14	E	La Pomme	5.44112	43.28998	Dans les environs de Marseille	Aug-Sept	1805	Daytrip / Specific location: La Pomme (now neighbourhood of Marseille   deducted from: "A une lieue au levant de Marseille [...] le parc de la Pomme [...]
15	E	Marseille	5.37756	43.29302	Dans les environs de Marseille		1805	
16	F	Marseille	5.37756	43.29302	Les Prés du Montfuron		1805	
17	F	Prés de Montfuron	5.45266	43.27665	Les Prés du Montfuron	11-Aug	1805	Daytrip / Pl. 1443: "Les prés de Montfuron se trouvaient dans la banlieue est de Marseille". / South of a river (see Stendhal's drawing Pl. 793
18	F	Marseille	5.37756	43.29302	Les Prés du Montfuron	11-Nov	1805	
19	G	Marseille	5.37756	43.29302	Excursion à Allauch	11-Nov	1805	
20	G	Allauch	5.48257	43.33615	Excursion à Allauch	11-Nov	1805	Daytrip / probably on 02-11-1805: chapter was written on 11-09-1805 but refers to two consecutive Sundays "Fête deux dimanches de suite" (Pl. p. 794)
21	G	Marseille	5.37756	43.29302	Excursion à Allauch	11-Nov	1805	
22	H	Marseille	5.37756	43.29302	Excursion à Allauch	11-Nov	1805	
23	H	La Renarde	5.505985	43.29008	Excursion à Allauch	11-Nov	1805	Daytrip / probably on 09-11-1805 / is Château La Reynarde à Saint-Menet; "Quant à La Renarde, il s'agit d'une propriété dans le faubourg de Marseille, s
24	H	Marseille	5.37756	43.29302	Excursion à Allauch	11-Nov	1805	
25	I	Marseille	5.37756	43.29302	De Marseille à G27-05		1806	
26	I	Orgon	5.03868	43.79122	De Marseille à G27-05		1806	
27	I	L'Isle-sur-la-Sorgue	5.05711	43.91419	De Marseille à G27-05		1806	is L'Isle-sur-la-Sorgue
28	I	Lumière	5.23382	43.85945	De Marseille à G27-05		1806	
29	I	Apt	5.39544	43.87645	De Marseille à G27-05		1806	
30	I	MontJustin	5.63585	43.84913	De Marseille à G27-05		1806	
31	I	Céreste	5.59302	43.85553	De Marseille à G27-05		1806	
32	I	Forcalquier	5.78071	43.95993	De Marseille à G27-05		1806	
33	I	Peyruts	5.93859	44.02632	De Marseille à G27-05		1806	
34	I	Sisteron	5.94319	44.19471	De Marseille à G28-05		1806	
35	I	Gap	6.07976	44.55964	De Marseille à G30-05		1806	
36	I	Grenoble	5.72452	45.18853	De Marseille à G30-05		1806	

Figure 2: Dataset for the texts fragments in the section “Early Stendhal”

## 2.2 On the Importance of Scale

Digital literary mappings often deal with issues regarding the changes in geographical reality. New buildings are built, streets or even entire villages change names, house numbers are shifted, etc. In the case study of this project, this is not an issue; not in the sense that no street in provincial France has been changed since the early nineteenth century, but in the sense that we do not look at the street or land parcel level. For this project, we look at the scale of the city, village, large neighbourhoods, or a natural environment in between those places. The localisation of the places Stendhal visited during his journals are still easily recognisable today.

---

In the framework of this Master's thesis, another scale would not have been possible, because a complete and comprehensive historical geographic gazetteer does not yet exist for France. Ideally, the literary cartographer should have a concordance with individual location points from different historical periods at his disposal, such as the one the Fryske Akademy very recently created for the city of Amsterdam. In such a concordance, you can select one parcel on a map, and see its address details for different moments in time. However, this project focused on a single city and was made by a large team of researchers, and is therefore impossible to realise for an entire country, by just one person, in the timeframe of a Master's thesis. The choice of focus on the city-level has eliminated almost all of the changing geographical reality issues. To keep the historical perspective, I will add a high-resolution and very detailed historical map of France from 1837 to my digital literary mappings as one of the raster layers (for explanation on the GIS terminology: see chapter 1).

The question arises: would a smaller scale have provided added value to this research project? Probably, because you would be able to see which institutions (such as museums and churches), restaurants and neighbourhoods were often frequented, but that was no priority in this research project, which looks at the French province at a more general level, and more importantly, at the relationship between the different places, instead of focussing too much on the cities themselves. We are looking at the greater patterns in Stendhal's travel behaviour: which routes does he take, which distances does he cover, which regions are visited and which are neglected, and, more generally, at the ways in which various digital visualisations could serve as an illustration, an inspiration and an instrument (cf. Piatti, chapter 1) for new research questions and answers. The smaller scale (on street-level) is mostly interesting when you combine texts from many authors, as is the case with LitLong Edinburgh (cf. chapter 1), so you can determine a general sentiment for a specific street by juxtaposing the visions of various writers.

---

## 2.3 Testing Tools and Selecting Software

I would like to stress here that this thesis should not be seen as the definitive answer to all the Stendhal related questions that are posed here. If anything, this thesis is a thorough exploration into the applicability, effectivity and added value of different new digital methods in the areas of literary mapping and sentiment analysis for this kind of corpus (nineteenth-century literary travel writings). Both areas, digital literary mapping and sentiment analysis, are recently introduced topics into the scholarly field of French literature, and do not yet have a set theoretical framework or established standards and practices. It is exactly for that reason that I decided to include multiple similar yet different tools in this section: to compare their functionality for this specific type of corpus, their effectivity and their added value (do they offer new research insights?).

### GIS Mappings

For the literary mapping part of the thesis, I will use various types of GIS software. The two household names in GIS software are QGIS and ArcGIS. I will compare the two developers not only on their functionality in mapmaking, but also in publishing, exporting and sharing the created maps. Within these two main names, I will explore more additional features, such as Esri's Story Maps, that lets the

---

user integrate his ArcGIS maps into user-friendly presentation templates. An in-depth description of the specific use cases for this thesis will be presented in chapter 3.

In this section, I will distinguish between different kind of maps. First of all, I will create a base map (a non-thematic map that includes all of Stendhal's travels) in both QGIS and ArcGIS, to be able to compare their functionality. Then, by applying density smoothing<sup>152</sup> techniques on the ArcGIS map, I will create a heat map to identify clusters. Moreover, the complementary software ArcMap will allow me to add a time-slider function, which can then map Stendhal's journeys in time; in this way, both dimensions of space and time will be represented at the same moment. Furthermore, a map with the so-called "Spyglass/Swipe" technique shows two maps at the same time in a very user-friendly interface (for a more detailed description of *story maps*, see p. 9-10). Via a simple mouse-over, the user can switch between the two maps. This technique was developed by Esri's Story Maps, a tool that uses (handmade) ArcGIS maps as its base layers. Finally, I will experiment with deep mapping (cf. section 1.2.3) by selecting a small sample set from the corpus, and add multimedia documents from the manuscript and printed editions to this interactive map to create a rich and multifaceted *deep map*. This last section will also be carried out in Esri's Story Maps in combination with base maps created in ArcGIS.

As the source material is so diverse and the corpus rather large, it would not be convenient to discuss the evaluation of the tools here; in order to evaluate the used GIS tools properly, we have to test them with a lot of different layers (vector and raster), based on a large corpus, to see how the programme holds up and functions under this heavy load of data. In the next chapter, I will give a very detailed account of the results of the used methods, and assess their eligibility for further use in similar projects. Before the start of this thesis, I had no prior experience with GIS methods, and had to familiarize myself with all steps of the process (often by trial and error), so I will be in a good position to evaluate the suitability and effectivity of the tools for other literary scholars that are non-GIS-experts.

## Sentiment analysis

Whereas the GIS software provides the researcher with a lot of control over the end results (although after a lot of training), it is more complex when it comes to sentiment analysis. How can a computer decide which emotions are expressed in a text fragment? One way is to use machine learning: you develop a bespoke training set, which you can use to "teach" the computer how to recognise the elements (cities, houses, areas, people) onto which the writer can allocate one or more sentiments, and how to combine positive or negative emotions to these elements. Then, we have not even taken into account the irony, sarcasm and hidden meanings that are so common in fictional literature. A computer is usually not automatically great at recognising these nuances, even more so because the sentiment analysis techniques are developed at a higher level for the English language than for French texts. Such a machine learning process requires a lot of time and expertise and would not have been possible within the boundaries of this thesis. In reality, there are not many scholars who do that kind of research on their own: much more common are collaborations with between literary scholars and IT specialists, who each

---

<sup>152</sup> Density smoothing is a technique that "creates a continuous surface with high values found in areas with many points". From: Bodenhamer, David J., John Corrigan, and Trevor M. Harris. 2015. *Deep Maps and Spatial Narratives*. Bloomington IN: Indiana University Press. In practice, this means: the more noticeable the colour on the map, the more points in that area.

---

provide their own expertise to the project.

Since most literary scholars would be unable to execute a similar custom machine learning process, I have chosen to investigate the middle road: sentiment analysis tools that have been developed by others, and are open for whoever is interested. The advantage of these tools is that you do not have to develop them yourself; the disadvantage is that the training set of the tool is not specifically suited to your corpus. For this reason, existing sentiment analysis tools will probably never be completely accurate. However, I am not looking for perfect accuracy in these tools, but “accurate enough”.

### *Evaluation*

After a first selection round, where I tested the general effectivity of dozens of sentiment analysis tools (and their possibility of assessing French texts), I have chosen three tools that I will submit to further investigation in this section. I will test three different sentiment analysis tools (Python NLTK Text Classification, SummarizeBot and Meaningcloud), which have as their most important feature that they can process French texts (relatively) well, something that is far from common. These tools can tell you if the text you inserted is positive, negative or neutral in sentiment. First, I will compare their results of a training sample to my close reading conclusions of this training sample and to the readings of three human annotators, and thoroughly evaluate their accuracy and their methodology. Whenever possible, I will discuss their “black box”: what did it base its conclusions on? Which words triggered the result? In this way, we can estimate how reliable the results for the whole books are, and how much ‘noise’ we can expect. Again, I am aware that there are more sophisticated techniques available for sentiment analysis, and also for the evaluation of sentiment analysis tools. However, these techniques were fundamentally impossible in the framework of this thesis, because of a limited amount of time, means and expertise, and the fact that this is a one-person project, instead of a larger research group. Nevertheless, I will endeavour to encounter these tools, which operate as a “middle ground” between literary scholars and IT specialists, as clearly and critically as possible.

Let us start by looking at the input interfaces of the three tools. The tools are all free to use (at least the demo version), although most require a log in from a personal account. The first two tools, Python NLTK Text Classification (<http://text-processing.com/demo/sentiment/>) and SummarizeBot ([https://www.summarizebot.com/text\\_api\\_demo.html](https://www.summarizebot.com/text_api_demo.html)) are both rather straight-forward: you upload your chosen input (a body of text), click on ‘analyze’/‘process’ and the results will appear. The third tool, Meaningcloud (<https://www.meaningcloud.com/developer/sentiment-analysis/console>) is much more complex. In the “Operating Parameters” section, you can influence the ways in which the tool processes the input text. For example, you can decide how you want the programme to deal with unknown words (ignore or include) or disambiguation. It also allows you to add your own dictionaries that can support the determination of positive or negative values to the texts.

## Sentiment Analysis with Python NLTK Text Classification

This is a demonstration of **sentiment analysis** using a **NLTK 2.0.4** powered **text classification** process. It can tell you whether it thinks the text you enter below expresses **positive sentiment**, **negative sentiment**, or if it's **neutral**. Using **hierarchical classification**, *neutrality* is determined first, and *sentiment polarity* is determined second, but only if the text is not neutral.

**Analyze Sentiment**

Language  
english ▾

Enter text  
great movie

Enter up to 50000 characters

Analyze

Figure 3: Tool 1. Python NLTK Text Classification (input interface)

SummarizeBot API for Business Products Technology Pricing Demo Documentation Contacts

Text Analysis API Demo [Try API for Free](#)

Try our summarization, sentiment analysis, search intent analysis, short text language identification, fake news detection, linguistic analysis, news search and extraction technologies for free. Send a web link, text or query to see what our text analysis services can do for you.

Summarization	Sentiment Analysis	Linguistic Analysis
Intent Analysis	Short Text Language Detection	Fake News Detection
Article Extraction	News Aggregation	Scientific Articles Search

We arrived on 26 July and we were excited with a nice room and what seems a nice place. Laura our personal assistant has made us reservations at the various restaurants, booked our sun beds on the beach and talked us through the resort credit. She has set up a WhatsApp group for us so communication is easy. The first evening we went to the Market buffet restaurant. The burger was uncooked, raw, but left out in the sun waiting for some poor person to eat and be severely poisoned. Seriously dangerous! Second morning, now my wife is also very ill. We went to the restaurant. The food is the same, just even worse in terms of temperatures. A sad day with a very sick son.

Process

Figure 4: Tool 2. SummarizeBot (input interface)

Following page:

Figure 5: Tool 3. Meaningcloud (input interface)

## ♥ Sentiment Analysis - Console

Endpoint

POST

https://api.meaningcloud.com/sentiment-2.1

Key

1638ccd7fd74cd3aa1d547744a1c90b5

Output format

JSON (default)

Text language

Detect automatically

Interface language

English

Verbose

OFF

### Content

Text

The input text

Text Format

Plain  Markup

File

Browse

URL

http://

The fields `txt`, `doc` and `url` are mutually exclusive; in other words, at least one of them must not be empty (a content parameter is required).

### Operating Parameters

Model

Create your own model

Expand global polarity

OFF

Deal with unknown words

OFF

Relaxed typography

No, default

(for entities)

Disambiguation level

Semantic disambiguation (default)

Semantic disambiguation grouping

Intersection by type - smallest location (def)

Disambiguation context

Geo/thematic context for disambiguation

In order to test the three tools, I will close-read five sample excerpts from my corpus, and compare my close-reader evaluation of the sentiment of the text (positive/negative/neutral) to both the close readings of three human annotators, and the results given by the three tools. The sample texts can be found in the attachments.

In my selection of the sample texts, I made sure that they had different evaluations, in order to test the ability of the tools to detect sentiments in a text. I selected two texts that are very positive, about Le Pont du Gard (e.g. “majestuesement”, “étonnantes”, “sérénité éblouissante”) and about Grenoble / the Isère Valley (“pays magnifique”, “le plus belles verdure”, “les Alpes sublimes”), and of which I am would expect that no annotator would disagree (more on that later). The same goes for the text about Bayonne, which is very negative (e.g. “la bêtise méfiante des méridionaux”, “pillage”, “temps de diable”), although there are some positive statements there (“la passion du Midi”, “conversation d’une raison profonde”). More nuanced and difficult are sample 1 and 2, as they do not tend to be either very positive nor very negative: what we see here is a combination of positive of negative statements. I proceeded in the following way: I read the sample phrase by phrase, and noted every occurrence of a statement that could be interpreted as either positive or negative. Afterwards, I checked whether there were more positive or negative statements, and adjusted my final evaluation of the sentiment of the text accordingly. The results can be seen in table 1 below.

Sample	Described place	Triggers	Evaluation
1	Montargis	assez insignifiante (-) – fort embellie (+) – jouir (+) – grands hommes (+) – bon souper (+) – fort bien meublé (+) – pas rencontré un seul postillon malhonnête (+) – ce qui me fâche (-) – la promenade ... insignifiant (-)	Both negative and positive
2	Lorient	que de la boue (-) – ce prétendu port de mer (-) – aimable café (+) – les habitants de Lorient sont les gens les plus rangés du monde (+) – soirées que l’on dit fort agréables (+) – jolie habitation (+) – parfaitement calculée (+) – comme dans toutes choses, à Lorient, rien n’a été donné au plaisir des yeux (-) – forme atroce (-) – quelle différence [...] avec [...] l’Italie (-)	Both negative and positive
3	Le Pont du Gard	Majestueusement (+) – l’âme est jetée dans un long et profond étonnement (+) – rêverie aussi profonde (+) – admirons (+) – étonnantes (+) – les passions vraies ont leur pudeur (+) – un monument sublime (+) dont il faut voir une estampe (+) – par bonheur (+) pour le plaisir (+) – sérénité éblouissante (+) – peuple-roi (+) – musique sublime (+) – rêvent avec admiration (+) – grands monuments (+)	Positive
4	Grenoble / Vallée de l’Isère	Pays magnifique (+) – rien en France [...] ne peut être comparé à cette vallée (+) – joli village (+) – n’est point trop resserrée (+) – admirable (+) – les plus belles verdure (+) – les joies de l’été (+) – les Alpes sublimes (+) – montagnes respectables (+)	Positive

5	Bayonne	Brouhaha (-) – la migraine (-) – ces diligences de province, c’est un pillage (-) – la bêtise méfiante des méridionaux (-) – on voit bien, dans cette méfiance sotté, (-) la passion du midi (+) et son manque de génie pour les affaires (-) – temps de diable (-) – conversation d’un raison profonde (+) – blagues (+) – l’Espagnol poli (+)	Negative
---	---------	---	----------

Table 1 : Close reading of the five samples (by thesis author, “CV”)

In order to test and nuance my own thorough close readings, I’ve asked three annotators (who are all fluent in French) to evaluate the texts as well, with the following instruction: I asked them to read the same five fragments and write down the general sentiment expressed in the sample text, choosing from positive, negative and neutral (neither positive nor negative). These were the results:

Sample text	My own close reading (CV)	Reader X	Reader Y	Reader Z
1	Both positive and negative	Negative	Negative	Positive
2	Both positive and negative	Negative	Negative	Negative
3	Positive	Neutral	Neutral	Positive
4	Positive	Positive	Positive	Positive
5	Negative	Neutral	Neutral	Negative

Table 2: Comparison of close readings between annotators

As comes to the fore in table 2, the annotators do not always agree on the sentiment of the text. The extent to which individual annotators are in agreement, entitled the “inter annotator agreement” of IAA, is shown in table 3:

	CV	Reader X	Reader Y	Reader Z
CV		60%	60%	100%
Reader X			100%	40%
Reader Y				40%

Table 3: Inter annotator agreement (IAA)

The results are striking. Whilst Reader X, Y and Z were given the exact same texts with the same instructions (via email, so they all got exactly the same guidelines), their evaluations differ sometimes. Whereas Reader X and Reader Y agree completely (an IAA of 100%), Reader Z is in complete agreement with my original close readings. Because I evaluated sample 1 and 2 both positively and negatively, I am in agreement with all readers for the first two texts, which explains the 60% IAA between me and Reader X and Y.

So how can we explain the differences in IAA between the four annotators? Jorge Campos describes the causes for a relatively low IAA, and gives five suggestions for the prevention of a low IAA in future endeavours: 1) use specific guidelines, 2) try to be specific, 3) test reliability, 4) train the

---

annotators, 5) check if the data is homogeneous.<sup>153</sup> When I apply these suggestion to the annotating process above, I can conclude the following things. Whereas the guidelines were exactly the same for the three annotators, they might have differed from the (implicit) guidelines I used to evaluate the texts, which was more precise and elaborate than the version of the annotators. They read in the texts in a slightly superficial/global manner, and noted down their general impression, whereas I evaluated each chunk of text separately. As it was not explicitly specified how the annotators should their text, I could be expected that they choose a different degree of preciseness/intensity, which might cause the low IAA between Reader Z and Reader X/Y. It could be suggested that “cursory” readers are more inclined to evaluate the text as “neutral”, which would then explain the differences between Reader X/Y and Z. However, since the readers did not indicate the intensity with which they read the texts, we cannot be sure if it played an important part in the explanation of the low IAA’s, but it is certainly likely.

Moreover, it would have been very helpful to increase the scales in all parts of the annotating process: the numbers of annotators, the number of sample texts, and the number of tools tested (see below). The larger the body of readers and texts, the more reliable the final results. However, within the confines of this type of research project, one has to be realistic. If you would have such a large body of readers and texts, it would be vital to train the team members to assess the texts in the same manner, by doing a few examples together: in this way, the guidelines would be very specific and clear. Furthermore, if you possess such a large amount of sample texts, it would be useful to split them into homogenous groups (length, subject) to increase the success rate of the annotation.

Time to reflect. If they IAA between human annotators is already far from perfect, why would we even consider adding a digital component? What is the added value of sentiment analysis as such? To start answering these questions, it is important to note that “a high IAA doesn’t strictly mean the annotations are correct. It only indicates that the annotators are following the guidelines with a similar understanding”.<sup>154</sup> This distinction is vital.

Whereas sentiment analysis could be evaluated as objectively right or wrong for a tweet (of less than 140 characters), it is perhaps impossible to claim such a statement for our type of corpus, in which the samples often cover multiple pages. Because of the length of the samples, there is no “correct” answer, but there are multiple ways of readings (globally or systematically), and one way is not necessarily superior to the other. In order to make my point clear, I would like to turn to Steven Ramsay’s work *Reading Machines*, who looks specifically at different ways of sense-making through reading. Ramsay states that every act of reading is always based on a kind of selection: when reading, you always look at a different version of the text than the “original” version:

Literary-critical insight begins with a change of vision – what Wittgenstein called the “dawning of an aspect”. Sometimes that experience is sudden and slightly mysterious, as when one notices a pun only after several readings of a passage or sees a connection between a passage of text in one book and a passage in another; at other times (in literary criticism, one should say most other times) the noticing is the result of some sort of overt manipulation of the text. We read out of order, we translate and paraphrase, we look only at certain words or certain constellations of

---

<sup>153</sup> Jorge Campos, “Poor Inter-Annotator Agreement: what to do?”, Medium, May 17, 2019, <https://medium.com/@tagtog/poor-inter-annotator-agreement-what-to-do-6980e90ce7ee>.

<sup>154</sup> Ibid.

---

surrounding context.<sup>155</sup>

However, Ramsay does not consider this manipulation (which he calls “deformation”) to be negative process. On the contrary, he believes it is natural, and even essential: “All textual entities allow for deformation, and given that interpretation occurs amid a textual field that is by nature complex, polysemic, and multi-referential, one might say that most entities require it. Seen in this light, deformation is simply a part of our permanent capacity for sense-making”.<sup>156</sup> Ramsay then highlights the importance given to matters of objectivity: criticism on digital and/or automated readings is often based on the fear of “losing” the original version of the text. Nevertheless, according to Ramsay, the original version is just as well lost in a human reading of the text, and therefore one could wonder if there is such a thing as objectivity:

It is precisely this fear of an eviscerated objectivity that gives rise to those rhetorical structures that work to conceal the deformations that lie between text and interpretation. [...] One wonders, given the nature of deformative activity, whether any critical act could ever be considered “incontestable”, or if, given the rubric of objectivity, the movement from text to interpretation could ever be free of anxiety.<sup>157</sup>

Then, if objectivity is more or less unattainable, a human reading is not superior to an algorithmic reading, merely an alternative one, as both use processes of deformation to give meaning to a text, where the algorithmic reading places the re-performance of the text in a computational environment. Ramsay concludes: “Our fear of breaking faith with the text may also need to give way to a renewed faith in the capacity of subjective engagement for liberating the potentialities of meaning”.<sup>158</sup>

By extending his ideas about the value of subjective readings (since objective readings do not exist after the deformation process while reading) to this case of sentiment analysis, we begin to see the value of a deformed reading. After all, a computational reading is just another alternative of reading, that uses deformative (albeit automated) processes to give meaning to a text. Above, I noted that the most probable cause for the low IAA between my own reading and two of the three annotators was the difference in the intensity of reading, caused by a different set of guidelines (from general to specific). As was mentioned before: a high IAA does not mean the annotators are correct, only that they have followed the same guidelines. Thus, sentiment analysis has value because all readings are intrinsically subjective, however: it can only have value if the deformative process (in Ramsay’s terminology) is made very explicit. This specification of the process was present in my own close reading (see table 1), but not for the three annotators. We can only suggest what their strategies must have been: it seems likely that Reader X and Y read globally, and Reader Z read intensively or systematically, but we can’t make definitive statements about this.

As we turn to the evaluation of the digital tools, it is to be expected that the results will be more in agreement with the evaluations of Reader Z and myself, as my own deformative process is very

---

<sup>155</sup> Steven Ramsay. 2011. *Reading Machines: Toward an Algorithmic Criticism*. Champaign IL: University of Illinois Press, 48.

<sup>156</sup> Ibid.

<sup>157</sup> Ibid., 48-49.

<sup>158</sup> Ibid., 57.

similar to the computational one: I systematically worked my way through the texts phrase by phrase (or even chunk by chunk), scored textual chunks that showed sentimental vocabulary, and counted the occurrences of positive and negative elements. In the evaluation of the tools, particular attention is paid to the deformative processes (the so-called “black box”).

Now, let’s have the three tools process the same input texts, and analyse the results. In the result interface, the tools differ in what they show the user:

- *Figure 6:* Python NLTK - only shows the final verdict and the scores for neutrality and polarity

- *Figure 7:* SummarizeBot - this tool is more detailed, and shows us the verdict per sentence, and highlights which words were judged positive or negative.

- 
- *Figure 8: Meaningcloud (following page)* - this tool also shows a detailed judgement, although not on the word level, but on a sentence or segment scale. For each segment, a score is given that ranges from P+ (very positive), via P (positive), NEU (neutral), N (negative) to N+ (very negative). It can also show NONE, which means that a sentiment was impossible to detect. In the last column, the tool shows how confident it is about its verdict of the segment. When enabling “Expand Global Polarity”, it gives the user a general score for the entire text under the heading “Global”.

Level	Text	Show more	Score tag	Agreement	Confidence
Global	-	Show	P	DISAGREEMENT	86
Sentence	Petite ville assez insignifiante.	Show	NONE	AGREEMENT	100
Segment	Petite ville assez insignifiante	Show	NONE	AGREEMENT	100
Sentence	Elle s'est fort embellie depuis 1814, qu'elle a pu jouir des réformes introduites par Sieyès, Mirabeau, Danton et autres grands hommes qu'il est de mode de calomnier parmi les pygmées actuels.	Show	NEU	DISAGREEMENT	94
Segment	Elle s'est fort embellie depuis 1814, qu'elle a pu jouir des réformes introduites par Sieyès, Mirabeau, Danton et autres grands hommes qu'il est de mode de calomnier parmi les pygmées actuels	Show	NEU	DISAGREEMENT	100
Sentence	Bon souper à l'hôtel de la Poste, fort bien meublé.	Show	P+	AGREEMENT	98
Segment	Bon souper à l'hôtel de la Poste, fort bien meublé	Show	P+	AGREEMENT	98
Sentence	Dans toute cette journée, je n'ai pas rencontré un seul postillon malhonnête ;	Show	P	AGREEMENT	92
Segment	Dans toute cette journée, je n'ai pas rencontré un seul postillon malhonnête	Show	P	AGREEMENT	92
Sentence	je paye à cinquante sous :	Show	NONE	AGREEMENT	100
Segment	je paye à cinquante sous :	Show	NONE	AGREEMENT	100
Sentence	plusieurs montent fort mal à cheval, ce qui me fâche.	Show	N	AGREEMENT	100
Segment	plusieurs montent fort mal à cheval, ce qui me fâche	Show	N	AGREEMENT	100
Sentence	Je pensais qu'on pourrait faire une conscription de postillons si les soldats prussiens, poussés par les Russes, nous attaquent.	Show	NONE	AGREEMENT	100
Segment	Je pensais qu'on pourrait faire une conscription de postillons	Show	NONE	AGREEMENT	100
Segment	les soldats prussiens, poussés par les Russes, nous attaquent	Show	NONE	AGREEMENT	100
Sentence	Avant de partir, je vais voir la promenade située sur les bords du Loing et du canal de Briare ;	Show	NONE	AGREEMENT	100

Thus, the tools all work very differently, and only two of them gives us insight into its “black box”. Below, the results of the sample set are summarized.

Sample	Close reading	Python NLTK	Summarizebot	Meaningcloud
1	<b>Both positive and negative</b>	Neutral (Neutral 0.7, Polar 0.3)	Negative	Positive
2	<b>Both positive and negative</b>	Neutral (Neutral 0.8, Polar 0.2)	Positive	Positive
3	Positive	Neutral (Neutral 0.5, Polar 0.5)	Positive	Neutral
4	Positive	Neutral (Neutral 0.7, Polar 0.3)	Positive	Positive
5	Negative	Neutral (Neutral 0.8, Polar 0.2)	Negative	Positive

*Table 4: Results of the sample texts (bold = in agreement with close reading evaluation of Reader Z and CV)*

### **Conclusion**

After this evaluation of three different tools with sample texts, I can draw my conclusions about the effectivity of the tools. Firstly, I will not proceed with the Python NLTK tool. Even for the texts that were extremely positive or negative, it gave a neutral result, as it did to every text. Amongst others, it contradicts an absolute consensus among the four annotators about sample 4 (Positive), which stresses its non-reliability. Moreover, it shows little to no insight into the deformative processes. Clearly, this tool is not suited for these types of corpus (with texts that include a lot of judgmental values), or is not yet very well developed for the French language.

Concerning the Meaningcloud tool: on a sentence/segment level, it sometimes worked fine, however, there were many instances where the tool did not recognize a clear sentiment and evaluated the segment as “None”. Therefore, the general assessment of the sentiment of a text was sometimes right, but not always: in the texts that are relatively easier to assess (sample 3, 4 and 5), Meaningcloud only got 1 assessment right. When looking at sample 5, for example, Meaningcloud made a capital mistake by assessing the text as positive, whereas none of the four annotators have given that answer. Therefore, I will not use it in this thesis, as it is certainly not reliable for my corpus. However, I do think it will be more suited to smaller bodies of texts that only contain a few words, such as tweets (social media analysis).

This is why I have chosen Summarizebot as the most suitable tool for my corpus: not were all assessments in agreement with Reader Z and CV (although sample 1 and 2 could have had multiple “right” assessments), it is also very user-friendly and clear about its evaluation. Since sentiment analysis only has value when it is explicit about the deformative processes, an essential aspect of the tool is that it shows the user which words it used to determine the sentiment score of a sentence and/or entire texts. This is not to say that Summarizebot did not make any mistakes in the process: for example, in sample 1, it judged “malhonnête” as negative, but the whole sentence “je n’ai pas rencontré un seul postillon malhonnête” should have been a positive statement. In this case, the tool did not recognize the negation

---

that preceded and belonged to the statement.<sup>159</sup> However, for this research project, the most important thing is that it gets the general sentiment of the text right, and that is where SummarizeBot succeeded. In the remainder of this thesis, I will keep in mind that even SummarizeBot can present a false interpretation of the sentiment in a text (if there are enough ambiguous or complex sentences), but most of the time, it will rightly assess the sentiment, when using the intensive/systematic way of reading (as did annotator CV). Therefore, we should not see the results of the sentiment analyses in chapter 3 as final and undisputed, but rather as an general indication of the different sentiments aired by the writer about the different places he describes.

In short, the digital tool used in this thesis is characterized by its intensive and systematic reading of the text, where the final judgement is based on the balance between positive and negative chunks in a text. When choosing this kind of deformative process, the SummarizeBot tool was the most accurate, and is therefore deemed most suitable for this research project. The value of this computational analysis is enhanced when we are constantly reminded of the fact that this is not considered *the only correct way* to assess the sentiments in a text, but *the most accurate way* when opting for the systematic method (as opposed to, for example, a global reading).

---

<sup>159</sup> The other results of SummarizeBot (sample 2 until 5) will be available in the attachments section.

---

## CHAPTER 3 | RESULTS

In this chapter, the results of the analyses, carried out with the methods described in chapter 2, will be presented and analysed. Section 3.1 will look at the various maps made with GIS tools. In section 3.2, the results of the sentiment analysis will be discussed, and will be shown on GIS maps to visualise the patterns that have come to the fore and to facilitate the analysis of these patterns. This goal of this chapter is not to be exhaustive, but to test and evaluate the applicability of the tools for this literary genre in general, by accompanying it with potent examples that show their possibilities and limitations.

### 3.1 GIS

All maps that follow in this section will be digitally available. In the large Attachments section of this section, which is perhaps even more important than the textual accompaniments of these results, I will provide the reader with screenshots of the different maps, in order to give an idea of the image, and the link to the digital map. Since this is a Digital Humanities project, I would not make the interactive digital maps if they didn't have any added value over "normal maps"; therefore, it is indispensable to have a look at the digital maps while reading this section.

#### 3.1.1 Mapping Stendhal: base maps

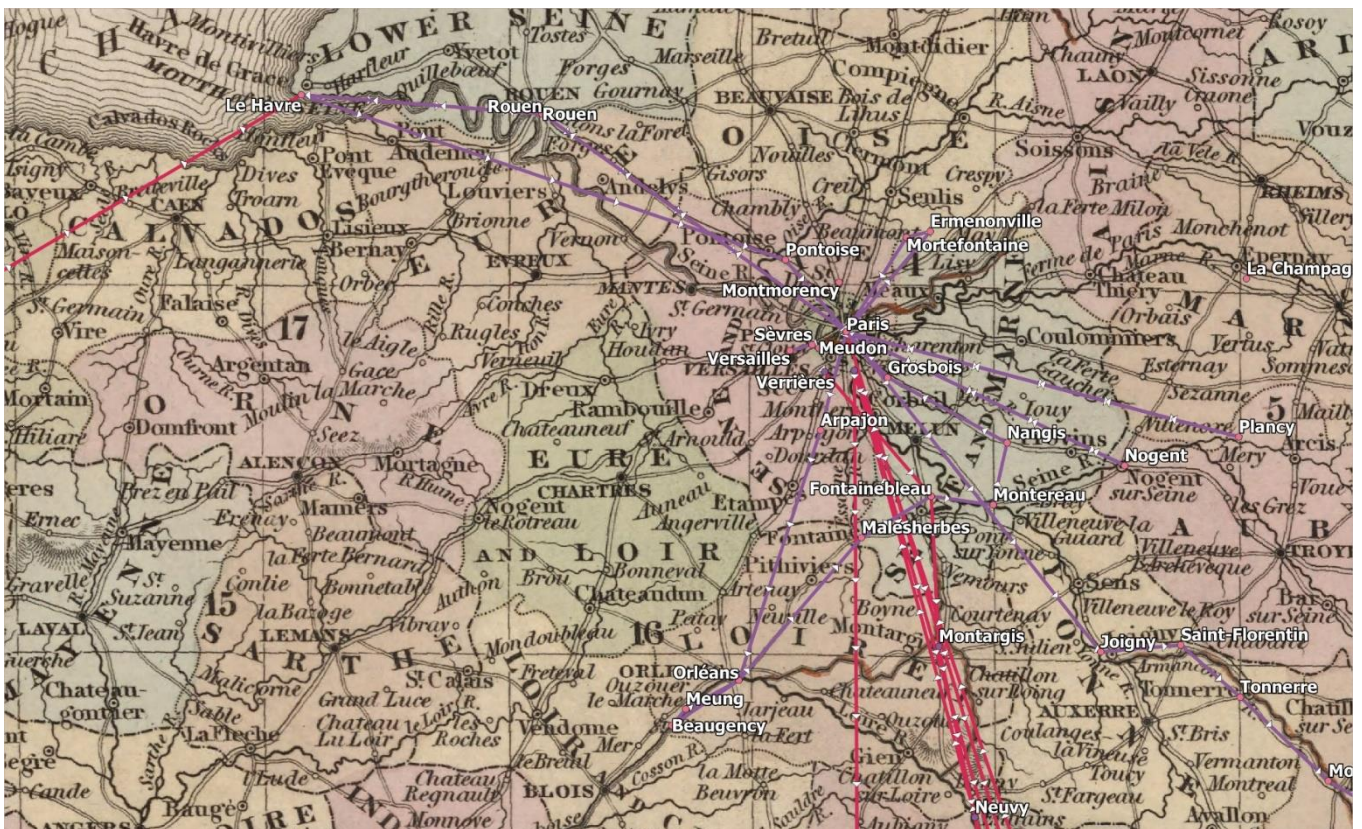
The greatest challenge of this section was to calculate, map, and visualise all of Stendhal's travels in France, preferably separately and combined, not only with points, but also with routes. I set about writing this thesis with no prior experience in GIS. I started out with the QGIS software, as it was free, compared to the very expensive ArcGIS Desktop software (including ArcMap etc.). ArcGIS Online is free, but has its limitations. The creation of this map turned out to be painstakingly long process for a beginner, as QGIS has an enormous learning curve, especially when combined with a similarly large corpus + the desire to add a high-resolution historical map that had to be georeferenced. This was truly a process of trial and error: step by step, I had to fix all the bugs, until it worked the way I wanted to. The advantage of the incredibly complex tool, is that it gives you a great amount of freedom in designing the map: you get to decide everything, from the scale to the size of the shade around the white letters in the place name labels.

However, when I finally finished the entire project, the biggest challenge began: publishing the map online. The usual online publication tools (such as QGIS Cloud) did not work, because the size of the file was far too large (caused by the high-resolution historical raster map layer). In the end, I found an intermediary solution by putting the map on a server after having transformed the individual layers into shapefiles. Unfortunately, some of the carefully chosen lay-out features disappeared when publishing it this way. As QGIS software gets updates very often, I hope that they will change this upload limitation.

On the following page, I will display a screenshot of the map with all its layers activated, to give an impression of all the data and lay-out that was originally added to the QGIS Project. In the attachments, I have added multiple maps, that all show separate layers. A link to the digital version of the map can also be found in the attachments.

When looking at the completed map in figure 10, the advantages of a digital version immediately come to the fore. The scale is too large to view on a page, the map too dense, the amount of data too high. To improve legibility, zooming in and out is a valuable asset. Moreover, each point (recognizable by the text label) has extra information added to it, that becomes available when clicking on the point in the digital version. Many layers and a lot of information, that can only be appreciated in the interactive equivalent, where the user can choose which kind of information or what kind of scale is shown.

The QGIS map consists of multiple layers. Starting out with a standard base map (OpenStreets), I added a raster layer (that is, an image: cf. chapter 1 for the terminology): a historical map of France. The historical map I choose originated from the David Rumsey Map Collection, which contains a large assembly of all kinds of historical map, complete with bibliographical information. I carefully choose this map on the basis of a couple of criteria: 1) it needed to be available in the highest resolution in order to ensure legibility when zooming in, 2) it needed to be georeferenced, or there needed to be a possibility to manually georeferenced the map, and 3) it needed to originate from around the time period in which Stendhal situated his *Voyage en France* (between April 1837 and June 1838). I chose “France. (insets) Environs of Paris. Corsica” by Henry Tanner,<sup>160</sup> published in 1836 or 1837. The



<sup>160</sup> Henry S. Tanner, “France. (insets) Environs of Paris. Corsica”, Philadelphia (US): H.S. Tanner. Note on the publication: “Date estimated. Probably published in 1836 or 1837. Many of the maps that are dated 1833 in the first 1836 edition, are here dated 1836 and have substantial changes in counties, etc. The World map is dated 1833 in the first issue and 1836 in this later issue. This is quite a different production from the earlier 1836 edition. Maps in full color. Relief shown in hachures. Prime meridian of states of the United States is Washington. Each atlas page has a header reading, “Tanner’s Universal Atlas”. Downloaded from the David Rumsey Map Collection:

<https://www.davidrumsey.com/luna/servlet/view/search/where/France/when/1836?q=france&sort=Pub List No InitialSort %2CPub Date%2CPub List No%2C Series No.>

---

*Figure 9: QGIS Base Map of Stendhal's combined travels (fragment)*

publication date of the map was ideal, and it showed a superb resolution, which makes it ideal for zooming in on a smaller scale. Unfortunately, it was not yet georeferenced. Therefore, I took it upon myself to perform this task, during which some 200 points on the historical map were connected to corresponding points on a modern, vectorized map layer. This high amount of points was required to ensure a precise overlapping of historical and modern location points.

This zoomed in fragment of the map (figure 9) shows the high resolution of the historical map, that does not lose any sharpness when changing scale in the digital map. It also illustrates the successful application of the georeferencing techniques, where the historical map was linked to present-day geolocations (see for example Nogent, Orléans and Tonnerre). In this way, it is possible to layer the raster layer of the historical map (an image) to the layer with all the locations points, that is made out of coordinates.

### **Legend of the QGIS maps**

- **Dots:** places mentioned by Stendhal (as indicated by the white place name labels)
- **Lines** between dots: routes indicating a **continuous** journey between several places
  - **Purple:** Early Stendhal
  - **Fuchsia:** *Mémoires d'un touriste*
  - **Yellow:** *Voyage en France*
  - **Light pink:** *Voyages dans le Midi de la France*
- **Arrows** (*white*): direction of travel



Figure 10: QGIS base map containing all of Stendhal's French travels

Below, the routes from the four books will be shown individually (for full-size maps, see Attachments).

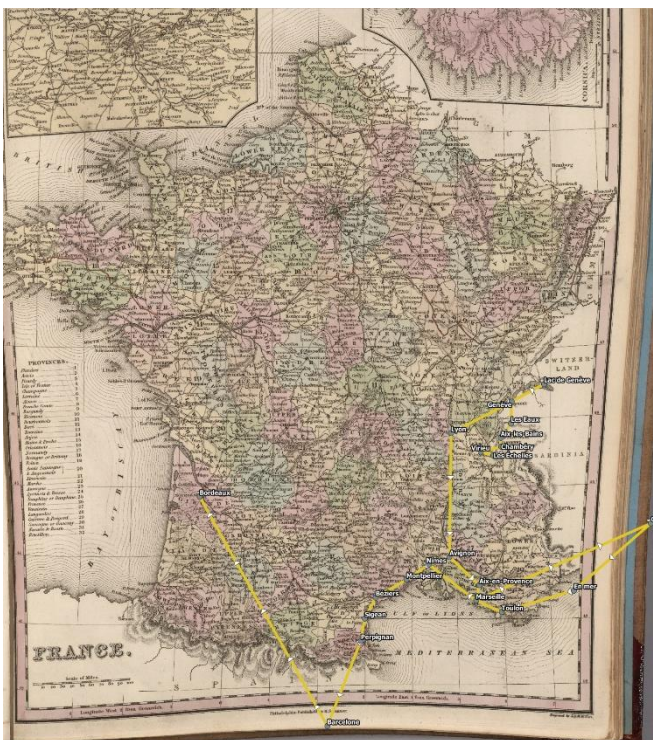
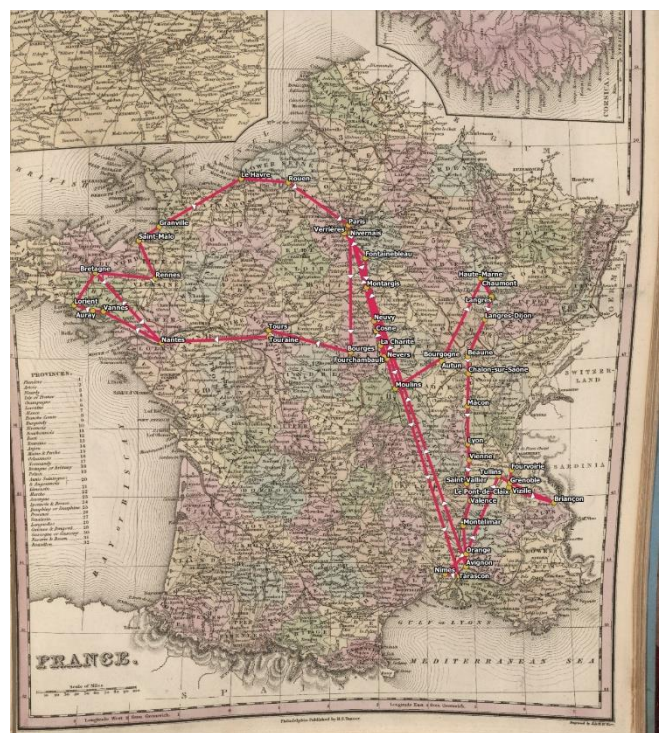


Figure 11 (top left): *Early Stendhal* – Figure 12 (top right): *Mémoires d'un touriste*  
Figure 13 (bottom left): *Voyage en France* – Figure 14 (bottom right): *Voyages dans le Midi de la France*

---

### 3.1.2 Heat maps

Before we turn to the analysis of the produced maps, it is useful to include another type of map as well, as the two types combined provide the reader with a complete image of the (patterns in the) places visited (and omitted). This second kind of map is a heat map, created using the density smoothing technique introduced in chapter 3. To refresh, density smoothing is a technique that “creates a continuous surface with high values found in areas with many points”.<sup>161</sup> In practice, this means: the more noticeable the colour on the map, the more points in that area.

To create these heat maps, I first created base maps in another GIS tool, ArcGIS Online, which is more user-friendly than the QGIS tool used in section 4.1.1. Then, I turned to base maps (that contained the same points as the dots on the QGIS maps) into heat maps by changing the visualisation style of the points: from individual points to a continuous area. With these kind of maps, the visibility of clusters of frequently visited places becomes immediately apparent to the human eye. I created five heat maps: one for each book, and one with all the books combined (figure 15-19).

### 3.1.3 Analysis of mappings

Combining the QGIS base maps with the ArcGIS heat maps, we now have a complete image of the visited places, the developments of the routes in between those places, and the clusters of frequently visited places.

First, let's have at the individual routes taken in the four parts of the entire *Voyages en France*. The first part, “Early Stendhal”, is the most fragmented and has the least continuity in the routes between the different places. This was to be expected, since the “Early Stendhal” part consisted of various small fragments from Stendhal's diary, that are spread out over the span of years. What is striking, however, is that all these small or large trips are concentrated in a relatively small area: around Paris, Grenoble and Marseille. Especially Paris and Marseille are the starting point of many small trips (often not exceeding one or a few days).

The second part, *Mémoires d'un touriste*, covers the largest part of France of all the four books. Starting out in Verrières, close to Paris, the route descends all the way to Avignon via the Bourgogne and Lyon. Then, in the next chapter, we are back in the Parisian area (Nivernais), after which the routes circle around the north-west of France (Tours, Nantes, Rennes, Le Havre, Rouen) to return to Paris again. However, this is not the end of the journey: the narrator travels back to the south (Tarascon), after which he ascends in the direction of the Alps, to end in Stendhal's birth region, around Grenoble.

The third part, *Voyage en France*, generally considered the second (unpublished) part of the *Mémoires d'un touriste*, begins where the *Mémoires* ended: in the Grenoble area. This is the part that includes the most foreign visits: Switzerland (Geneva), Italy (Genoa) and Spain (Barcelona). After the start in the Alps, this section only takes places in the south of France, moving westwards from the Côte d'Azur to Bordeaux.

Finally, the fourth part, *Voyages dans le Midi de la France*, is entirely set in the south of France (as the title rightfully suggested), but moves in the opposite direction: starting in Angoulême, the narrator moves towards the Spanish border, then follows the entire southern border until Cannes, and ends his journey in Valence. Here, it is interesting to compare the routes of the *Voyage en France* to

---

<sup>161</sup> Bodenhamer, David J., John Corrigan, and Trevor M. Harris. 2015. *Deep Maps and Spatial Narratives*. Bloomington IN: Indiana University Press.

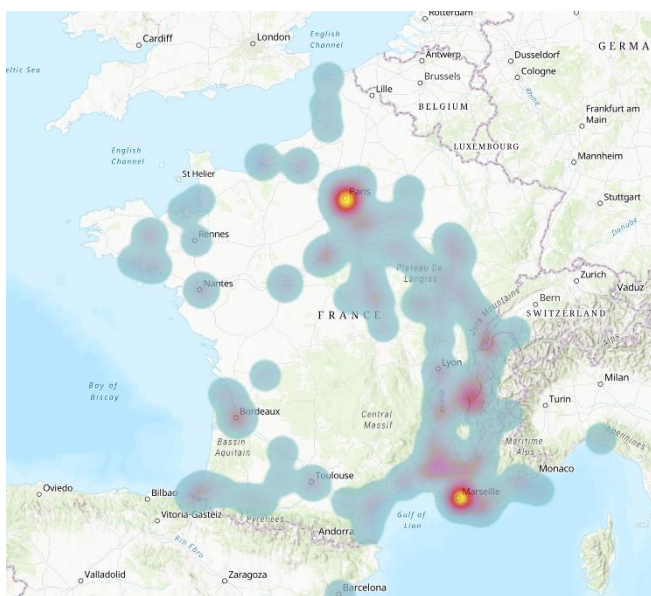
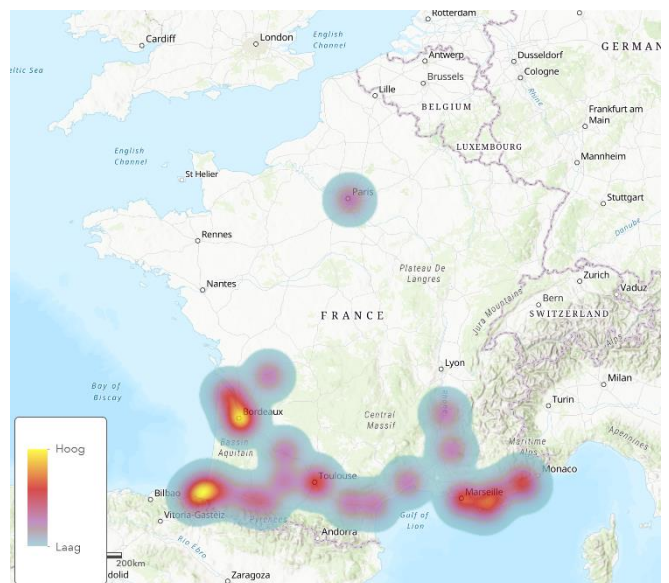
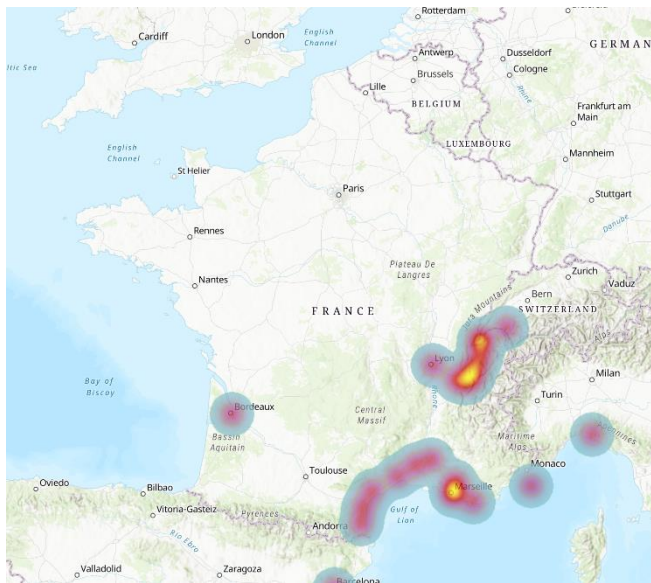
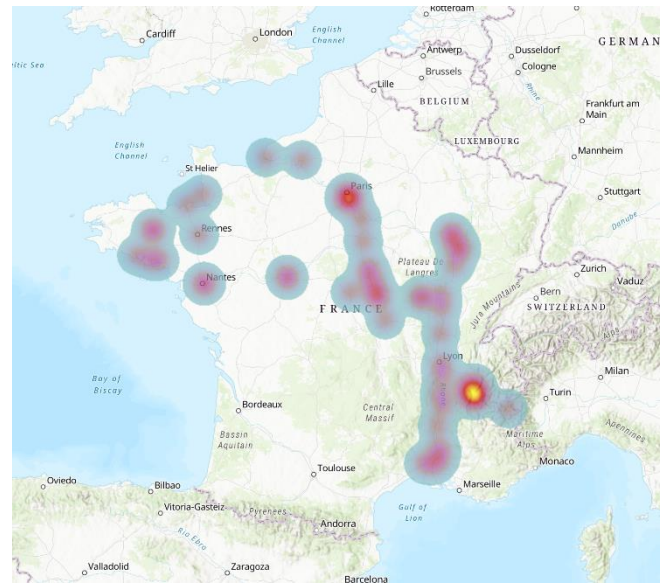
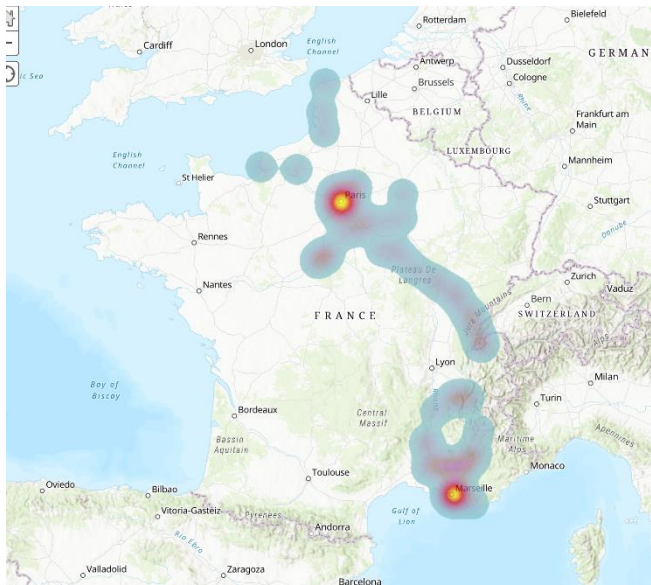


Figure 15 (top left): *Early Stendhal*  
 Figure 16 (top right): *Mémoires d'un touriste*  
 Figure 17 (centre left): *Voyage en France*  
 Figure 18 (centre right): *Voyages dans le Midi de la France*  
 Figure 19 (bottom left): *All books combined*

---

the *Voyages dans le Midi de la France*. Literary scholars have often suggested that the real journey Stendhal undertook in 1838 to write the *Voyages dans le Midi de la France* was a chance to see the places that were described in his *Voyage en France* (which was inspired by memories and secondary sources and set in 1837). For example, Victor del Litto writes:

Pourquoi ce nouveau voyage? [...] S’agissait-il d’une simple promenade dans ce Midi que Stendhal affectionnait, d’une sorte de détente que l’écrivain se serait accordée après plusieurs mois de travail intensif ? La supposition n’a rien en elle-même d’in vraisemblable ; mais on ne peut s’empêcher de remarquer que ce circuit dans les contrées méridionales de la France recoupait celui dont Stendhal venait de rendre compte dans la suite refusée par l’éditeur des *Mémoires d’un touriste*. Stendhal, tirant un trait sur la deuxième partie des *Mémoires d’un touriste*, a-t-il offert à l’éditeur d’écrire un *vrai* journal d’un *vrai* voyage ?<sup>162</sup>

Thompson shares this idea that Stendhal used the “real” journey from 1838 to “check” the fictional journey he wrote in 1837. He wonders: “Can it be [...] that when he set out again for the south in March 1838, Stendhal made it his business to revisit some of those places, such as Avignon, Nîmes, Tarascon, and Valence, which he had only seen some time ago fleetingly, and had been describing at several removes in 1837?”<sup>163</sup> However, when we look at the routes taken in the *Voyage en France* and the *Voyages dans le Midi de la France*, we can see that they are slightly similar, but not at all the same: in the latter, the whole trajectory between the Mediterranean Sea and Bordeaux is entirely new. Therefore, we can partly reject the questions raised by Del Litto and Thompson about the 1838 book being a “check” of the fictional 1837 version.

### *Omissions*

After studying the places Stendhal did visit, it might also be interesting to see which places he left out and did not call on (whether intentional or not). In order to answer this question, we can use the maps that show all the books combined, both from the QGIS base map section (figure 10), and – which is perhaps even more useful – from the ArcGIS heat map section (figure 19).

When looking at these maps, three main areas that are not visited in the four books become apparent. These are 1) the Massif Central, a mountainous area in the heart of the south of France, 2) the area between Paris and Rennes (the surrounding of Le Mans), and 3) the areas close to the northern border, all the way from Lille to Basel. After having discovered these omissions, I will now try to discover if there is a plausible explanation for the fact that these regions were left out, or if we should just conclude that Stendhal’s choices are merely subject to chance.

The first thing that comes to mind are natural obstacles. A region can be difficult to access if it is very mountainous or covered with dense woods. When we compare Stendhal’s road map to a natural relief landscape map of France, there are some striking similarities (cf. figure 20 and 21). The relief differences could account for Stendhal’s absence in the Massif Central, and the same goes for the mountainous areas in the east of France (Jura and Vosges). The area between Paris and Rennes is also

---

<sup>162</sup> Victor Del Litto, “Introduction”, in Stendhal, *Voyages en France* (Paris: Éditions Gallimard, 1992), lxix.

<sup>163</sup> C. W. Thompson, *French Romantic Travel Writing: Chateaubriand to Nerval*. (Oxford: Oxford University Press, 2011), 318.

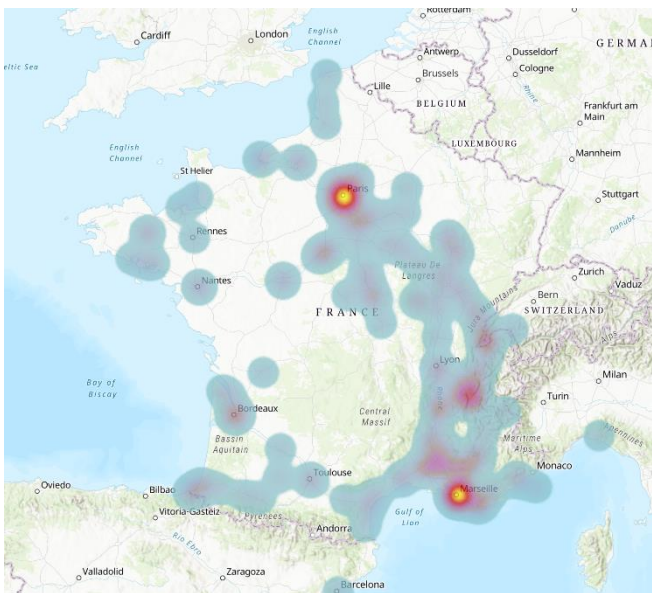
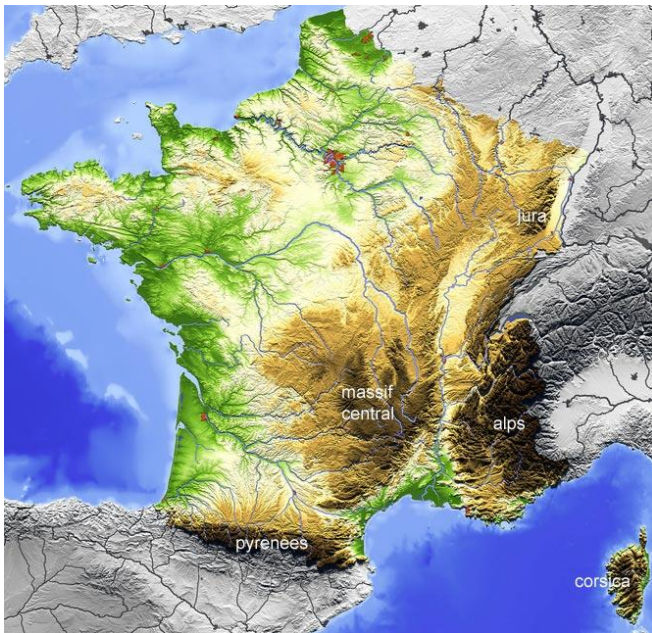


Figure 19 (top): Natural relief of France  
 Figure 20 (bottom): Heat Map of Stendhal's Voyages en France

slightly hilly, but I doubt if that is the only reason from Stendhal's omission of that region. As for the northern border, it could be that Stendhal was hindered by the relief of the landscape there (Ardennes), but this type of relief is not as threatening as the Massif Central or the Jura. Moreover, the Alps are the most mountainous of all, and Stendhal did visit those regions. So, however the natural obstacles probably account for Stendhal's absence in many of the regions, there must be other factors at work as well.

Another method would be to look at the touristic activity available in those regions at the time of writing. In his work *Histoire de l'invention du tourisme: XVI – XIXe siècles*, Marc Boyer has studied the development of tourism in France. Conveniently, he specifically chose 1838 (the setting of *Voyages dans le Midi de la France*) as one of the key years in his research. Boyer created a map of tourism in France in 1838, in which he incorporated the main tourist attractions of the time: beaches, spas, and winter sports stations. He also specified these tourist sites by the number of visitors they attracted. The map can be seen in figure 21 (following page).<sup>164</sup> A translation of the legend can be found in the footnote. When looking at this map, we can see why Stendhal might have skipped the region close to the northern border: there were hardly any touristic sites to be found in that area. The same goes for the area between Paris and Rennes, and for most of the Massif Central. However, there is an important concentration of spa sites in the upper Massif Central (Vichy, La Bourboule, Mont Doré) that remained unnoticed in Stendhal's travels. This map also explains

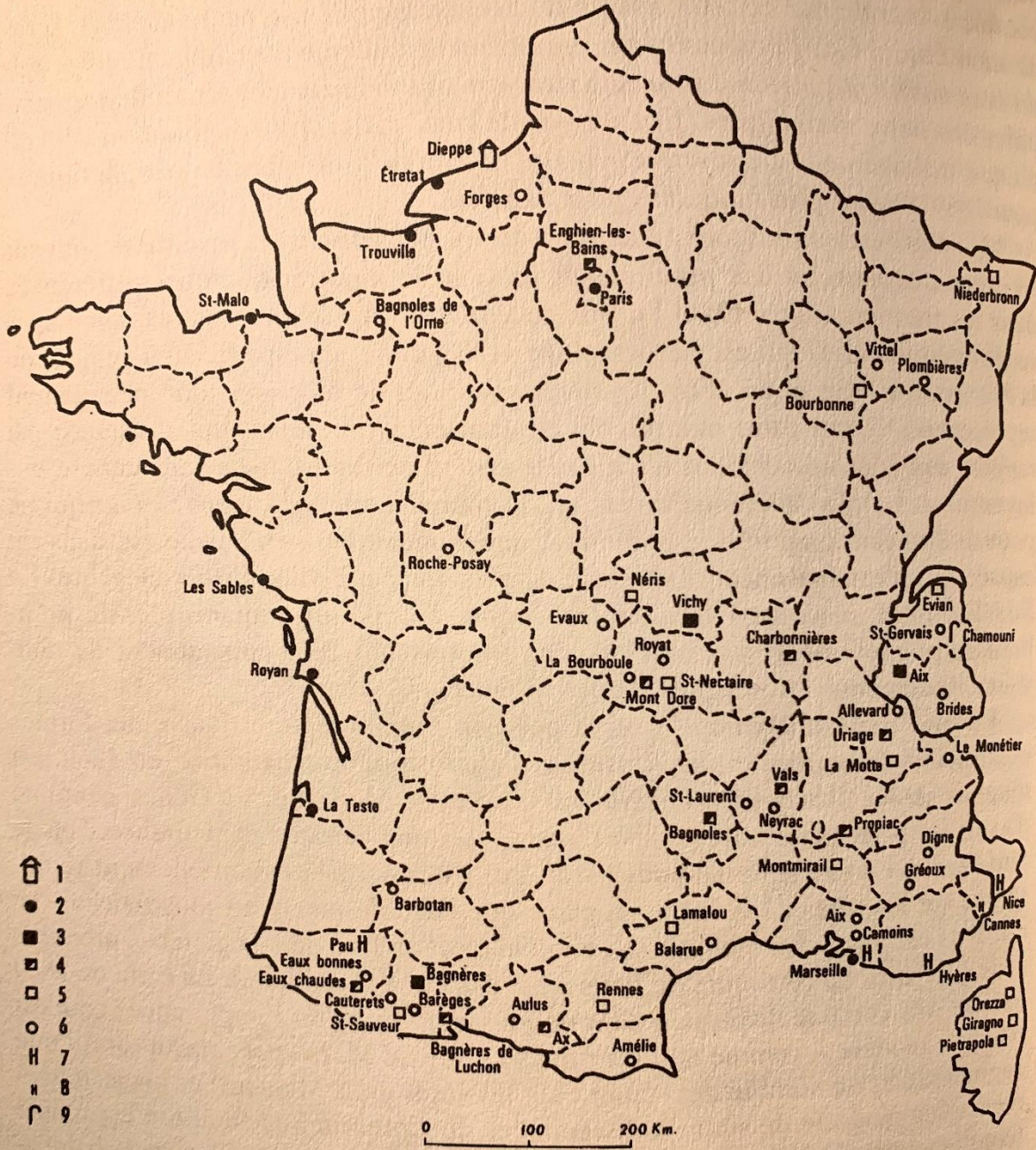
<sup>164</sup> Marc Boyer, *Histoire de l'invention Du Tourisme: XVIe-XIXe Siècles. Origine et Développement Du Tourisme Dans Le Sud-Est de La France*. La Tour-d'Aigues: Éditions de l'Aube, 2000, 268.

Translation of the legend of figure 21:

- Seaside resort: 1. Very frequently visited beach. 2. Frequently visited beach.
- Spa: 3. More than 3000 guests. 4. From 1000 to 3000 guests. 5. From 500 to 1000 guests. 6. Less than 500 guests.
- Winter sports stations: 7. Important winter sports station. 8. Winter sports station. 9. Mountaineering.

This map was created and published by Marc Boyer.

## Le tourisme en 1838



Station balnéaire : 1. Plage très fréquentée. - 2. Plage fréquentée.  
 Station thermale : 3. Plus de 3 000 curistes. - 4. De 1 000 à 3 000 curistes. - 5. De 500 à 1 000 curistes. -  
 6. Moins de 500 curistes.  
 Station de séjour : 7. Station d'hiver importante. - 8. Station d'hiver. - 9. Alpinisme.  
 Carte établie et communiquée par Marc Boyer.

Figure 21: Tourism in France in 1838

---

Stendhal's presence in the southwest of France, even though the landscape is rather mountainous: there are simply many tourist sites to be visited there. Although there are probably more reasons to be found for Stendhal's absence in certain regions (infrastructure, personal connections, presence in secondary sources), I suspect that these two aspects can account for the most important omissions in these books.

Lastly, when talking about Stendhal's itineraries, I would like to specifically discuss the routes he has taken, and the consequences they have for the image of France in general. In his work *French Romantic Travel Writing: Chateaubriand to Nerval*. C.W. Thompson meticulously describes the itinerary in *Mémoires d'un touriste*. He states that the route is capricious and eccentric, and therefore adheres to the Romantic aesthetics of the fragment and the unfinished, and the figure of the arabesque. Thompson himself introduces the term *zigzagging* to describe the non-stable character of the itinerary.<sup>165</sup> I largely agree with him, especially when looking at the strange transitions from Avignon to Nivernais and Paris to Tarascon, that seem rather random and unexpected. However, Thompson takes it one step further:

This route falls into two incoherent and ill-related sections [...]. A first loop starts in the nowhere that is Verrières, near Sceaux [...]. A second loop starts, *ab nihilo*, in Tarascon [...]. This double circuit, with its unpredictable set of beginnings and endings, certainly succeeds in conveying an impression of France as having, morally, neither a single centre nor a simple circumference. [...] Unsettling, unstable, intellectually voracious, ironic but capricious and flirtatious, this is indeed the impression that the book gives overall.<sup>166</sup>

So, while I agree with Thompson on the rather impressionistic style of his itinerary, I have to disagree on the lack of a centre. Because, when looking at the different heat maps (figure 15-19), three of the five images show very clear clusters: "Early Stendhal", *Mémoires d'un touriste*, and all books combined. In "Early Stendhal", these are Paris and Marseille (as noted above): both have been places of residence for Stendhal, and the starting point for many of his (day) trips. Strikingly, for *Mémoires d'un touriste*, this is Grenoble. Thompson might have rightly sensed that Paris was not the main centre in this book, but he didn't present Grenoble as the alternative. Grenoble, Stendhal's place of birth, is the most apparent in this heat map, as an important part of the chapters in the book are concentrated around the Isère city. If we combine all travels in a single dataset (195 visited places), you get the result in figure 19, which clearly indicates Paris and Marseille as the two main centres. Therefore, although the itinerary is undoubtedly capricious at times, and while the centre might not always be Paris, the heat maps have clearly shown that Stendhal's French travels do have distinctive centres at its base.

---

<sup>165</sup> C. W. Thompson, *French Romantic Travel Writing: Chateaubriand to Nerval*. (Oxford: Oxford University Press, 2011), 317.

<sup>166</sup> *Ibid.*, 316-317.

### 3.1.4 Mapping Time

For this type of mapping, I used one book from the corpus (*Voyages dans le Midi de la France*) to illustrate its possibilities. The time-slider enables the user to combine dimensions of space and time in one and the same interface. Not only do we see the gradual development of the route in space, we also see how long the narrator stays in one place, and how long the journey takes him. The making of the base map is quite easily done, as the points from the base map can be used. However, if you want to add the dimension of time, things become more complex. I had to add a begin and end date to each location (see dataset for *Voyages dans le Midi de la France* in attachments), so the time-slider knows when the narrator is in a certain space. Then, the making of the time-slider tool itself can only be done with a Premium ArcGIS account and the complementary ArcMap software. These programmes are not freely available, which makes this function less accessible for everybody to create. However, sharing the already created map with the larger public is free, and usage by viewers is free as well.

One point that I would like to add to the time-slider function is that it does not only show points (the places), but routes between places as well. For example, here, it looks like the narrator stays in Toulouse for a very long time, but he travels back to Bordeaux in the meantime, a thing that the viewer does not notice, since Bordeaux had already been visited before. Unfortunately, the path function is not yet available for the time-slider. As the tool is not yet optimised for usage for this type of corpus (because there is no path function), I will not proceed with this type of mapping in this thesis for now. However, it is believed it was important to show the example, not only to pinpoint the elements that could be improved in order to be fully applicable to these types of corpus, but also to illustrate GIS's potential for a combined visualisation of both space and time.

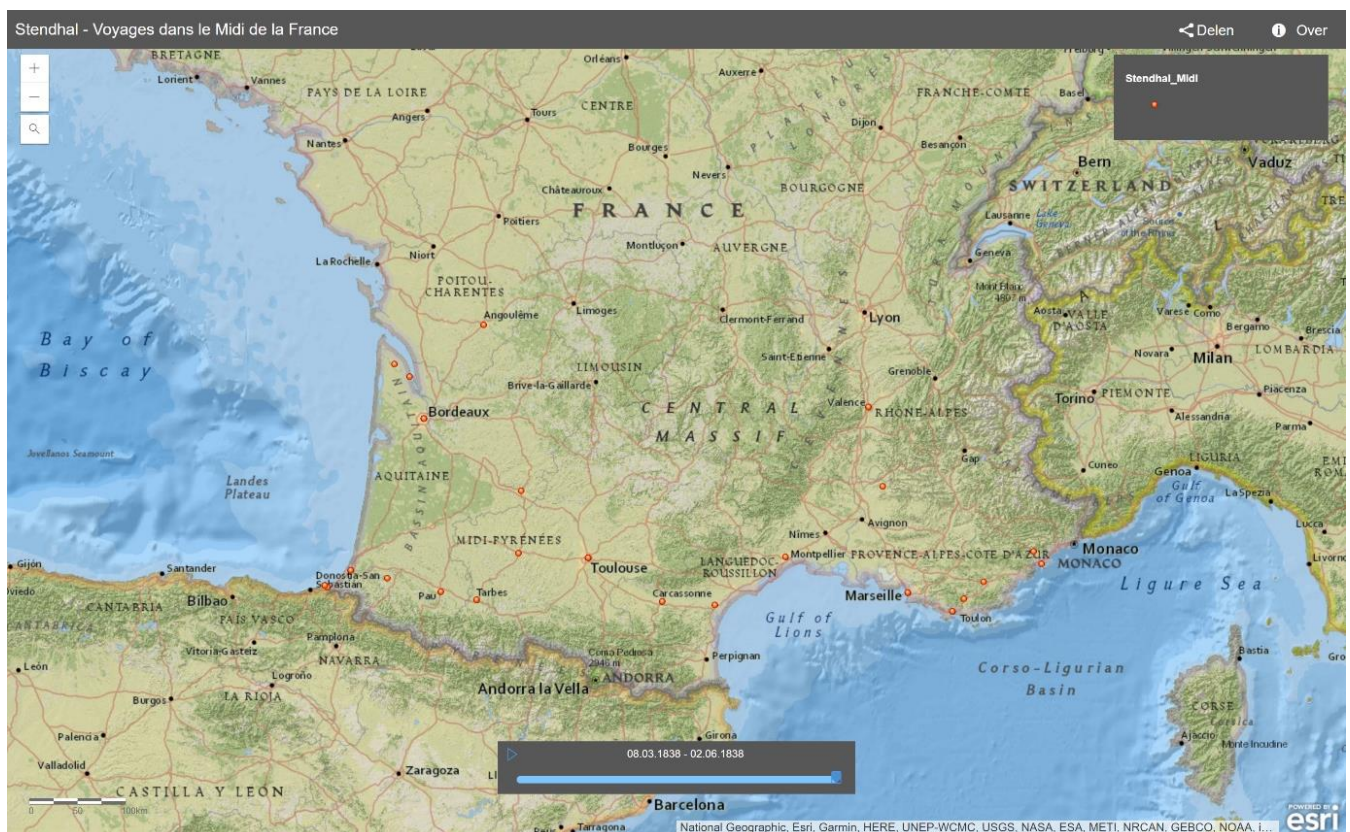


Figure 22: ArcGIS Online & ArcMap: Still from time-slider for *Voyages dans le Midi de la France*. The link to the complete digital map can be found in the Attachments.

---

## 3.2 Sentiment analysis

In order to determine the overall sentiment per visited place (and therefore, per chapter), I applied the sentiment tool SummarizeBot to the entire digital corpus. The tool, its functioning, its effectivity and its reliability and have been elaborately discussed in chapter three, where I took a sample set of five texts from the corpus, inserted it to the tool, and evaluated the results. In this section, I manually inserted all 177 chapters of the digital corpus (106x *Mémoires d'un touriste*, 32x *Voyage en France* and 39x *Voyage dans le Midi de la France*). Originally, there were a few chapters more in the dataset (less than 10, set in Italy, Switzerland or Spain), but I decided to exclude them from the corpus, as they did not fall under the French territory and therefore under the “Voyages en France”. Moreover, the texts I entitled “Early Stendhal” were not present in the digital corpus: as there is no digital version of these fragments available, I could not subject them to the tool.

For each of the three books, I created datasets with the main place name in the chapters (most of the times, the chapter title), the result of the sentiment analysis given by the tool (either positive or negative), and the code of the French department in which the chapter was situated. The reason why I added the department code, is because it was necessary in order to join the thematic sentiment analysis layers to a base map with all departmental outlines and data. All these tables with the sentiment analysis results are available in the Attachments section. Of course, the tables can be read, but I thought it would be more powerful to combine the two essential methods in this thesis, and plot the results on a map of France.

I chose to use filled-in department polygons for reasons of visibility. For the human reader, it is much easier to interpret filled-in figures in different colors, than if the same data had been presented in small points. In this way, it is immediately clear which parts of France were judged positively and negatively by the narrator.

The results are four different maps: one for each book, and one with the results from all books combined. The blue departments were judged positively (according to the sentiment analysis tool) and the red departments negatively. The green departments were not visited (at least, not described) by the narrator. One last note on the maps: as one department can be the host of many chapters (from example, the Isère department has 21 connections), there are instances in which a department is judged both positively and negatively. In this case, it will show to average between all the entries. On paper maps and screenshots, this is not ideal, because some nuances might be lost. However, in the digital map, it is possible to click on each department, and learn about all its entries, and the sentiment they were given.

On the following page, an example of such an information box is given. By clicking on a department, more information is shown. In this case, when clicking on the Isère department, 22 different information tabs appear (see: 5 of 22 in blue upper bar). This means that there are 21 different chapters that are set in this department + 1 information tab for the department in general, makes 22 in total. In the information box, the first four categories belong to the 2017 Departments Map of France, and relate the department code, the name of the department, the size of the area, and the number of inhabitants in 2017. The last two categories belong to the custom-made thematic layers maps of the books, and show the place name belonging to this specific chapter, and the sentiment attached to it. In this way, the user can check for each department which chapters and sentiments belong to it.

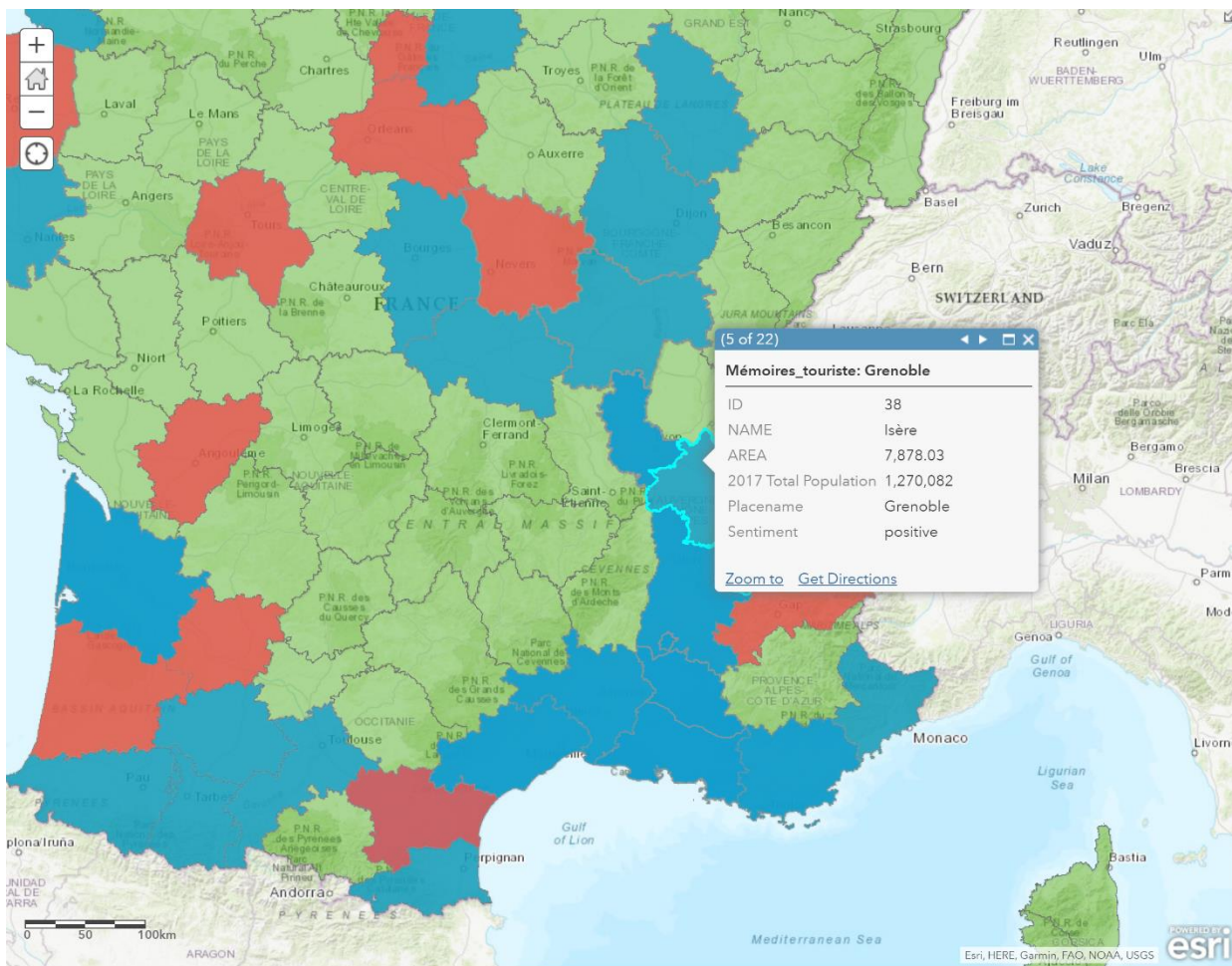


Figure 23: Sentiment analysis map: example of information boxes on mouse-click

On the following page, I have assembled all four maps. Larger and digital versions of these maps can again be found in the Attachments section.

When looking at the maps, the first thing that strikes is the fact that the majority of the departments are blue (positive). Moreover, we see a difference between the north and the south of France: the narrator clearly prefers the south of France in terms of positive sentimentality. An explanation for this could be found in his famous love for Italy and the passions of its people: Stendhal prefers the passionate, the hot-blooded Italians and the warm climate over the greyish skies and stubborn characters of people in bleak port cities.

Since there are relatively few instances of a general negative judgement, it is interesting to look at these chapters. Why these cities? And, even more interestingly, how can it be that the same city can be calculated as both positive and negative in different chapters? In the digital map, as well as in the data tables in the attachments, you can see the different entries for each city. My first impressions, after close reading the chapters that caused such a negative sentiment, is that these negative opinions often have to do with changeable circumstances: the weather, a bad mood, or health problems. An example of this is Nantes. Nantes has six entries, among which four are judged positively by the tool, and the other two negatively. When speaking of “fixed” elements of the city, that is, the local museum, the judgement usually turns out positive (e.g. “Nantes, le 30 juin 1837”, where Stendhal makes an elaborate list of different art works in a museum, p. 253-256), whereas in another chapter on the Breton city, the (bad)

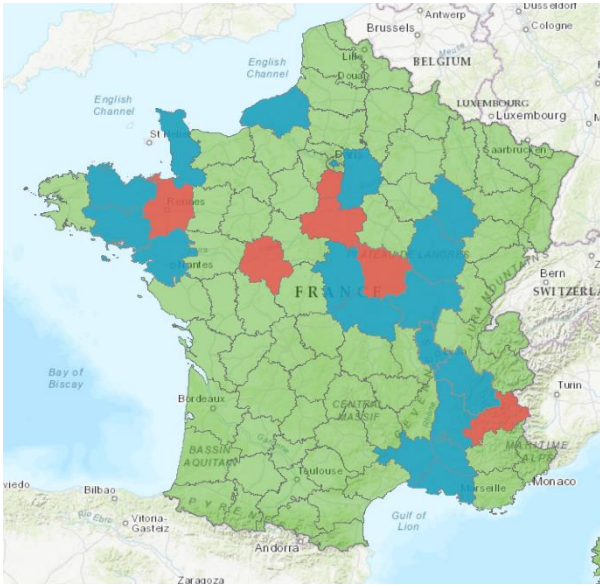
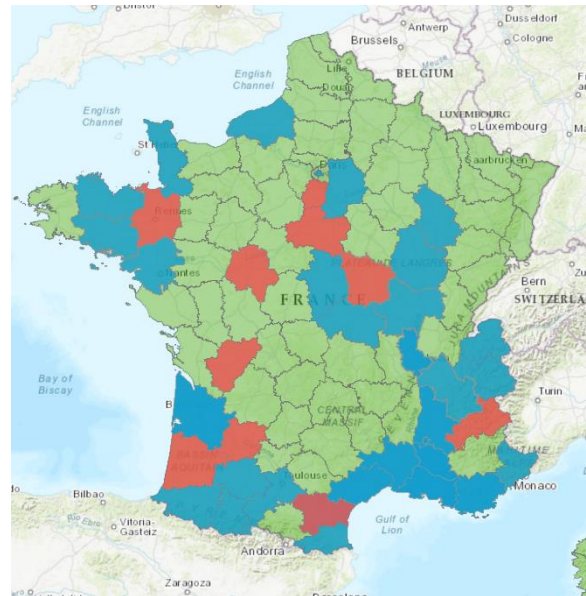
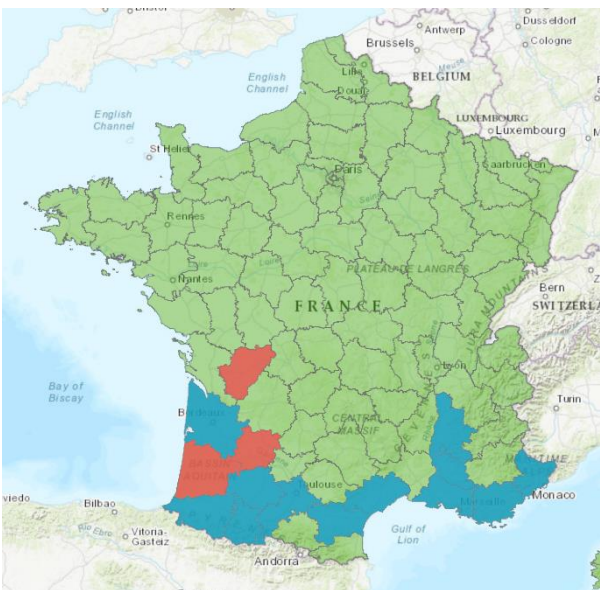


Figure 24-27: Sentiment analysis maps  
 Above : *Mémoires d'un touriste* (left) and *Voyage en France* (right)  
 Below : *Voyage dans le Midi de la France* (left) and all combined (right)



weather plays an important part, and the result is a negative judgement. For example, the chapter “Nantes, le 26 juin 1837”, a chapter that was assessed negatively, contains a large section about the bad weather conditions:

C’est un lieu où mon courage n’a guère brillé ; il faisait froid, il pleuvait un peu, le vent était violent. [...] Impossible de se promener, même avec un parapluie. [...] La mer, les rivages plats

---

et les nuages, tout était gris et triste. [...] Je suis rentré bien mouillé dans le bateau; je me suis consolé avec du café.<sup>167</sup>

This could be proof of Stendhal's impressionistic and embodied writing style, as we have discussed in chapter 2. There, I concluded that Stendhal's writing style is not only very subjective and personal, these personal views are also subject to change. His sentiments are depending on a multitude of circumstantial factors, such as his physical health, a bad lunch, greyish weather, etc. Stendhal scholar Dominique Fernandez called this rapid change of sentiment *impressionistic*: his judgement of a city is dependent on temporary conditions, that often include an embodied experience (here: rain, storm and being soaked to the skin).

When talking about embodied experiences, it could also be useful to distinguish between Stendhal's real and imaginary journeys. As we have touched upon before, the *Voyage en France* part was mostly written from memory and with the aid of secondary sources, instead of being a real travel journal. Thompson also senses a difference in tone between certain sections of the *Mémoires*:

Moreover, it seems to me evident that the tail of the first loop, from Bourges through Brittany, Normandy, and then back to Paris, is both **emotionally more lively** and much more observant (as are the final pages on the Dauphiné) than the initial leg down to Lyon and Avignon [...]. Can it be an accident that this wing from Bourges back to Paris corresponds to the real journey made in May and June 1837, instead of being worked up from old memories and books? [...] The very last pages on Grenoble and the Dauphiné hardly needed refreshing, of course.<sup>168</sup>

However, it can be hard to measure if a text is "emotionally more lively" with our current tools, since that can imply both positive and negative emotions. In this case, it would have been useful to have a tool that, next to assessing a text to be negative or positive, would say *how* emotive a certain text is by scoring the level of positive/negative statements (as SummarizeBot already does on a sentence level).

Nevertheless, in order to look at the differences between real and imaginary journeys, we can compare the *Voyage en France* (inherently imaginary) to the other two books. It is indeed interesting that the book with the least instances of a negative result is *Voyage en France*, the only book for which Stendhal's probably invented all his experiences instead of truly travelling there. Few negative judgements for an imaginary journey: could this be because there are no *embodied* experiences (a term discussed in the theoretical framework on spatial subjectivity in Chapter 1)? No miserable yet accidental circumstances? No aging body, nor annoying transport companions, no bad food in a local restaurant? It is worth considering this correlation, especially in light of the importance of the often fluid boundaries between fiction and autobiography as a main characteristic of 1830s French Romantic travel writing, as touched upon by Thompson.

---

<sup>167</sup> Stendhal, *Voyages en France* (Paris: Éditions Gallimard, Bibliothèque de la Pléiade, 1992), 244-245.

<sup>168</sup> C. W. Thompson, *French Romantic Travel Writing: Chateaubriand to Nerval*. (Oxford: Oxford University Press, 2011), 317-318, my emphasis.

---

### **Return to a reflection on the tool & model**

Finally, on the basis of these reflections, I would like to evaluate the effectivity of the tool, once more. I think the tool could be greatly improved by showing the general score for a text (a score between -2 as in very negative to +2 very positive), just as it already does on the sentence level. In this way, we would be able to nuance between text that are very positive or just slightly positive, or more neutral. Hence, the maps that I created would be less black and white, and show more nuance.

Moreover, I believe that the tool works better for the short chapters than for the long ones. This is caused by the fact that in long chapters, the narrators discusses multiple subjects, from a description of the village/city to a story about a cruel historical event or a funny anecdote. Here, it could be that the writer is negative about the city, but the text is deemed positive because the other subjects require many “positive” words. This is the case for Auray and Fourvoirie in *Mémoires d'un touriste*, on the basis on my own readings combined with sentiment analysis of parts of the texts. For example, when analyzing Auray with the tool, I saw that some parts were explicitly negative (“Les habitants de ce pays paraissent tristes et refrognés. J’ai demandé ce que l’on pensait d’un monument si étrange”),<sup>169</sup> whereas others are the opposite (“Ce peuple curieux et d’une si grande bravoure mériterait que le gouvernement établit, au centre de la partie la plus opiniâtre, deux colonies de sages Alsaciens. Le brave demi-paysan dont je traduis ici la conversation m’a avoué en gémissant que la langue bretonne tend à s’éteindre”).<sup>170</sup>

Nevertheless, the chapters should not be too short either: when the text is really brief (less than 50 words), the tool does not work ideally either. If the tool misses a “sentiment” word, the balance could be completely different with such a small amount of words. In conclusion, chapters of 1 or 2 pages are ideal.

---

<sup>169</sup> Stendhal, *Voyages en France* (Paris: Éditions Gallimard, Bibliothèque de la Pléiade, 1992), 288.

<sup>170</sup> *Ibid.*, 294.

---

## CONCLUSIONS AND DISCUSSION

*Mais les vrais voyageurs sont ceux-là seuls qui partent  
Pour partir; cœurs légers, semblables aux ballons,  
De leur fatalité jamais ils ne s'écartent,  
Et, sans savoir pourquoi, disent toujours: Allons!*

- Charles Baudelaire, "Le Voyage" <sup>171</sup>

Unlike Charles Baudelaire's attitude in his "Le Voyage" (part of *Les Fleurs du Mal*), this research project was not a spontaneous leap of faith, but a calculated overture to the exploration of modern digital tools in the study of 19<sup>th</sup>-century French literature. In this final section, I will return to the original research question:

**To what extent are computational GIS and Sentiment Analysis tools suited to enhance our understanding of Stendhal's *Voyages en France*?**

In order to answer this question, I will systematically discuss the two types of tools (GIS and Sentiment Analysis) on their ability to produce new insights into Stendhal's French travels and their effectivity for these types of research questions in general. After all, while the methodological part of this thesis could be described as exploratory or experimental, that does not mean that it cannot produce surprising results and offer new insights. Since the previous chapters, and the following "Further Research" section are already generous in size and explanation, I endeavour to keep my conclusions concise, clear and to the point.

### GIS

**- Did the use of computational GIS tools lead to new insights about Stendhal's *Voyages en France*?**

The use of the different kind of mappings certainly led to new insights. The visualisation of the routes gives a clearer idea of the omission, the places that were *not* visited, something that is much harder of perhaps impossible to do without a large-scale visualisation. Moreover, I was able to contradict common ideas ("*Voyages dans le Midi de la France* is mostly a real life repetition of the *Voyage en France*") by referring to the individual book maps. Additionally, I was able to reflect on the seemingly erratic, non-stable and centre-less character of Stendhal's travel writing, a vision that had to be nuanced after studying his routes in heat maps. The heat maps are a typical example of the advantages of a computational method: as was shown by the close reading by Thompson, human readers are not always

---

<sup>171</sup> **Translation:** But the true voyagers are only those who leave  
Just to be leaving; hearts light, like balloons,  
They never turn aside from their fatality  
And without knowing why, always say: "Let's go!"

---

capable of calculating and summarizing data in an objective manner. By using a computational tool that both calculates and visualises clusters by use of density smoothing, different patterns becomes clear.

In this way, it is safe to say that the thesis has shown examples of all the three functions of literary cartography, according to Piatti (see chapter 1): as an illustration (an elaborate overview of all his journeys), as an inspiration (the process of mapping leads to new ideas: this will become more than apparent in the “further research” section) and as an instrument (showing something on a map that is not visible without them, cf. the example with the heat maps: finding the centres). In this thesis, maps have often become hermeneutic tools, that raise as many questions as they answer, which is a positive development.

***- To what extent are the tools that are used suitable for answering the research question?***

Both types of software (QGIS and ArcGIS) have their advantages and flaws. I have used both, because I needed their distinctive assets at different points in the research process. QGIS is free and offers an infinite amount of possibilities: the user is free in his choices. However, it requires an enormous learning curve, and the publishing process of a heavy document (for example, when it includes a historical map) is painstakingly difficult: the ‘mapmaking’ software is updated very regularly, but the publishing software is not, which is why it quickly becomes dated and non-operational. ArcGIS Online is much more user friendly, and it is usually easier to publish maps online. Nevertheless, for more advanced options (the use of premium content such as the “Departments of France” vector layer or the option of a time-slider function), a professional subscription to ArcGIS Desktop Pro and ArcMap are required. As these programmes are very expensive, they are usually only available through large-scale organisations. So, while both of the tools have flaws, they are both valid options for GIS software: a choice for either one depends on the user and his/her preferences. As to the time-slider tool, created with ArcMap and ArcGIS Online: it worked just fine, but at the moment, it does not have enough potential for this type of data (journeys between places), since the “path” function is not yet available. Perhaps this feature will be added in the near future.

## **Sentiment analysis**

***- Did the use of computational sentiment analysis tools lead to new insights about Stendhal’s Voyages en France and his subjective égotisme?***

In Chapter 2, we have seen that Stendhal’s literary style in his travel journals is an ideal example of the application of topo-poetics and lived space (cf. Chapter 2 for terminology). There are not many authors who describe a place with a greater embodied subjectivity: literally any accidental circumstance (from weather to food to passersby) can influence his perception of a place. Therefore, his travelogues are overloaded with “life”, as Del Litto put it: “A partir des matériaux les plus divers, parfois hétérogènes, Stendhal a réussi à créer une œuvre foisonnante de vie”.<sup>172</sup> The computational sentiment analysis tool let us to new, interesting examples of such lived experience, that are worthy of a close reading, such as the differences of sentiment within the same city (cf. example Nantes) or even within the same chapter

---

<sup>172</sup> Victor Del Litto, “Introduction”, in Stendhal, *Voyages en France* (Paris: Éditions Gallimard, 1992), lxxv.

---

(cf. example Auray). Moreover, it allowed us to analyse the differences in sentiment between real and imagined journeys. However, it did not show the intensity of said sentiments.

**- *To what extent are the tools that are used suitable for answering the research question?***

To the question whether this particular tool is the ideal way to explore Stendhal's subjective sentimentality in his texts, the answer is both yes and no. *No*, because the tool is not yet perfectly reliable. This has to do with the complexity of reading a digital text (negation, nuance, irony, homonyms) as well as the non-stable character of close readings, which can also greatly differ from one annotator to another (as we have seen with the questionable IAA in Chapter 3). But then, another question arises: if readings differ per person, is it at all possible to find an "ideal" way to analyse the sentiments in a text? Reading, as a concept, is flexible. However, one could say: this tool has calculated that there are more positive than negative chunks in this sample, and therefore we evaluate the sample as positive. This does not mean that this is necessarily the only correct way of "reading", but at least we know exactly what the tool has calculated: the deformative processes have been made explicit.

*Yes*, because when this deformative processes is specified, it does present the user with an indication of an answer to his/her research question: an indication, and not a definitive answer. It points the user in the direction of new interesting examples (cf. Fleming on exemplary reading).

To conclude, I will end with a case of 'recursive modelling': I go back to the model to see what could be improved. The SummarizeBot tool is rather clear about its deformative processes: it shows the words/word groups that have triggered a positive or negative score, and shows the final score per sentence. As has been noted before, the tool would be improved by adding a general score for the whole text, in order to distinguish between entire texts on the basis of the intensity of the sentiment. When I look at my personal use of the tool, I am convinced that my IAA should be higher to make the sentiment analysis process more successful. This could be achieved by an increase in scale on multiple levels: the number of annotators, the number of sample text, the amount of training time, and the specificity of the guidelines.

## **The Roads Not Taken**

This thesis is not exhaustive. Many diverging paths could have been taken: I could have chosen for a different scale, different methods, different tools. Exactly because the Digital Humanities are a relatively field of research, this should be seen, above all, as an orientation, and exploration into the applicability of these new tools onto the field of 19<sup>th</sup> century French literature studies.

The question is: did this thesis contribute to a better understanding of Stendhal's work? Yes, because it surpassed the function of illustration in multiple instances. It also led me to many new ideas. As a matter of fact, it might be a good thing that this thesis is not definitive, and that perhaps more questions have been raised than answered. What better way to illustrate the "inspiration" function than a long list of future research ideas? While working on this thesis, many new ideas came to me, as a Digital Humanities project can also be larger, more specific, more elaborate. The art of knowing when to stop is a fine, if not rather difficult one. In the "Future Research" section below, I have noted the ideas of which I believe that they could be of added value to the understanding of Stendhal's work and/or the literary history of 19<sup>th</sup> century travelogues in general.

---

Although the development of the Digital Humanities and the Spatial Humanities are still underway in literary studies, I believe that the combination of the two fields can be very fruitful for the exploration of new roads in the research field. I hope this thesis can be an impulse to that exploration.

---

## ***Further Research***

- **Stylometry**  
Stendhal is known to have taken “inspiration” from other travel writers, such as Merimée. A computational stylometric analysis could see to which extent Stendhal has plagiarized other authors.
- **Index**  
At the end of the Pléiade edition, one finds a large index of persons (real and fictional) and places (within cities: streets, buildings, etc). If you change scale and analyse on the street level, you could parse through all these place names (thousands) in the text. This would require advanced programming skills, and the scale is far too large for a Master’s thesis. With all the place names, you could create a quote database comparable to the Edinburgh LitLong database, which connects quotes from the book to a specific street. The names of the persons (complete with profession) could be used for a truly complex network analysis combining name, profession and place. Another study could then look at the correlation between certain people and certain places, or even between certain professions / society groups and places, which would then become a more ethnographic/imagological study, as it looks at the representation of *people* in a place.
- **History of art**  
Stendhal as an art critic, as aesthetic judgments about architecture and museums are omnipresent in his travelogues: a deep analysis of the different art works he encounters in museums, of buildings, architecture, music, etc.
- **Infrastructure**  
A separate essay to accompany this thesis could have all issues regarding infrastructure and public transport as its subject. This could be a combination of fact and fiction, when historical sources on infrastructure in 19<sup>th</sup> century France are compared to the lists of ways of transport, costs and travel time that Stendhal has regularly included in his travelogues.
- **Zoom in on a certain area**  
While the smaller scale (street level) described under “Index” is practically unattainable for a single researcher when applied to the whole country, it would be an interesting exercise to apply it to a smaller area, also with valorization in mind. I am thinking of Grenoble, Stendhal’s place of birth. The city centre is rather compact, contains multiple historical buildings that are still in use as Stendhal museums, and shows great effort to stimulate literary tourism around the figure of its most famous literary inhabitant, Stendhal.
- **Deep Mapping**  
If we go back to Stendhal’s manuscripts, which can be found in the Grenoble municipal libraries, we see an incredibly rich source of information: many drawings, maps, lists of transport

---

costs, etc.<sup>173</sup> On so-called deep maps, we could have added this multimedia material to a specific location: not only Stendhal's own media, but also historical images of the cities, quotes from his books, etc. The reason why I choose not to pursue this kind of map in this research project is because it is more focused on visualisation and valorisation (this would be an incredibly attractive map for the general public), and does not really contain a computational aspect, in the sense that a topic is truly researched or calculated, such as was the case with the sentiment analysis. Nevertheless, it would be a great way to present Stendhal's work to a larger public.

---

<sup>173</sup> Many interesting examples of these supplementary elements to the manuscripts have been assembled in a fine booklet created by the Musée Stendhal in Grenoble: Olivier Tomasini, *Stendhal, traits pour traits. Dessins des manuscrits de la Bibliothèque municipale*. Grenoble: Le Musée Stendhal, 2015.

---

## BIBLIOGRAPHY

- “UCLA Digital Humanities Courses.” n.d. <http://digitalhumanities.ucla.edu/instruction/dhcourses.html>.
- Alexander, Neal. 2015. “On Literary Geography.” *Literary Geographies* 1 (1): 3–6.
- Alves, Daniel, and Ana Isabel Queiroz. 2017. “Studying Urban Space and Literary Representations Using GIS: Lisbon, Portugal, 1852-2009” 37 (4): 457–81.
- Antoine, Philippe. 2011. “Quand Le Voyage Devient Promenade. Écritures Du Voyage Au Temps Du Romantisme.” Paris: Presses de l’Université Paris-Sorbonne.
- Bachelard, Gaston. 1994. *The Poetics of Space*. Boston: Beacon Press.
- Bertrand, Gilles. 2008. “La Naissance Du Touriste.” In *Le Grand Tour Revisité. Pour Une Archéologie Du Tourisme: Le Voyage Des Français En Italie, Milieu XVIIIe Siècle - Début XIXe Siècle*, 491–544. Rome: Publications de l’École française de Rome.
- Bodenhamer, David J. 2015. “Narrating Space and Place.” In *Deep Maps and Spatial Narratives*, edited by David J. Bodenhamer, John Corrigan, and Trevor M. Harris, 7–27. Bloomington IN: Indiana University Press.
- Bodenhamer, David J., John Corrigan, and Trevor M. Harris. 2015. “Deep Maps and Spatial Narratives.” Bloomington IN: Indiana University Press.
- Bohls, Elizabeth A. 2013. “Romantic Orientalisms.” In *Romantic Literature and Postcolonial Studies*, 127–65. Edinburgh: Edinburgh University Press.
- Boyer, Marc. 2000. *Histoire de l’invention Du Tourisme: XVIe-XIXe Siècles. Origine et Développement Du Tourisme Dans Le Sud-Est de La France*. La Tour-d’Aigues: Éditions de l’Aube.
- Bray, Patrick M. 2013. *The Novel Map. Space and Subjectivity in Nineteenth-Century French Fiction*. Evanston IL: Northwestern University Press.
- Carcich, Pierina. 1985. “The Idealized Voyage in Stendhal’s ‘Rome Naples and Florence.’” *Essays in Arts and Sciences* 14 (1): 13–23.
- Collot, Michel. 2014. *Pour Une Géographie Littéraire*. Paris: Éditions Corti.
- Cooper, David. 2017. “Digital Literary Geographies. Mapping British Romanticism.” In *The Routledge Handbook of Literature and Space*, edited by Robert T. Tally. London: Routledge.
- Cooper, David, Christopher E. Donaldson, and Patricia Murrieta-Flores. 2016. “Literary Mapping in the Digital Age.” Oxon/New York: Routledge.
- Cooper, David, and Ian N. Gregory. 2011. “Mapping the English Lake District: A Literary GIS.” *Transactions of the Institute of British Geographers* 36 (1): 89–108.

- 
- Cooper, David, Ian N. Gregory, Sandy Bushell, and Zoe Bolton. "Mapping the Lakes: A Literary GIS." Accessed April 7, 2019. <https://www.lancaster.ac.uk/mappingthelakes/index.htm>.
- Certeau, Michel de. 1984. "Walking in the City." In *The Practice of Everyday Life*. Berkeley: University of California Press.
- Dear, Michael, *et al.* 2011. "Geohumanities: Art, History, Text at the Edge of Place." London: Routledge.
- Deijl, Lucas van der & Roel Smeets. 2018. "Tussen close en distant. Personage-hiërarchieën in Peter Buwalda's Bonita Avenue", *Tijdschrift voor Nederlandse Taal- en Letterkunde* 134:2: 123-145.
- Del Litto, V., and E. Kanceff. 1986. *Le Journal de Voyage de Stendhal*. Genève: Éditions Slatkine.
- Donaldson, Christopher E., Ian N. Gregory, and Joanna E. Taylor. 2017. "Implementing Corpus Analysis and GIS to Examine Historical Accounts of the English Lake District." In *Historical Atlas: Its Concepts and Methodologies*, edited by P. Bol, 152–72. Seoul: Northeast Asian History Foundation.
- Donaldson, Christopher E., Ian N. Gregory, and Joanna E. Taylor. n.d. "Geographical Collocation Analysis: Implementing Geographical Information Systems in the Evaluation of Historical Travel Writing & Topographical Literature." *Unpublished Article*, 1–44.
- Dorsch, Sebastian. 2013. "Space/Time Practices and the Production of Space and Time. An Introduction." *Historical Social Research / Historische Sozialforschung* 38 (3): 7–21.
- Earley-Spadoni, Tiffany. 2017. "Spatial History, Deep Mapping and Digital Storytelling: Archaeology's Future Imagined through an Engagement with the Digital Humanities." *Journal of Archaeological Science* 84: 95–102.
- Engberg-Pedersen, Anders. 2017. *Literature and Cartography. Theories, Histories, Genres*. Cambridge MA/London: The MIT Press.
- Foucault, Michel. 1998. "Different Spaces." In *Aesthetics, Method, and Epistemology*, 175–85. New York: The New Press.
- Fleming, Paul, 2017. "Tragedy, for Example: Distant Reading and Exemplary Reading", *New Literary History* 48-3: 437-455.
- Gregory, Ian N., David Cooper, Andrew Hardie, and Paul Rayson. 2015. "Spatializing and Analyzing Digital Texts:" In *Deep Maps and Spatial Narratives*, edited by David J. Bodenhamer, John Corrigan, and Trevor M. Harris, 150–78. Bloomington IN: Indiana University Press.
- Gregory, Ian N., Don DeBats, and Don Lafreniere. 2018. *The Routledge Companion to Spatial History*. Oxon/New York: Routledge.
- Gregory, Ian N., and Alistair Geddes. 2014. *Toward Spatial Humanities. Historical GIS and Spatial History*. Bloomington IN: Indiana University Press.
- Gross, Irena Grudzinska. 1989. "Stendhal, Travel Writing, and Plagiarism." *Nineteenth-Century French Studies* 18 (1–2): 231–35.

- 
- Heuser, Ryan, Franco Moretti, and Erik Steiner. 2016. "The Emotions of London (Literary Lab Pamphlet 13)."
- Hulme, Peter, and Tim Youngs. 2002. *The Cambridge Companion to Travel Writing*. Cambridge: Cambridge University Press.
- Joseph, John. 1984. "I-Tinerary: The Romantic Travel Journal after Chateaubriand." *South Central Review* 1 (1/2): 38–51. <https://doi.org/10.2307/3189240>.
- Juvan, Marko. 2015. "From Spatial Turn to GIS-Mapping of Literary Cultures." *European Review* 23 (1): 81–96.
- Lefebvre, Henri. 1991. *The Production of Space. Urban Studies*. Vol. 29. Oxford/Cambridge MA: Blackwell.
- Lévêque, Laure. 2014. "Culture vs. Civilisation Dans Les « voyages En France » de Stendhal : Maltraités de l'Atlantique Nord et Union Pour La Méditerranée" 29 (Babel: Littératures plurielles): 99–121.
- Long, Hoyt and Richard Jean So. 2016. "Literary Pattern Recognition: Modernism between Close Reading and Machine Learning", *Critical Inquiry* 42:2.
- Manzini, Francesco. 2016. "Stendhal." In *The Oxford Handbook of European Romanticism*. Oxford: Oxford University Press.
- Mitchell, Peta. 2017. "Literary Geography and the Digital. The Emergence of Neogeography." In *The Routledge Handbook of Literature and Space*, edited by Robert T. Jr. Tally, 85–94. Oxon/New York: Routledge.
- Molotch, Harvey. 1993. "The Space of Lefebvre. The Production of Space by Henri Lefebvre and Donald Nicholson-Smith." *Theory and Society* 22 (6): 887–95.
- Moretti, Franco. 1998. *Atlas of the European Novel 1800-1900*. London/New York: Verso.
- Moretti, Franco. 2000 'Conjectures on World Literature', *New Left Review* 1: 54-68.
- Moretti, Franco. 2005. *Graphs, Maps, Trees. Abstract Models for Literary History*. London/New York: Verso.
- Moretti, Franco. 2013. *Distant Reading*. London/New York: Verso.
- Moutote, Daniel. 1980. *Égotisme Français Moderne: Stendhal - Barrès - Valéry - Gide*. Paris: Éditions CDU et SEDES réunis.
- Moutote, Daniel. 1974. "L'expression de l'égotisme Dans Les Romans de Stendhal." *Cahiers de l'Association Internationale Des Études Françaises* 26: 203–18.
- Murrieta-Flores, Patricia, Christopher E. Donaldson, and Ian N. Gregory. 2017. "GIS and Literary History: Advancing Digital Humanities Research through the Spatial Analysis of Historical Travel Writing and Topographical Literature." *Digital Humanities Quarterly* 11 (1).

- 
- Piper, Andrew. 2015. "Novel Devotions: Conversional Reading, Computational Modeling, and the Modern Novel", *New Literary History* 46-1: 68-69.
- Porter, Dennis. 1991. *Haunted Journeys: Desire and Transgression in European Travel Writing*. Princeton: Princeton University Press.
- Ramsay, Steven. 2011. *Reading Machines: Toward an Algorithmic Criticism*. Champaign IL: University of Illinois Press.
- Reuschel, Anne-Kathrin, Barbara Piatti, and Lorenz Hurni. 2013. "Modelling Uncertain Geodata for the Literary Atlas of Europe." In *Understanding Different Geographies*, edited by Karel Kriz, William Cartwright, and Michaela Kinberger, 135–58. Berlin/Heidelberg: Springer.
- Ryan, Marie-Laure, Kenneth Foote, and Maoz Azaryahu. 2016. "Narrating Space / Spatializing Narrative. Where Narrative Theory and Geography Meet." Columbus OH: The Ohio State University Press.
- Soja, Edward W. 1996. *Thirdspace. Journeys to Los Angeles and Other Real-and-Imagined Places*. Malden MA/Oxford: Blackwell.
- Stadler, Jane, Peta Mitchell, and Stephen Carleton. 2016. "Geocriticism's Disciplinary Boundaries." In *Imagined Landscapes*, 1–28. Bloomington IN: Indiana University Press.
- Stendhal. 2009. *Travels in the South of France*. Richmond: Alma Classics.
- Stendhal. 2013. "Oeuvres Complètes (141 Titres Annotés et Illustrés)." Paris: Arvensa Editions.
- Stendhal. 1992. *Voyages En France*. Edited by V. Del Litto. Paris: Éditions Gallimard.
- Tally, Robert T. 2011. "Geocritical Explorations. Space, Place, and Mapping in Literary and Cultural Studies." New York: Palgrave Macmillan.
- Tally, Robert T. 2013. *Spatiality*. London: Routledge.
- Tally, Robert T. 2017. "The Routledge Handbook of Literature and Space." London: Routledge.
- Tally, Robert T. 2013. "The Spatial Turn." In *Spatiality*, 11–43. London: Routledge.
- Tally, Robert T. 2014. *Literary Cartographies: Spatiality, Representation, and Narrative*. New York: Palgrave Macmillan. <https://doi.org/10.1057/9781137449375>.
- Taylor, Joanna E., Christopher E. Donaldson, Ian N. Gregory, and James Odelle Butler. 2018. "Mapping Digitally, Mapping Deep: Exploring Digital Literary Geographies." *Literary Geographies* 4 (1): 1–14.
- Thompson, Carl. 2011. *Travel Writing*. Oxon/New York: Routledge.
- Thompson, Christopher W. 1992. "French Romantic Travel and the Quest for Energy." *The Modern Language Review* 87 (2): 307–19.

- 
- Thompson, Christopher W. 2011. *French Romantic Travel Writing: Chateaubriand to Nerval*. Oxford: Oxford University Press.
- Todorov, Tzvetan. 2007. "Stendhal, Amour et Égotisme." *Nouvelles Études Francophones* 22 (1): 115–26.
- Unamuno, Enrique Santos. 2017. "GIS and Telescopic Reading: Between Spatial and Digital Humanities." *Neohelicon* 44 (1): 65–81.
- Vanhoutte, Edward. 2013. 'The Gates of Hell. History and Definition of Digital | Humanities | Computing'. In Melissa Terras, Julianne Nyhan & Edward Vanhoutte (eds.) *Defining Digital Humanities. A Reader*. Farnham: Ashgate Publishing: 119-156.
- Westphal, Bertrand. 2000. "Pour Une Approche Géocritique Des Textes." *La Géocritique Mode d'emploi*, no. 0: 9–40.
- Whitfield, Peter. 2011. *Travel: A Literary History*. Oxford: Bodleian Library.

---

## ATTACHMENTS

### CHAPTER 2: METHODOLOGY

#### Attachment 1: Sample texts for the evaluation of sentiment analysis tools

##### Sample 1:

**From :** *Mémoires d'un touriste*

**Montargis, le 11 avril**

Petite ville assez insignifiante. Elle s'est fort embellie depuis 1814, qu'elle a pu jouir des réformes introduites par Sieyès, Mirabeau, Danton et autres grands hommes qu'il est de mode de calomnier parmi les pygmées actuels. Bon souper à l'hôtel de la Poste, fort bien meublé. Dans toute cette journée, je n'ai pas rencontré un seul postillon malhonnête ; je paye à cinquante sous : plusieurs montent fort mal à cheval, ce qui me fâche. Je pensais qu'on pourrait faire une conscription de postillons si les soldats prussiens, poussés par les Russes, nous attaquent. Avant de partir, je vais voir la promenade située sur les bords du Loing et du canal de Briare ; insignifiant.

##### Sample 2 :

**From :** *Mémoires d'un touriste*

**Rennes, le ... juillet**

Ce matin, à Lorient, j'espérais voir la mer au pied du quai de la promenade, je n'y ai trouvé que de la boue comme hier, des navires penchés et deux douaniers se promenant avec l'œil bien ouvert. Ainsi, dans ce prétendu port de mer, il m'a été impossible de la voir. Je suis retourné à mon aimable café lire le journal. Là, à force de talent, je suis parvenu à me faire dire que les habitants de Lorient sont les gens les plus rangés du monde : jamais ils ne sortent de chez eux ; à neuf heures et demie tout est couché dans la ville ; jamais les dames ne reçoivent de visites, et l'on ignorerait jusqu'à l'existence de la société, si le préfet maritime ne donnait des soirées que l'on dit fort agréables : il a une jolie habitation auprès de la Tour ronde. J'ai oublié de dire que cette tour est parfaitement calculée pour remplir son objet ; mais comme dans toutes choses, à Lorient, rien n'a été donné au plaisir des yeux, elle a la forme atroce d'un pain de sucre. Quelle différence, grand Dieu ! avec les phares et fortifications maritimes de l'Italie ! Mais l'Italie a-t-elle eu un Bisson, de nos jours ?

##### Sample 3 :

**From :** *Mémoires d'un touriste*

---

**Nîmes, le 2 août**

LE PONT DU GARD.

Vous savez que ce monument, qui n'était qu'un simple aqueduc, s'élève majestueusement au milieu de la plus profonde solitude.

L'âme est jetée dans un long et profond étonnement. C'est à peine si le Colisée, à Rome, m'a plongé dans une rêverie aussi profonde.

Ces arcades que nous admirons faisaient partie de l'aqueduc de sept lieues de long qui conduisait à Nîmes les eaux de la fontaine d'Eure ; il fallait leur faire traverser une vallée étroite et profonde ; de là le monument.

On n'y trouve aucune apparence de luxe et d'ornement : les Romains faisaient de ces choses étonnantes, non pour inspirer l'admiration, mais simplement et quand elles étaient utiles. L'idée éminemment moderne, l'arrangement pour faire de l'effet, est rejetée bien loin de l'âme du spectateur, et si l'on songe à cette manie, c'est pour la mépriser. L'âme est remplie de sentiments qu'elle n'ose raconter, bien loin de les exagérer. Les passions vraies ont leur pudeur.

Trois rangs d'arcades en plein cintre, d'ordre toscan, et élevées les unes au-dessus des autres, forment cette grande masse qui a six cents pieds d'étendue sur cent soixante de hauteur.

Le premier rang, qui occupe tout le fond de l'étroite vallée, n'est composé que de six arcades.

Le second rang, plus élevé, trouve la vallée plus large, et a onze arcades. Le troisième rang est formé de trente-cinq petits arcs fort bas ; il fut destiné à atteindre juste au niveau de l'eau. Il a la même longueur que le second, et porte immédiatement le canal, lequel a six pieds de large et six pieds de profondeur. Je ne tenterai pas de faire des phrases sur un monument sublime, dont il faut voir une estampe, non pour en sentir la beauté, mais pour en comprendre la forme, d'ailleurs fort simple et exactement calculée pour l'utilité.

Par bonheur pour le plaisir du voyageur né pour les arts, de quelque côté que sa vue s'étende, elle ne rencontre aucune trace d'habitation, aucune apparence de culture : le thym, la lavande sauvage, le genévrier, seules productions de ce désert, y exhalent leurs parfums solitaires sous un ciel d'une sérénité éblouissante. L'âme est laissée tout entière à elle-même, et l'attention est ramenée forcément à cet ouvrage du peuple-roi qu'on a sous les yeux. Ce monument doit agir, ce me semble, comme une musique sublime, c'est un événement pour quelques cœurs d'élite, les autres rêvent avec admiration à l'argent qu'il a dû coûter.

Comme la plupart des grands monuments des Romains, le pont du Gard est construit en pierres de taille posées à sec sans mortier ni ciment. Les parois de l'aqueduc sont enduites d'un ciment qui se conserve encore. Une fois j'eus le loisir de suivre cet aqueduc dans les montagnes ; il se divisait en trois branches, et le guide me fit suivre ses traces dans une longueur de près de trois lieues ; le conduit étant souterrain a été mieux conservé.

Le Gardon passe sous le pont du Gard ; et comme souvent il n'est pas guéable, les états de Languedoc firent bâtir, en 1747, un pont adossé à l'aqueduc. Au dix-septième siècle, on avait essayé de rendre praticable aux voitures le dessus de la seconde rangée d'arcades.

---

On arrive à l'aqueduc proprement dit, supporté par trois arcades, en gravissant l'escarpement qui borde la rive droite du Gardon.

#### **Sample 4**

**From : *Mémoires d'un touriste***

#### **Grenoble, le 9 août**

J'oubliais de dire que de Rives, où j'avais affaire, je comptais gagner le pont de Beauvoisin, Fourvoirie, Chambéry et Genève, d'où je reviendrais bien vite à Paris.

— Mais, m'a dit M. N... , voyez donc le Grésivaudan. Je croyais d'abord qu'il s'agissait d'un lac, mais on désigne par ce nom la vallée de l'Isère.

C'est un pays magnifique autant qu'il est inconnu. Rien en France, du moins dans ce que j'ai vu jusqu'ici, ne peut être comparé à cette vallée de Grenoble à Montméliant. J'arrive de Montbonot, joli village au-dessus de Grenoble, et d'où j'ai pu la bien juger.

La vallée de l'Isère n'est point trop resserrée ; il me semble que fort souvent elle a bien deux lieues de large. Ce qui est admirable, c'est qu'elle a deux aspects absolument différents, suivant qu'on se place sur les collines de la rive droite ou sur celles de la rive gauche. A Montbonot, par exemple, rive droite, vous avez sous les yeux, d'abord les plus belles verdure et les joies de l'été ; plus loin l'Isère, grande rivière ; au-delà, des collines boisées, et, encore au-delà, à une hauteur immense et comme sur vos têtes, les Alpes, les Alpes sublimes passées par Annibal, et encore en partie couvertes de neige le 5 août.

Un certain pic qui, je ne sais pourquoi, a des formes arrondies, s'appelle Taillefer ; il est couvert d'énormes prismes de granit, qui restent noirs, parce que la neige ne peut y tenir. On m'a nommé un si grand nombre de ces montagnes respectables, qu'il est bien possible que je confonde.

#### **Sample 5**

**From : *Voyage dans le Midi de la France***

#### **Bayonne, 18 avril**

Arrivé à 7 heures de Béhobie. Dans le brouhaha du départ, j'ai failli perdre mon parapluie que, hier soir, la maîtresse de la maison avait mis de côté. La migraine m'empêcha de sortir. Aujourd'hui c'est par hasard que j'ai une place ; à ces diligences de province, c'est un pillage. Avis pour l'avenir. Aller à Grasse de Marseille, d'après l'avis du capitaine-trésorier d'avant-hier.

La bêtise méfiante des méridionaux paraît bien dans leur idée de ne pas recevoir les pièces de deux sous que les caisses publiques reçoivent, De là, disette de monnaie. Le portefaix qui m'apporte mon sac de nuit, est obligé d'aller dans cinq boutiques avant d'avoir la monnaie de cinq francs. Ce matin, le marchand de papier de Béhobie n'a pas pu rendre sur cinq francs, ce qui fait que j'ai oublié de le payer. On voit bien, dans cette méfiance sotté, la passion du midi et son manque de génie pour les affaires. Il y a eu des pièces de deux sous fausses, qu'importe, si les caisses publiques, si la poste aux lettres les

reçoivent. On est accablé du poids de douze ou quinze gros sous que l'on a sans cesse dans la poche, et d'ailleurs la moitié des gros sous de deux sous est de la fausse monnaie.

(Il ne me reste à écrire de mon voyage que Fontarabie et le Dragon du Gothique d'Hendaye. Beauté de sa fille ; une autre est mariée à un militaire et lui coûte beaucoup d'argent ; il est petit marchand.)

Temps du diable de Béhobie à Bayonne. Conversation d'une raison profonde de trois enfants de huit à douze ans. Sagesse de petit masque (qui est bon). Ses réponses dignes, par la prudence, d'un homme de 30 ans. Je pense qu'ils rentrent des vacances de Pâques\* Blague des deux officiers de vingt ans qui sont venus de Béhobie à Saint-Jean-de-Luz. L'Espagnol poli qui entre, souffle à la porte ; on le plaisante sur M. Polignac ; sa colère ; foule de Kesako.

## Attachment 2: SummarizeBot results for sentiment analysis of sample texts

### Sample 1

<p><u>Petite ville assez insignifiante.</u> Elle s'est fort <u>embellie</u> depuis 1814, <u>qu'elle a pu jouir des réformes introduites</u> par <u>Sieyès, Mirabeau, Danton</u> et <u>autres grands hommes</u> qu'il est de mode de <u>calomnier</u> parmi les <u>pygmées actuels</u>. Bon souper à l'hôtel de la Poste, <u>fort bien meublé</u>. Dans <u>toute cette journée</u>, je n'ai pas rencontré un <u>seul postillon malhonnête</u> ; je <u>paye à cinquante</u> sous : <u>plusieurs montent</u> fort mal à <u>cheval</u>, <u>ce</u> qui me <u>fâche</u>. Je <u>pensais qu'on pourrait faire une conscription</u> de postillons si les <u>soldats prussiens</u>, <u>poussés</u> par les <u>Russes</u>, nous <u>attaquent</u>. Avant de <u>partir</u>, je <u>vais voir</u> la promenade <u>située sur</u> les <u>bords du Loing</u> et du <u>canal de Briare</u> ; <u>insignifiant</u>.</p>	Process
---	---------

Document sentiment: **negative**

Sentence level sentiment, opinion phrases and objects

Score: 1.1 **Petite ville** assez **insignifiante**.

Score: **-0.61** Elle s'est fort embellie depuis 1814, qu'elle a pu jouir des réformes introduites par Sieyès, Mirabeau, Danton et autres grands hommes qu'il est de mode de **calomnier** parmi les pygmées actuels.

Score: 1.4 **Bon souper** à l'hôtel de la Poste, **fort bien meublé**.

Score: **-1.13** Dans toute cette journée, je n'ai pas rencontré un seul postillon **malhonnête** ; je paye à cinquante sous : plusieurs **montent fort mal** à cheval, ce qui me fâche.

Score: **-1.31** Je pensais qu'on pourrait faire une conscription de postillons si les soldats prussiens, **poussés** par les Russes, nous **attaquent**.

### Sample 2

Document sentiment: **positive**

Sentence level sentiment, opinion phrases and objects

Score: **-0.5** Ainsi, dans ce prétendu port de **mer**, il m'a été **impossible** de la voir.

Score: 0.9 Je suis retourné à mon **aimable café** lire le journal.

Score: 1.57 Là, à force de **talent**, **je** suis parvenu à me faire dire que les habitants de Lorient sont les gens les plus rangés du monde : jamais ils ne sortent de chez eux ; à neuf heures et demie tout est couché dans la ville ; jamais les dames ne reçoivent de visites, et l'on ignorerait jusqu'à l'existence de la société, si le préfet maritime ne donnait des soirées que **l'on** dit fort **agréables** : il a une **jolie** habitation **auprès** de la Tour ronde.

Score: **-0.1** J'ai **oublié** de dire que cette tour **est parfaitement calculée** pour remplir son objet ; mais comme dans toutes choses, à Lorient, rien n'a été donné au **plaisir** des yeux, elle a la forme **atroce** d'un pain de sucre.

Score: 0.3 Quelle différence, **grand Dieu** !

## Sample 3

une vallée étroite et profonde ; de là le monument.

Score: 2.31 On n'y trouve aucune apparence de luxe et d'ornement ; les Romains faisaient de ces choses étonnantes, non pour inspirer l'admiration, mais simplement et quand elles étaient utiles.

Score: -0.65 L'idée éminemment moderne, l'arrangement pour faire de l'effet, est rejetée bien loin de l'âme du spectateur, et si l'on songe à cette manie, c'est pour la mépriser.

Score: 0.09 L'âme est remplie de sentiments qu'elle n'ose raconter, bien loin de les exagérer.

Score: 0.61 Les passions vraies ont leur pudeur.

Score: 0.3 Trois rangs d'arcades en plein cintre, d'ordre toscan, et élevées les unes au-dessus des autres, forment cette grande masse qui a six cents pieds d'étendue sur cent soixante de hauteur.

Score: -0.61 Le second rang, plus élevé, trouve la vallée plus large, et a onze arcades.

Score: -0.41 Le troisième rang est formé de trente-cinq petits arcs fort bas ; il fut destiné à atteindre juste au niveau de l'eau.

Score: 1.9 Je ne tenterai pas de faire des phrases sur un monument sublime, dont il faut voir une estampe, non pour en sentir la beauté, mais pour en comprendre la forme, d'ailleurs fort simple et exactement calculée pour l'utilité.

Score: 0.11 Par bonheur pour le plaisir du voyageur né pour les arts, de quelque côté que sa vue s'étende, elle ne rencontre aucune trace d'habitation, aucune apparence de culture : le thym, la lavande sauvage, le genévrier, seules productions de ce désert, y exhalent leurs parfums solitaires sous un ciel d'une sérénité éblouissante.

Score: 0.91 Ce monument doit agir, ce me semble, comme une musique sublime, c'est un événement pour quelques cœurs d'élite, les autres rêvent avec admiration à l'argent qu'il a dû coûter.

Score: -0.61 Comme la plupart des grands monuments des Romains, le pont du Gard est construit en pierres de taille posées à sec sans mortier ni ciment.

Score: 0.7 Une fois j'eus le loisir de suivre cet aqueduc dans les montagnes ; il se divisait en trois branches, et le guide me fit suivre ses traces dans une longueur de près de trois lieues ; le conduit étant souterrain a été mieux conservé.

Score: -0.61 Le Gardon passe sous le pont du Gard ; et comme souvent il n'est pas guéable, les états de Languedoc firent bâtir, en 1747, un pont adossé à l'aqueduc.

Score: 0.61 Au dix-septième siècle, on avait essayé de rendre praticable aux voitures le dessus de la seconde rangée d'arcades.

Score: 0.61 On arrive à l'aqueduc proprement dit, supporté par trois arcades, en gravissant l'escarpement qui borde la rive droite du Gardon.

## Sample 4

Document sentiment: positive

Sentence level sentiment, opinion phrases and objects

Score: 1 C'est un pays magnifique autant qu'il est inconnu.

Score: 0.57 J'arrive de Montbonot, joli village au-dessus de Grenoble, et d'où j'ai pu la bien juger.

Score: -0.41 La vallée de l'Isère n'est point trop resserrée ; il me semble que fort souvent elle a bien deux lieues de large.

Score: 0.7 Ce qui est admirable, c'est qu'elle a deux aspects absolument différents, suivant qu'on se place sur les collines de la rive droite ou sur celles de la rive gauche.

Score: 3.16 A Montbonot, par exemple, rive droite, vous avez sous les yeux, d'abord les plus belles verdure et les joies de l'été ; plus loin l'Isère, grande rivière ; au-delà, des collines boisées, et, encore au-delà, à une hauteur immense et comme sur vos têtes, les Alpes, les Alpes sublimes passées par Annibal, et encore en partie couvertes de neige le 5 août.

Score: 1.31 On m'a nommé un si grand nombre de ces montagnes respectables, qu'il est bien possible que je confonde.

---

## Sample 5

Document sentiment: **negative**

Sentence level sentiment, opinion phrases and objects

Score: **0.7** La bêtise méfiante des méridionaux **paraît bien** dans leur idée de ne pas recevoir les pièces de deux sous que les caisses publiques reçoivent, De là, disette de monnaie.

Score: **-0.7** On voit bien, dans cette **méfiante sotte**, la passion du midi et son **manque de génie** pour les affaires.

Score: **-1.22** On est accablé du poids de douze ou quinze **gros** sous que l'on a sans cesse dans la poche, et d'ailleurs la moitié des gros sous de deux sous est de la fausse **monnaie**.

Score: **0.7** **Beauté** de sa fille ; une autre est mariée à un militaire et lui coûte beaucoup d'argent ; il est petit marchand.)

Score: **0.7** Sagesse de **petit masque** (qui est **bon**).

Score: **-0.7** Ses réponses dignes, par la **prudence**, d'un homme de 30 ans.

Score: **-0.4** L'Espagnol **poli** qui entre, souffle à la porte ; on le plaisante sur M. Polignac ; sa **colère** ; foule de Kesako.

---

## CHAPTER 3 : RESULTS

### Attachment 3: Making of base maps (places and routes)

Note: these tables were established to determine the routes the narrator took. If two or more chapters with the same title were placed after each other, with no other destination in between, the city is only mentioned once for that stay. If the narrator returns to that place after having visited another place, the place will reappear in the table.

Table 1: *Mémoires d'un touriste*

ID	Placename	Longitude	Latitude	Chapter name (if different)	Notes
1	Verrières	2.26278	48.7475	Verrières, près Sceaux	is Verrières-le-Buisson (nearby Paris)
2	Fontainebleau	2.70167	48.40889		
3	Montargis	2.7325	47.99694		
4	Neuvy	2.88135	47.52319		is Neuvy-sur-Loire
5	Cosne	2.92528	47.38241		is Cosne-Cours-sur-Loire
6	La Charité	3.01889	47.17694		
7	Nevers	3.15667	46.9925		
8	Fourchambault	3.08472	47.01861		
9	Nivernais	2.385395	48.75187		
10	Moulins	3.3325	46.56472		
11	Bourgogne	4.295999	47	De la Bourgogne	Specific location not defined: see Pléaide Notes p. 971 (p. 18, note 5)
12	Autun	4.29861	46.95111		
13	Chaumont	5.13861	48.11083		Pl.989: "Cet itinéraire est choisi d'après sa profession supposée" because of large presence of iron factories

14	Langres	5.335278	47.86417		
15	Haute-Marne	5.10713	48.1261	Département de la Haute-Marne	
16	Langres	5.335278	47.86417		
17	Langres-Dijon	5.19557	47.5454	Route de Langres à Dijon	About mountain chains along the route; coordinates taken from halfway point
18	Beaune	4.83889	47.02417		
19	Chalon-sur-Saône	4.85389	46.78111		
20	Mâcon	4.83194	46.30667	Sur le bateau à vapeur	
21	Lyon	4.84139	45.75889		
22	Vienne	4.87434	45.52559		
23	Saint-Vallier	4.8152	45.17829		
24	Valence	4.89236	44.93339		
25	Montélimar	4.7495	44.55694		Chapter called "12 juin, sur le bateau à vapeur"
26	Avignon	4.80553	43.94932		
27	Nivernais	2.385395	48.75187		
28	Bourges	2.39878	47.08101		
29	Tours	0.68484	47.39414		
30	Touraine	0.69217	47.3021	De la Touraine	Region
31	Nantes	-1.55362	47.21837		
32	Bretagne	-2.93264	48.20205	De la Bretagne	
33	Nantes	-1.55362	47.21837		
34	Vannes	-2.76085	47.65824		
35	Auray	-2.98377	47.66649		
36	Lorient	-3.37024	47.74825		

37	Bretagne	-2.93264	48.20205		Region
38	Rennes	-1.67779	48.11727		
39	Saint-Malo	-2.02567	48.64934		
40	Granville	-1.5973	48.83758		
41	Le Havre	0.10793	49.49437		
42	Rouen	1.09997	49.44323		
43	Paris	2.35222	48.85661		
44	Tarascon	4.65752	43.80604		
45	Nîmes	4.36005	43.8367		
46	Orange	4.80751	44.1381		
47	Tullins	5.48272	45.29765		
48	Grenoble	5.72452	45.18853		
49	Vizille	5.77241	45.07732		
50	Briançon	6.64318	44.89942		
51	Grenoble	5.72452	45.18853		
52	Le Pont-de-Claix	5.69782	45.12322		
53	Grenoble	5.72452	45.18853		
54	Fourvoirie	5.74787	45.37861		

Table 2 : *Voyage en France*

ID	Placename	Longitude	Latitude	Chapter name (if different)	Notes
1	Les Échelles	5.753690	45.436570		Not in e-book: insert text manually
2	Virieu	5.476480	45.485450		Not in e-book: insert text manually
3	Chambéry	5.917780	45.564600		
4	Aix-les-Bains	5.909000	45.692340	Aix	
5	Les Eaux	6.129380	45.899250		Specific location: Annecy ("La route de

					<b>Chambéry à Genève, par Annecy [...]" Pléiade, p. 436)</b>
<b>6</b>	<b>Genève</b>	<b>6.143020</b>	<b>46.210550</b>		
<b>7</b>	<b>Lac de Genève</b>	<b>6.841920</b>	<b>46.462830</b>		<b>Specific location: Vevey, Switzerland ("J'ai profité ce matin du magnifique bateau a vapeur l'<i>Aigle</i>, qui fait le tour du lac en neuf heures. Nous nous sommes arrêtés deux heures à Vevey". Pléiade, p. 461)</b>
<b>8</b>	<b>Genève</b>	<b>6.143020</b>	<b>46.210550</b>		
<b>9</b>	<b>Lyon</b>	<b>4.841390</b>	<b>45.758890</b>		
<b>10</b>	<b>Avignon</b>	<b>4.805530</b>	<b>43.949320</b>		
<b>11</b>	<b>Aix-en-Provence</b>	<b>5.447430</b>	<b>43.529740</b>	<b>Aix</b>	
<b>12</b>	<b>Marseille</b>	<b>5.376390</b>	<b>43.296670</b>		
<b>13</b>	<b>Gênes</b>	<b>9.145620</b>	<b>44.446630</b>		<b>is Genoa, Italy</b>
<b>14</b>	<b>En mer</b>	<b>7.486960</b>	<b>43.450403</b>		<b>Boat from Genoa to Toulon (past Savona, Nice, Antibes, Grasse)</b>
<b>15</b>	<b>Toulon</b>	<b>5.930560</b>	<b>43.125000</b>		
<b>16</b>	<b>Marseille</b>	<b>5.376390</b>	<b>43.296670</b>		
<b>17</b>	<b>Nîmes</b>	<b>4.360050</b>	<b>43.836700</b>		
<b>18</b>	<b>Montpellier</b>	<b>3.877230</b>	<b>43.610920</b>		
<b>19</b>	<b>Béziers</b>	<b>3.215800</b>	<b>43.344230</b>		
<b>20</b>	<b>Sigean</b>	<b>2.979250</b>	<b>43.028910</b>		
<b>21</b>	<b>Perpignan</b>	<b>2.894830</b>	<b>42.688660</b>		
<b>22</b>	<b>Barcelone</b>	<b>2.173400</b>	<b>41.385060</b>		
<b>23</b>	<b>Bordeaux</b>	<b>-0.579440</b>	<b>44.837780</b>		

Table 3 : *Voyage dans le Midi de la France*

ID	Placename	Longitude	Latitude	Notes	Start date	End date	Notes on data
1	Paris	2.3488	48.85341		1838-03-08	1838-03-09	
2	Angoulême	0.15944	45.649440		1838-03-10	1838-03-11	
3	Bordeaux	-0.57944	44.837780		1838-03-11	1838-03-21	
4	Lesparre	-0.93778	45.306940		1838-03-21	1838-03-21	
5	Pauillac	-0.74861	45.200000		1838-03-21	1838-03-22	
6	Bordeaux	-0.57944	44.837780		1838-03-22	1838-03-25	Exact start date unknown
7	Toulouse	1.441940	43.604440		1838-03-27	1838-03-29	
8	Agen	0.61861	44.203060		1838-03-29	1838-03-31	End date unknown
9	Bordeaux	-0.57944	44.837780		1838-04-01	1838-04-14	End date unknown
10	Dax	-1.031318	43.423715		1838-04-15	1838-04-16	
11	Bayonne	-1.476390	43.492500		1838-04-16	1838-04-17	
12	Béhobie	-1.762460	43.345000		1838-04-17	1838-04-18	
13	Fontarabie	-1.791480	43.362240	In Spain (Hondarribia in Basque)	1838-04-17	1838-04-18	
14	Bayonne	-1.476390	43.492500		1838-04-18	1838-04-19	
15	Pau	-0.37	43.300830		1838-04-20	1838-04-21	
16	Tarbes	0.07444	43.232780		1838-04-21	1838-04-22	
17	Auch	0.58861	43.645280		1838-04-22	1838-04-24	End date unknown

18	Toulouse	1441940	43604440		1838-03-25	1838-04-26	
19	Carcassonne	2351390	43215830		1838-04-27	1838-04-29	
20	Narbonne	3003610	43184720		1838-04-29	1838-04-30	
21	Montpellier	3877230	43610920		1838-04-30	1838-05-03	
22	Marseille	5376390	43296670		1838-05-06	1838-05-16	
23	Toulon	5930560	43125000		1838-05-17	1838-05-19	
24	Le Luc	6312780	43394720		1838-05-19	1838-05-20	
25	Cuers	6070830	43237500		1838-05-20	1838-05-20	
26	Grasse	6925280	43658060		1838-05-20	1838-05-21	
27	Cannes	7021390	43552500		1838-05-21	1838-05-22	
28	Marseille	5376390	43296670		1838-05-24	1838-05-28	End date unknown
29	Vaison	5075000	44240830		1838-05-29	1838-05-30	Start and end date unknown
30	Valence	4892360	44933390		1838-06-01	1838-06-02	End date unknown

Table 4 : Early Stendhal

ID	Group	Place name	Longitude	Latitude	Chapter name	Date	Year	Notes
1	A	La Vallée du Grésivaudan	5.75069	45.21133	La Vallée du Grésivaudan	5-Sep	1801	Specific location: Montfleury (mentioned in text)

2	B	Genève	6.1430 2	46.21 055	Genève	30-03 - 04- 04	18 04	
3	C	L'Albenc	5.4397 1	45.22 504	De Grenoble à Marseille par la Vallée du Rhône	July	18 05	Journey to Marseille to follow his first love Mélanie Guilbert; Stendhal would live there from 25-07-1805 for almost a year (left Marseille for Grenoble on 27-05-1806, arrived in Paris on 10-07-1806).
4	C	Saint-Marcellin	5.3199 4	45.15 412	De Grenoble à Marseille par la Vallée du Rhône	July	18 05	
5	C	Valence	4.8923 6	44.93 339	De Grenoble à Marseille par la Vallée du Rhône	July	18 05	
6	C	Bourg-Saint-Andéol	4.6470 7	44.36 919	De Grenoble à Marseille par la Vallée du Rhône	July	18 05	
7	C	Pont-Saint-Esprit	4.6480 8	44.26 103	De Grenoble à Marseille par la Vallée du Rhône	July	18 05	
8	C	Avignon	4.8055 3	43.94 932	De Grenoble à Marseille par la Vallée du Rhône	July	18 05	

9	C	Beaucaire	4.6442 7	43.80 724	De Grenoble à Marseille par la Vallée du Rhône	July	18 05	
10	C	Aix-en-Provence	5.4474 3	43.52 974	De Grenoble à Marseille par la Vallée du Rhône	July	18 05	
11	C	Mer à Marseille	5.3753 2	43.29 463	La Mer à Marseille	July	18 05	Specific location: Rue Beauvau (Pl. p. 787: "Première vue de la mer de ma vie, de la Vista. La diligence s'arrête dans la rue Beauvau."
12	D	Mer à Marseille	5.3753 2	43.29 463	La Mer à Marseille	8-May	18 05	
13	E	Marseille	5.3775 6	43.29 302	Dans les environs de Marseille	Aug-Sept		Precise location: 14 Rue Venture, Marseille (Stendhal's house while living in Marseille for 10 months) source: <a href="https://defigrandesecoles.lexpress.fr/ecs-iej-marseille/stendhal-ce-marseillais/">https://defigrandesecoles.lexpress.fr/ecs-iej-marseille/stendhal-ce-marseillais/</a>
14	E	La Pomme	5.4411 2	43.28 998	Dans les environs de Marseille	Aug-Sept	18 05	Daytrip / Specific location: La Pomme (now neighbourhood of Marseille   deducted from: "A une lieue au levant de Marseille [...] le parc de la Pomme [...]. L'Huveaune long le parc d'un côté." Pl. 790)
15	E	Marseille	5.3775 6	43.29 302	Dans les environs de Marseille			
16	F	Marseille	5.3775 6	43.29 302	Les Prés du Montfuron			

17	F	Prés de Montfuro nt	5.4526 6	43.27 665	Les Prés du Montfuro nt	11- Aug	18 05	Daytrip / Pl. 1443: "Les prés de Montfuro nt se trouvaient dans la banlieue est de Marseille". / South of a river (see Stendhal's drawing Pl. 793
18	F	Marseille	5.3775 6	43.29 302	Les Prés du Montfuro nt	11- Nov	18 05	
19	G	Marseille	5.3775 6	43.29 302	Excursio n à Allauch et à La Renarde	11- Nov	18 05	
20	G	Allauch	5.4825 7	43.33 615	Excursio n à Allauch et à La Renarde	11- Nov	18 05	Daytrip / probably on 02- 11-1805: chapter was written on 11-09-1805 but refers to two consecutive Sundays "Fête deux dimanches de suite" (Pl. p. 794)
21	G	Marseille	5.3775 6	43.29 302	Excursio n à Allauch et à La Renarde	11- Nov	18 05	
22	H	Marseille	5.3775 6	43.29 302	Excursio n à Allauch et à La Renarde	11- Nov	18 05	
23	H	La Renarde	5.5059 85	43.29 008	Excursio n à Allauch et à La Renarde	11- Nov	18 05	Daytrip / probably on 09- 11-1805 / is Château La Reynarde à Saint-Menet; "Quant à La Renarde, il s'agit d'une propriété dans le faubourg de Marseille, sur la route de Toulon, dans la vallée de l'Huveaune" (Pl. notes p. 1443) and Aubin-Louis Millin describes the course of the Huveaune river as follows in his Voyage dans les départements du Midi de la France Volume 3

								(1808): "L'Huveaune [...] passe à Roquevaire, à Aubagne, traverse la campagne de Marseille par la Renarde, et se jette dans la mer au quartier de Bonneveine" (p. 349). Château La Reynarde is the only property between Aubagne and Marseille that has a similar name and fits all descriptions of the property.
24	H	Marseille	5.3775 6	43.29 302	Excursion à Allauch et à La Renarde	11- Nov	18 05	
25	I	Marseille	5.3775 6	43.29 302	De Marseille à Grenoble par la route des Alpes	27-05	18 06	
26	I	Orgon	5.0386 8	43.79 122	De Marseille à Grenoble par la route des Alpes	27-05	18 06	
27	I	L'Isle	5.0571 1	43.91 419	De Marseille à Grenoble par la route des Alpes	27-05	18 06	is L'Isle-sur-la-Sorgue
28	I	Lumières	5.2338 2	43.85 945	De Marseille à Grenoble par la route des Alpes	27-05	18 06	

29	I	Apt	5.3954 4	43.87 645	De Marseille à Grenoble par la route des Alpes	27-05	18 06	
30	I	Montjustin	5.6358 5	43.84 913	De Marseille à Grenoble par la route des Alpes	27-05	18 06	
31	I	Céreste	5.5930 2	43.85 553	De Marseille à Grenoble par la route des Alpes	27-05	18 06	
32	I	Forcalquier	5.7807 1	43.95 993	De Marseille à Grenoble par la route des Alpes	27-05	18 06	
33	I	Peyruis	5.9385 9	44.02 632	De Marseille à Grenoble par la route des Alpes	27-05	18 06	
34	I	Sisteron	5.9431 9	44.19 471	De Marseille à Grenoble par la route des Alpes	28-05	18 06	
35	I	Gap	6.0797 6	44.55 964	De Marseille à Grenoble par la	30-05	18 06	

					route des Alpes			
36	I	Grenoble	5.7245 2	45.18 853	De Marseille à Grenoble par la route des Alpes	30-05	18 06	
37	J	Toulon	5.9305 6	43.12 5	Toulon	May	18 06	
38	K	Montmor ency	2.3218 8	48.98 978	Montmor ency 1	9-Jan	18 06	Visite de l'Ermitage de Rousseau
39	L	Sèvres	2.2109 8	48.82 124	Sèvres et Versailles	May	18 10	Until "[...] nous les laissâmes et partîmes par Versailles."
40	L	Versailles	2.1203 6	48.80 51	Sèvres et Versailles	May	18 10	From "Route jolie, verdure très fraîche [...]".
41	M	Paris	2.3522 2	48.85 661	Orléans et la Beauce	13-05	18 10	
42	M	Arpajon	2.2462 4	48.58 917	Orléans et la Beauce	13-05	18 10	
43	M	Orléans	1.9092 5	47.90 296	Orléans et la Beauce	13-05	18 10	
44	M	Beaugenc y	1.6335 2	47.77 807	Orléans et la Beauce	13-05	18 10	
45	M	Meung	1.6912 3	47.82 395	Orléans et la Beauce	13-05	18 10	
46	M	Orléans	1.9092 5	47.90 296	Orléans et la Beauce	13-05	18 10	
47	M	Malesher bes	2.4148 5	48.29 542	Orléans et la Beauce	13-05 - 14- 05	18 10	

48	M	Fontainebleau	2.70167	48.40889	Orléans et la Beauce	14-05	1810	
49	M	Montereau	2.95619	48.38473	Orléans et la Beauce	14-05	1810	is Montereau-Fault-Yonne
50	M	Nangis	3.01354	48.55461	Orléans et la Beauce	14-05 - 15-05	1810	
51	M	Grosbois	2.522717	48.73237	Orléans et la Beauce	15-05	1810	is Château de Grosbois
52	M	Paris	2.35222	48.85661	Orléans et la Beauce	15-05	1810	
53	N	Paris	2.35222	48.85661	Ermenonville et Mortefontaine	June	1810	
54	N	Ermenonville	2.69781	49.12769	Ermenonville et Mortefontaine	June	1810	
55	N	Mortefontaine	2.60051	49.11199	Ermenonville et Mortefontaine	June	1810	
56	N	Paris	2.35222	48.85661	Ermenonville et Mortefontaine	June	1810	
57	O	Paris	2.35222	48.85661	Dans l'Aube	Aug-Sept	1810	
58	O	Plancy	3.96757	48.57085	Dans l'Aube	Aug-Sept	1810	is Plancy-l'Abbaye
59	O	Paris	2.35222	48.85661	Dans l'Aube	Aug-Sept	1810	
60	O	Nogent	3.49816	48.49262	Dans l'Aube	Aug-Sept	1810	is Nogent-sur-Seine (other communities called Nogent in the Aube département did not exist in 1810)

61	O	Paris	2.3522 2	48.85 661	Dans l'Aube	Aug- Sept	18 10	
62	P	Paris	2.3522 2	48.85 661	Rouen 3	29-04	18 11	
63	P	Rouen	1.0999 7	49.44 323	Rouen 3	29-04	18 11	
64	P	Le Havre	0.1079 3	49.49 437	Rouen 3	30-04 - 02- 05	18 11	
65	P	Pontoise	2.1006 4	49.05 097	Rouen 3	5-Mar	18 11	
66	P	Paris	2.3522 2	48.85 661	Rouen 3	5-Mar	18 11	
67	Q	Meudon	2.2384 7	48.81 3	Meudon	7-Jun	18 11	
68	R	Versailles	2.1203 6	48.80 51	Versailles	25-08	18 11	
69	S	Paris	2.3522 2	48.85 661	Franche- Comté et Genève	29-08	18 11	
70	S	Joigny	3.3989 6	47.98 143	Franche- Comté et Genève	29-08 - 31- 08	18 11	p. 810 (4th paragraph)
71	S	Saint- Florentin	3.7295 1	48.00 055	Franche- Comté et Genève	29-08 - 31- 08	18 11	p. 810
72	S	Tonnerre	3.9735 3	47.85 672	Franche- Comté et Genève	29-08 - 31- 08	18 11	
73	S	Montbar d	4.3374 9	47.62 433	Franche- Comté et Genève	31-08	18 11	
74	S	Saint- Seine	4.7821 9	47.44 411	Franche- Comté et Genève	31-08	18 11	
75	S	Dijon	5.0414 8	47.32 205	Franche- Comté et Genève	9-Jan	18 11	

76	S	Auxonne	5.3889 2	47.19 354	Franche-Comté et Genève	9-Jan	18 11	
77	S	Dole	5.4908 1	47.09 534	Franche-Comté et Genève	9-Jan	18 11	
78	S	Poligny	5.7091	46.83 643	Franche-Comté et Genève	9-Feb	18 11	
79	S	Champagnole	5.9057 2	46.74 609	Franche-Comté et Genève	9-Feb	18 11	
80	S	Saint-Laurent	5.9563	46.57 526	Franche-Comté et Genève	9-Feb	18 11	is Saint-Laurent-en-Grandvaux
81	S	La Vattay	6.0537 2	46.38 827	Franche-Comté et Genève	9-Mar	18 11	
82	S	Genève	6.1430 2	46.21 055	Franche-Comté et Genève	9-Mar	18 11	
83	T	La Champagne	4	49	La Champagne	-	18 32	Region
84	U	Abbeville	1.8368 3	50.10 547	En route pour Calais	June	18 32	
85	U	Montreuil-sur Mer	1.7682 7	50.46 816	En route pour Calais	June	18 32	is Montreuil
86	U	Calais	1.8586 9	50.95 129	En route pour Calais	June	18 32	
87	V	Montmorancy	2.3218 8	48.98 978	Montmorancy 2	7-May	18 32	
88	W	Paris	2.3522 2	48.85 661	Paris	June	18 32	

---

## **Attachment 4: QGIS Base Maps**

On the following pages, maps are shown that were made in the QGIS software, version 3.8 (“Zanzibar”).

The fully digital and interactive map (containing all layers that are presented here) is available here:

<http://145.100.59.185/charlotte/>

### **Legend for all QGIS maps:**

*Dots*: places visited by Stendhal (as indicated by the white place name labels)

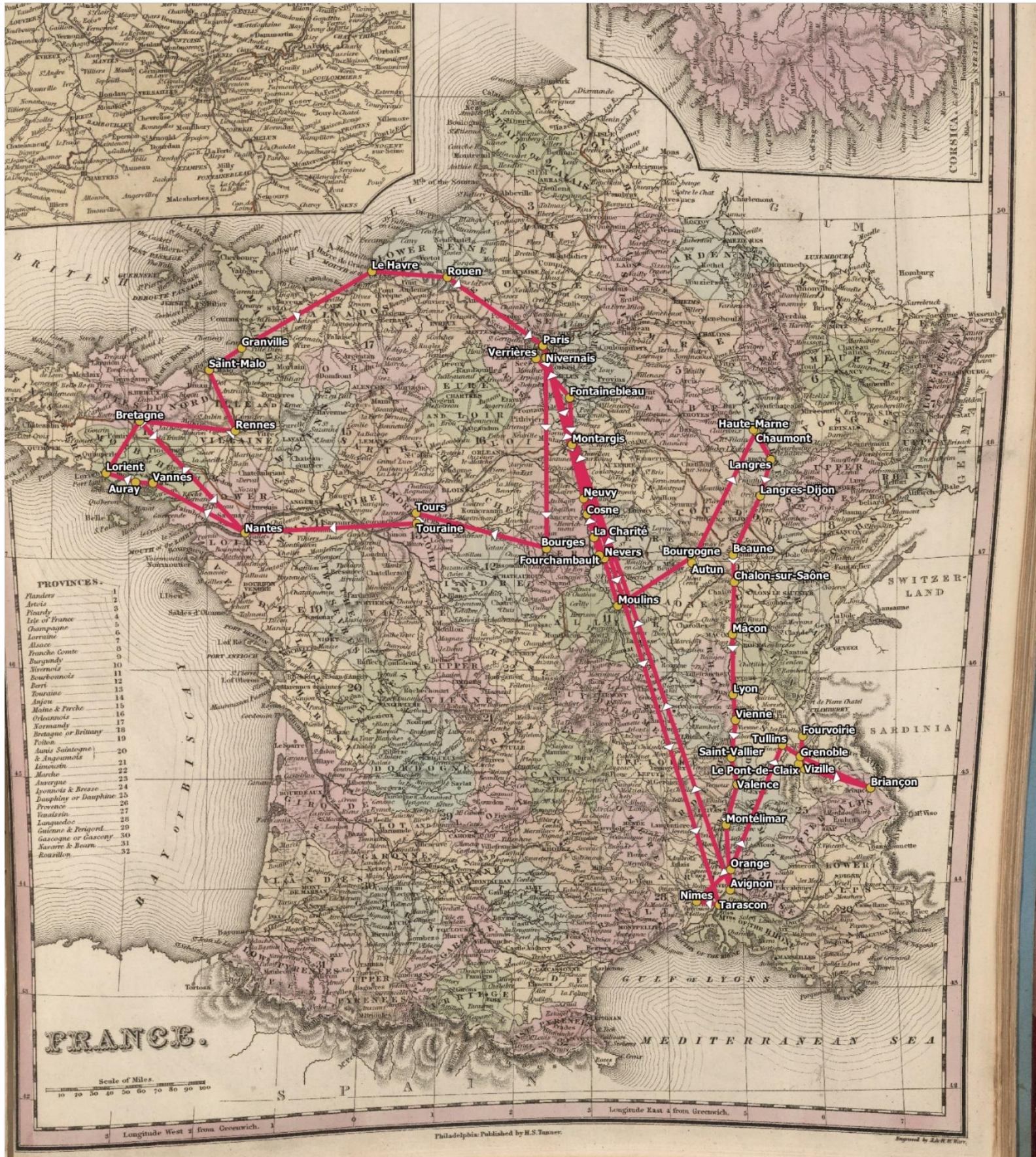
*Lines* between dots: routes indicating a continuous journey between several places

*Arrows*: direction of travel

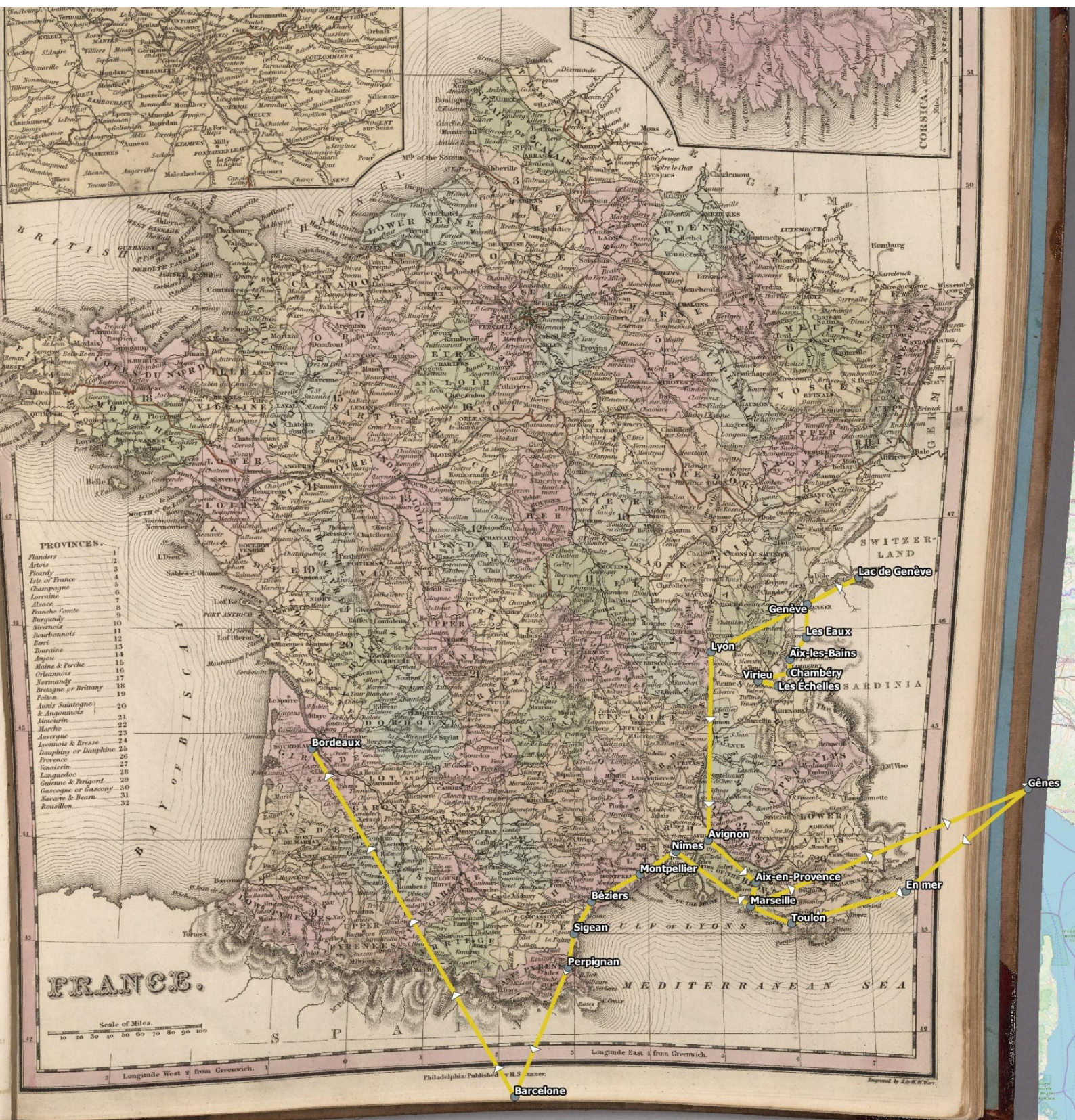
QGIS Map 1: "Early Stendhal"



QGIS Map 2: *Mémoires d'un touriste*



# QGIS Map 3 : Voyage en France



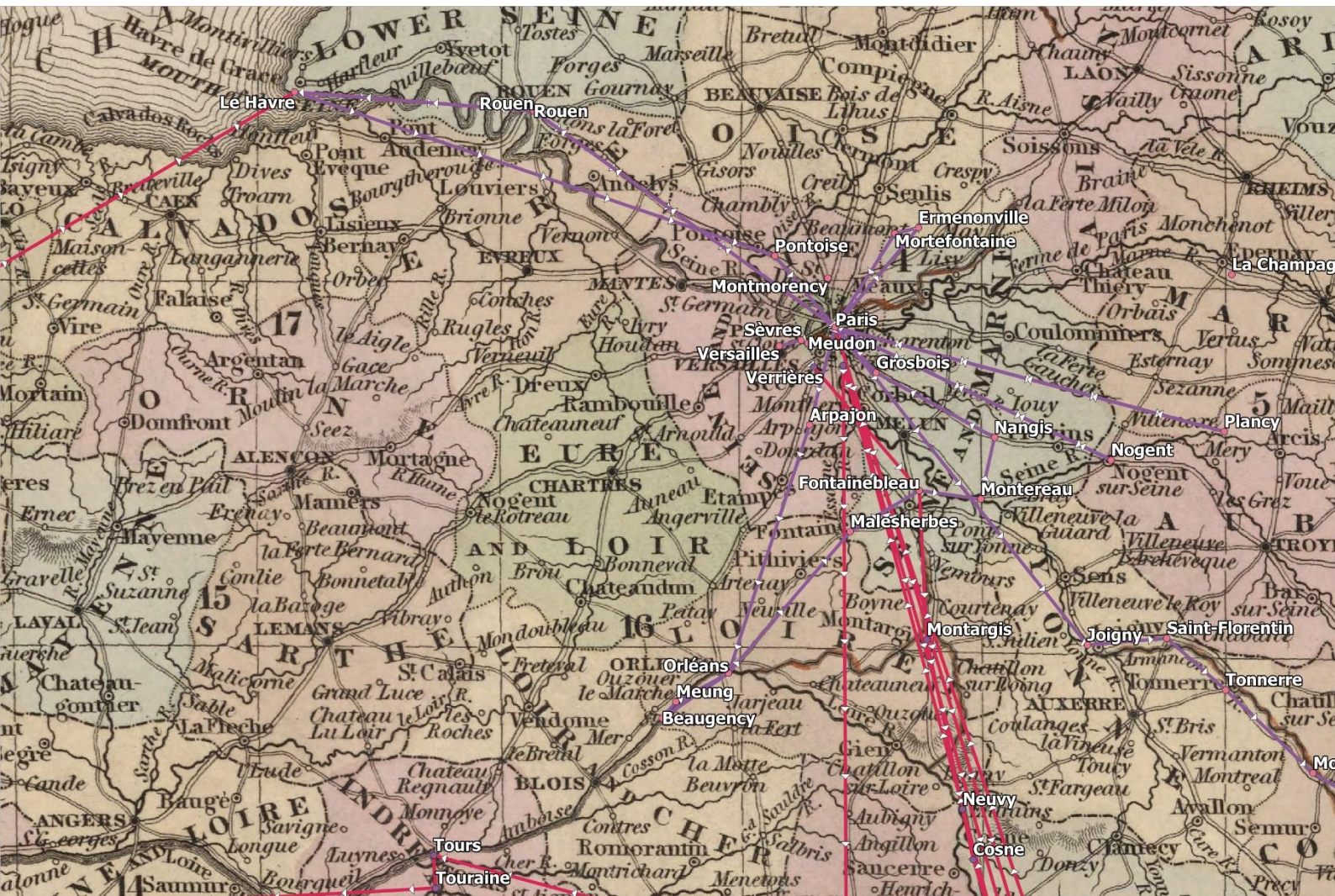
# QGIS Map 4 : Voyage dans le Midi de la France



QGIS Map 5 : All layers combined



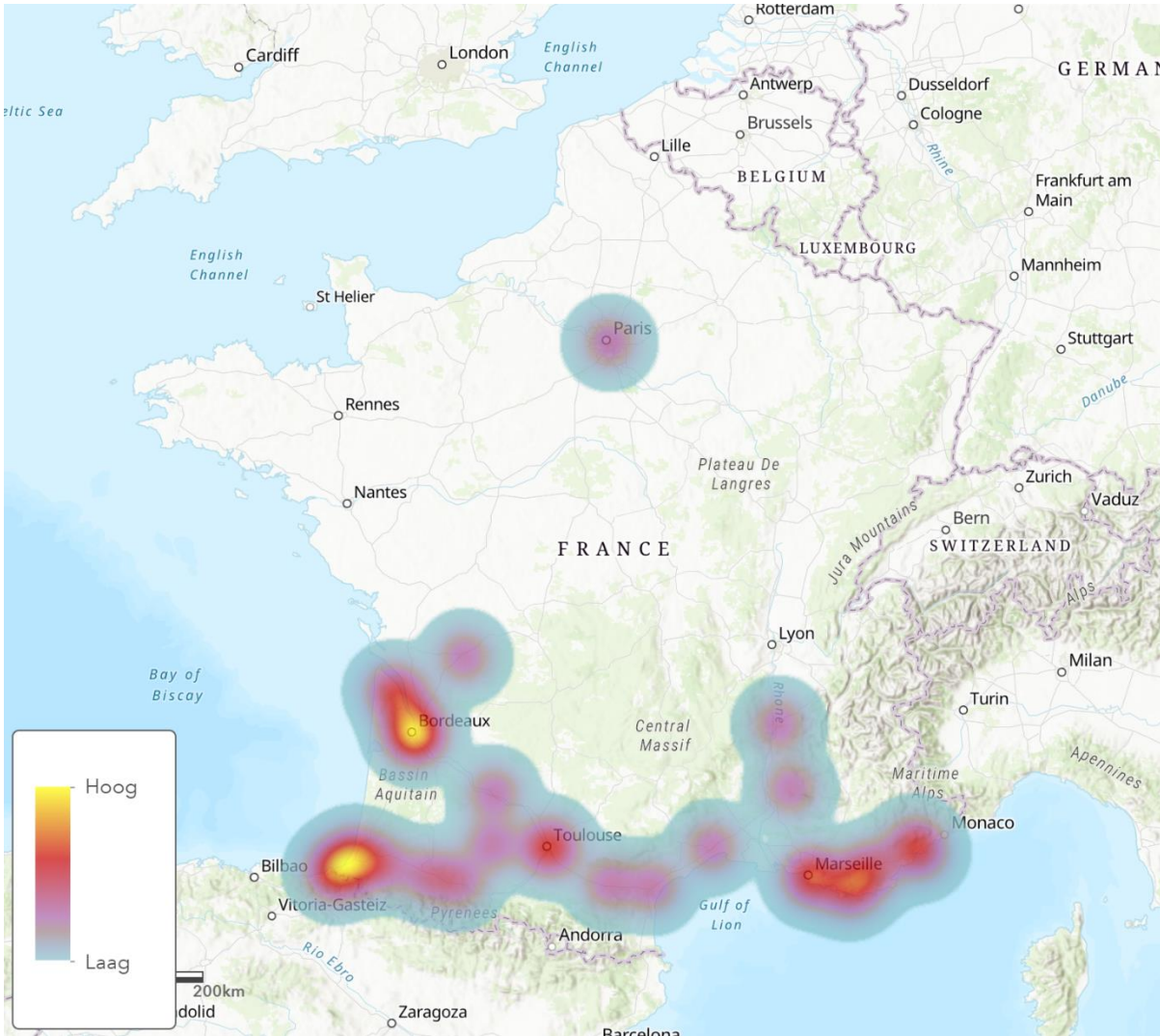
## QGIS Map 6: Fragment (historical maps details)



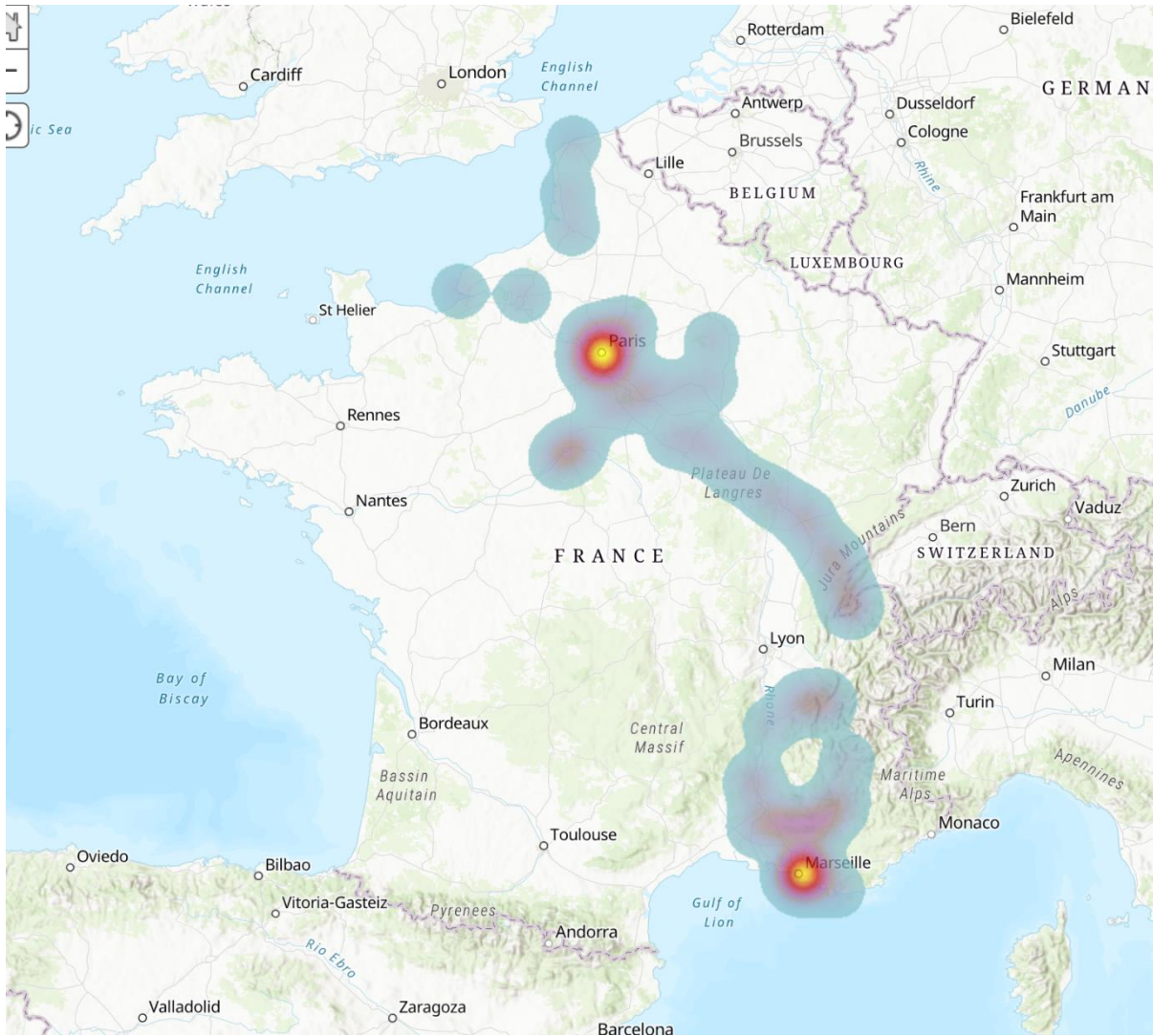
**Description :** this zoom in of the map shows the high resolution of the historical map, that does not lose any sharpness when changing scale in the digital map. It also illustrates the successful application of the georeferencing techniques, where the historical map was linked to present-day geolocations (see for example Nogent, Orléans and Tonnerre). In this way, it is possible to layer the raster layer of the historical map (an image) to the layer with all the locations points, that is made out of coordinates.

## Attachment 5: ArcGIS Heat maps

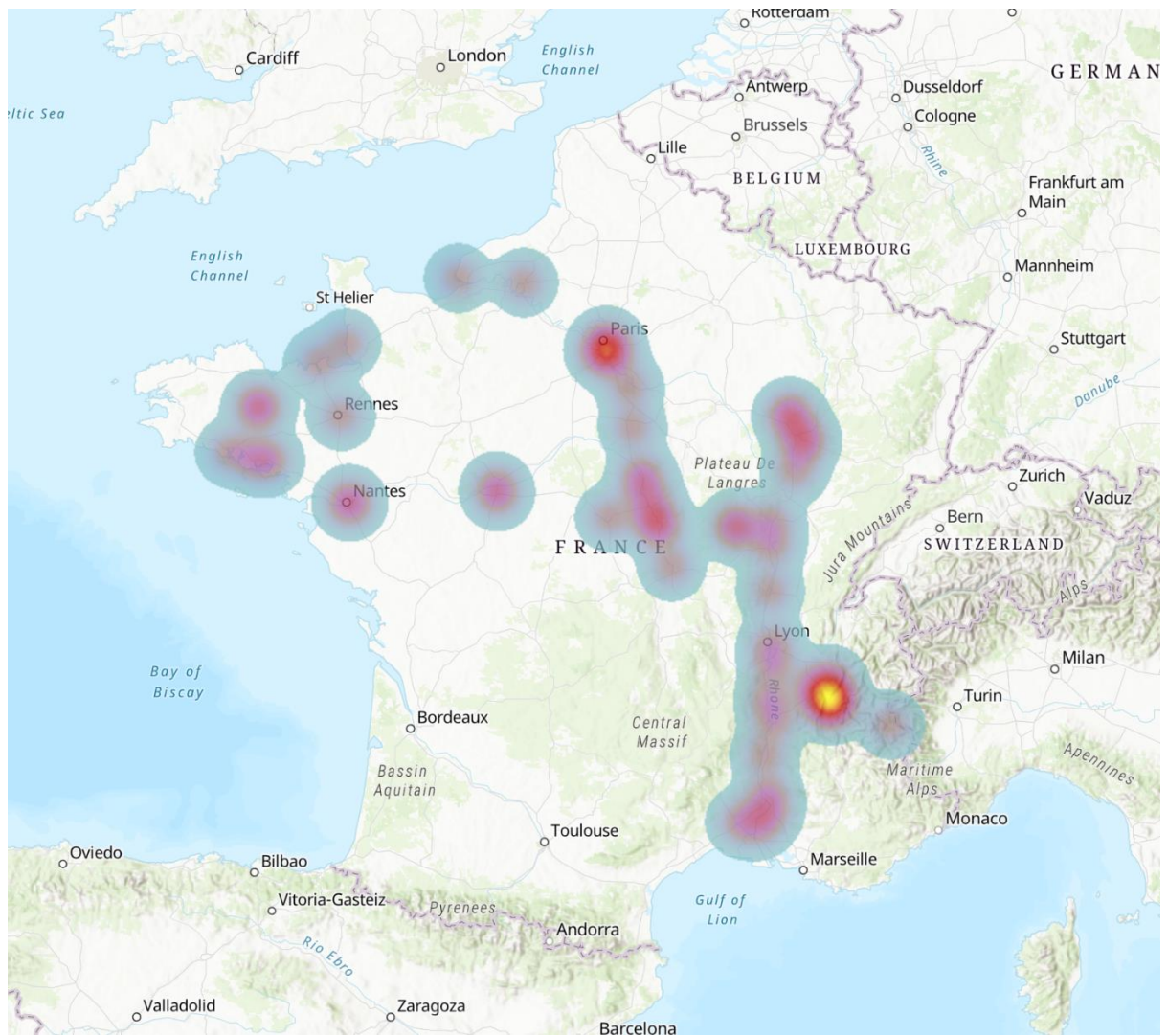
### *Heat Map 1: Voyages dans le Midi de la France*



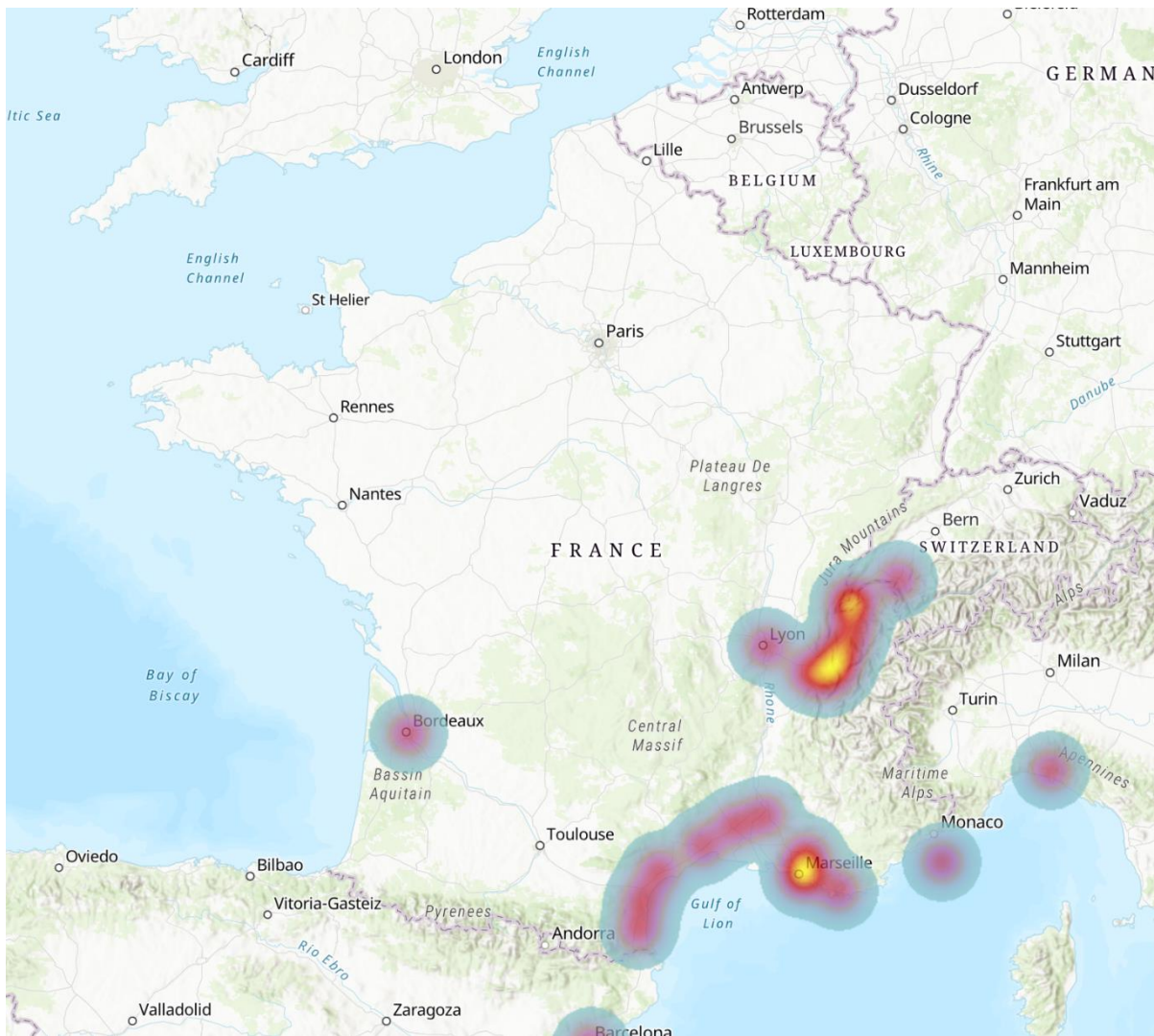
## Heat Map : Early Stendhal



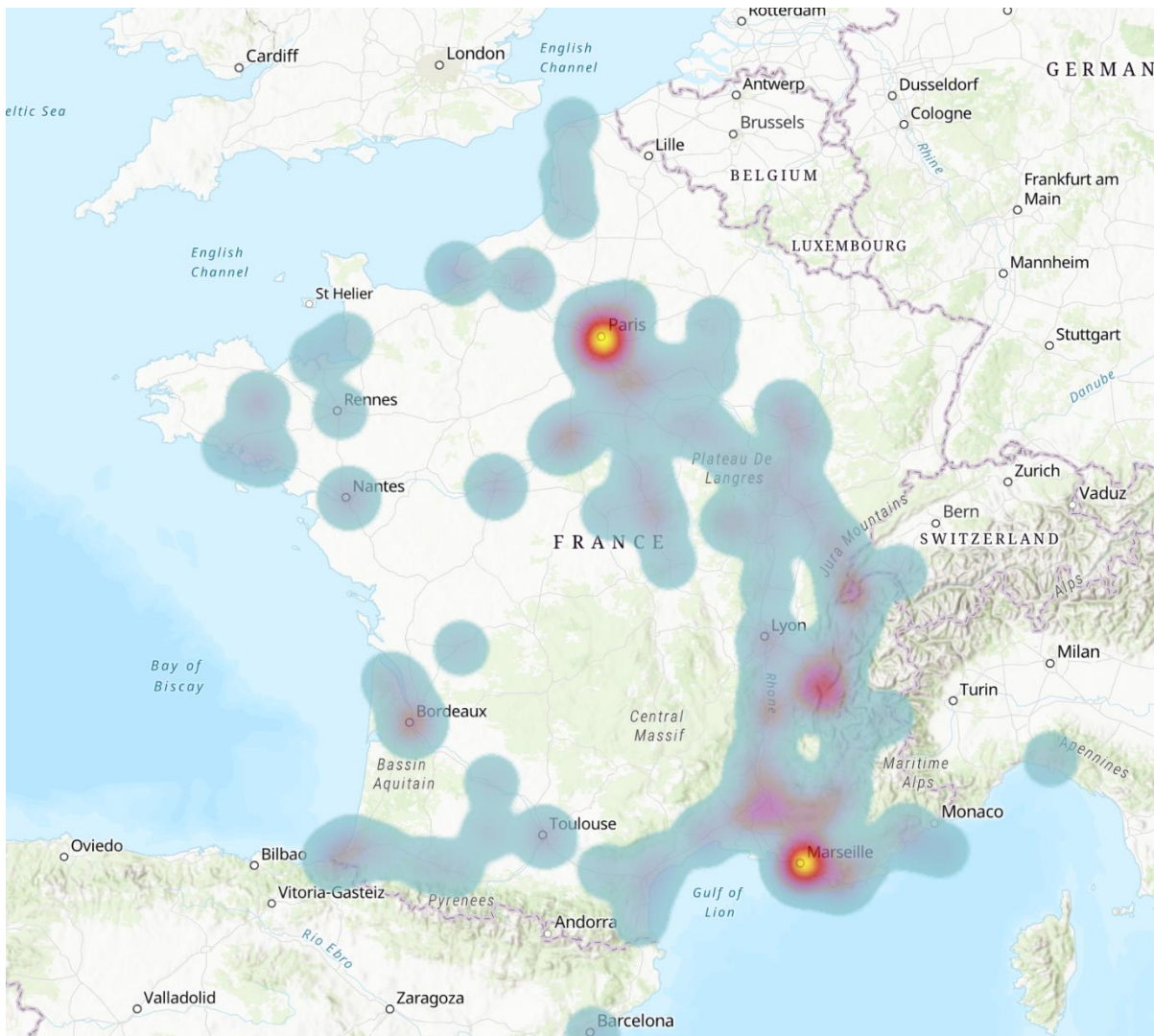
## Heat Map : *Mémoires d'un touriste*



## Heat Map : Voyage en France



## Heat map : All Travels Combined

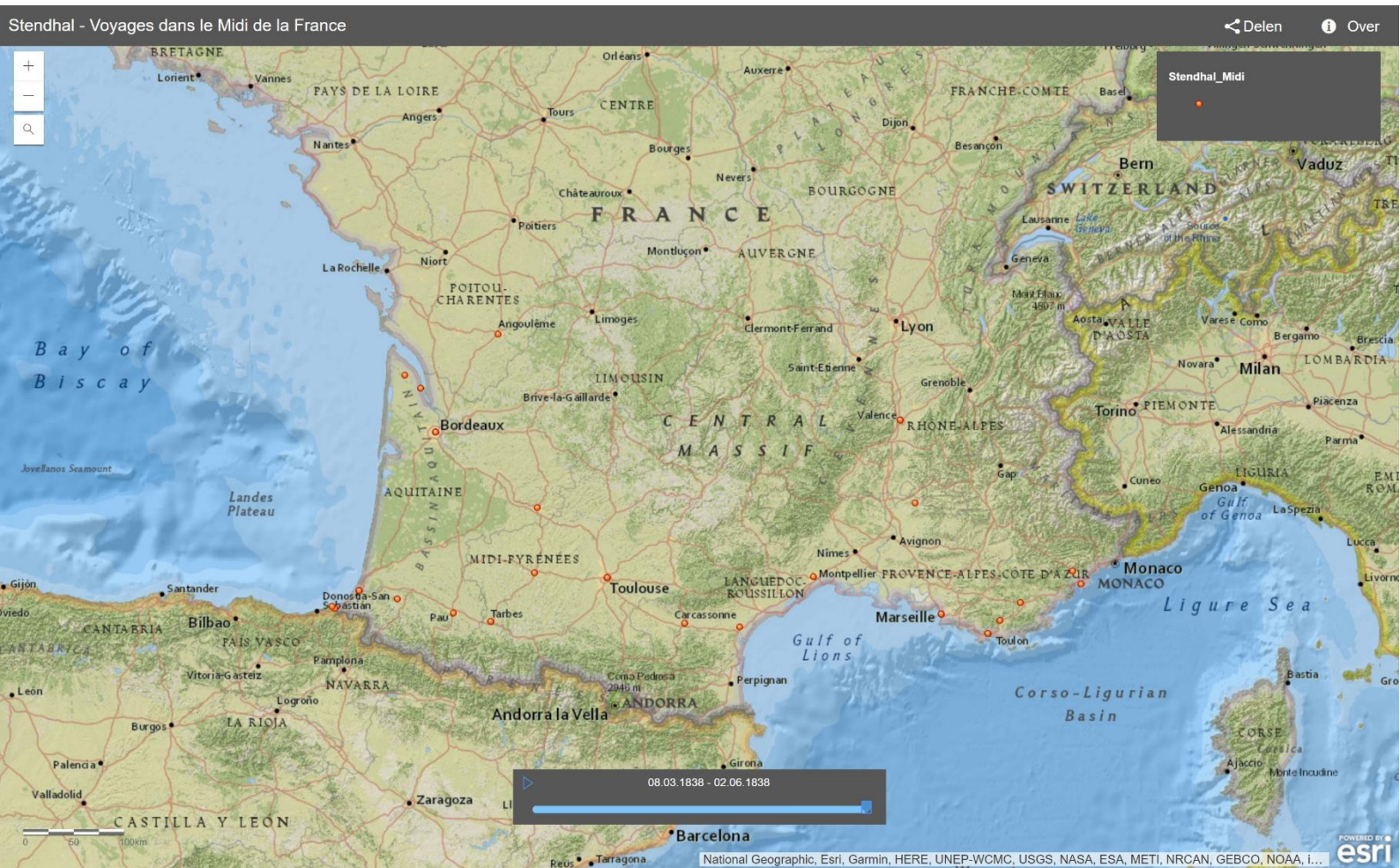


## Attachment 6: Time-slider

### Mapping Time

ArcGIS Online: Timeslider map of *Voyage dans le Midi de la France*

Link to online map: <https://arcg.is/0Xiv19>



## **Attachment 7: Sentiment analysis – base table per book**

Sentiment analysis base table 1 : *Mémoires d'un touriste*

<b>Placename</b>	<b>Sentiment</b>	<b>Departement ID</b>
<b>Verrières</b>	<b>negative</b>	<b>91</b>
<b>Fontainebleau</b>	<b>positive</b>	<b>77</b>
<b>Montargis</b>	<b>negative</b>	<b>45</b>
<b>Neuvy</b>	<b>negative</b>	<b>58</b>
<b>Cosne</b>	<b>positive</b>	<b>58</b>
<b>La Charité</b>	<b>positive</b>	<b>58</b>
<b>Nevers</b>	<b>positive</b>	<b>58</b>
<b>Fourchambault</b>	<b>positive</b>	<b>58</b>
<b>Nivernais</b>	<b>positive</b>	<b>58</b>
<b>Nivernais</b>	<b>positive</b>	<b>58</b>
<b>Nivernais</b>	<b>negative</b>	<b>58</b>
<b>Moulins</b>	<b>positive</b>	<b>03</b>
<b>Moulins</b>	<b>positive</b>	<b>03</b>
<b>Bourgogne</b>	<b>negative</b>	<b>71</b>
<b>Bourgogne</b>	<b>positive</b>	<b>71</b>
<b>Bourgogne</b>	<b>positive</b>	<b>71</b>
<b>Autun</b>	<b>positive</b>	<b>71</b>
<b>Autun</b>	<b>positive</b>	<b>71</b>
<b>Autun</b>	<b>positive</b>	<b>71</b>
<b>Chaumont</b>	<b>positive</b>	<b>52</b>
<b>Langres</b>	<b>positive</b>	<b>52</b>
<b>Haute-Marne</b>	<b>negative</b>	<b>52</b>
<b>Langres</b>	<b>positive</b>	<b>52</b>
<b>Langres-Dijon</b>	<b>positive</b>	<b>21</b>



<b>Avignon</b>	<b>positive</b>	<b>84</b>
<b>Nivernais</b>	<b>positive</b>	<b>58</b>
<b>Nivernais</b>	<b>positive</b>	<b>58</b>
<b>Bourges</b>	<b>positive</b>	<b>18</b>
<b>Tours</b>	<b>positive</b>	<b>37</b>
<b>Tours</b>	<b>positive</b>	<b>37</b>
<b>Touraine</b>	<b>negative</b>	<b>37</b>
<b>Nantes</b>	<b>positive</b>	<b>44</b>
<b>Nantes</b>	<b>negative</b>	<b>44</b>
<b>Nantes</b>	<b>negative</b>	<b>44</b>
<b>Nantes</b>	<b>positive</b>	<b>44</b>
<b>Nantes</b>	<b>positive</b>	<b>44</b>
<b>Bretagne</b>	<b>positive</b>	<b>22</b>
<b>Nantes</b>	<b>positive</b>	<b>44</b>
<b>Vannes</b>	<b>positive</b>	<b>56</b>
<b>Auray</b>	<b>positive</b>	<b>56</b>
<b>Lorient</b>	<b>positive</b>	<b>56</b>
<b>Lorient</b>	<b>positive</b>	<b>56</b>
<b>Bretagne</b>	<b>positive</b>	<b>22</b>
<b>Rennes</b>	<b>positive</b>	<b>35</b>
<b>Rennes</b>	<b>positive</b>	<b>35</b>
<b>Saint-Malo</b>	<b>positive</b>	<b>35</b>
<b>Saint-Malo</b>	<b>negative</b>	<b>35</b>
<b>Granville</b>	<b>positive</b>	<b>50</b>
<b>Le Havre</b>	<b>positive</b>	<b>76</b>
<b>Le Havre</b>	<b>negative</b>	<b>76</b>
<b>Rouen</b>	<b>positive</b>	<b>76</b>
<b>Paris</b>	<b>positive</b>	<b>75</b>
<b>Tarascon</b>	<b>positive</b>	<b>13</b>

<b>Tarascon</b>	<b>positive</b>	<b>13</b>
<b>Nîmes</b>	<b>positive</b>	<b>30</b>
<b>Nîmes</b>	<b>positive</b>	<b>30</b>
<b>Orange</b>	<b>positive</b>	<b>84</b>
<b>Tullins</b>	<b>positive</b>	<b>38</b>
<b>Grenoble</b>	<b>positive</b>	<b>38</b>
<b>Grenoble</b>	<b>positive</b>	<b>38</b>
<b>Grenoble</b>	<b>positive</b>	<b>38</b>
<b>Grenoble</b>	<b>positive</b>	<b>38</b>
<b>Grenoble</b>	<b>positive</b>	<b>38</b>
<b>Grenoble</b>	<b>positive</b>	<b>38</b>
<b>Grenoble</b>	<b>negative</b>	<b>38</b>
<b>Grenoble</b>	<b>positive</b>	<b>38</b>
<b>Grenoble</b>	<b>positive</b>	<b>38</b>
<b>Vizille</b>	<b>positive</b>	<b>38</b>
<b>Vizille</b>	<b>negative</b>	<b>38</b>
<b>Briançon</b>	<b>negative</b>	<b>05</b>
<b>Grenoble</b>	<b>positive</b>	<b>38</b>
<b>Grenoble</b>	<b>positive</b>	<b>38</b>
<b>Le Pont-de-Claix</b>	<b>positive</b>	<b>38</b>
<b>Grenoble</b>	<b>positive</b>	<b>38</b>
<b>Grenoble</b>	<b>positive</b>	<b>38</b>
<b>Grenoble</b>	<b>positive</b>	<b>38</b>
<b>Fourvoirie</b>	<b>positive</b>	<b>38</b>

**Sentiment analysis base table 2 : *Voyage en France***

<b>Placename</b>	<b>Sentiment</b>	<b>Department ID</b>
<b>Chambéry</b>	<b>positive</b>	<b>73</b>

<b>Aix-les-Bains</b>	<b>positive</b>	<b>73</b>
<b>Les Eaux</b>	<b>positive</b>	<b>74</b>
<b>Lyon</b>	<b>positive</b>	<b>69</b>
<b>Lyon</b>	<b>positive</b>	<b>69</b>
<b>Avignon</b>	<b>positive</b>	<b>84</b>
<b>Aix-en-Provence</b>	<b>positive</b>	<b>13</b>
<b>Marseille</b>	<b>positive</b>	<b>13</b>
<b>Marseille</b>	<b>positive</b>	<b>13</b>
<b>Marseille</b>	<b>positive</b>	<b>13</b>
<b>Marseille</b>	<b>positive</b>	<b>13</b>
<b>Marseille</b>	<b>negative</b>	<b>13</b>
<b>Marseille</b>	<b>positive</b>	<b>13</b>
<b>Marseille</b>	<b>positive</b>	<b>13</b>
<b>Marseille</b>	<b>positive</b>	<b>13</b>
<b>Marseille</b>	<b>positive</b>	<b>13</b>
<b>Marseille</b>	<b>positive</b>	<b>13</b>
<b>Marseille</b>	<b>positive</b>	<b>13</b>
<b>Marseille</b>	<b>positive</b>	<b>13</b>
<b>Marseille</b>	<b>positive</b>	<b>13</b>
<b>Marseille</b>	<b>positive</b>	<b>13</b>
<b>Marseille</b>	<b>positive</b>	<b>13</b>
<b>Marseille</b>	<b>positive</b>	<b>13</b>
<b>Marseille</b>	<b>positive</b>	<b>13</b>
<b>Marseille</b>	<b>positive</b>	<b>13</b>
<b>Toulon</b>	<b>positive</b>	<b>83</b>
<b>Marseille</b>	<b>positive</b>	<b>13</b>
<b>Nîmes</b>	<b>positive</b>	<b>30</b>
<b>Montpellier</b>	<b>positive</b>	<b>34</b>
<b>Montpellier</b>	<b>positive</b>	<b>34</b>
<b>Béziers</b>	<b>positive</b>	<b>34</b>
<b>Béziers</b>	<b>positive</b>	<b>34</b>
<b>Sigean</b>	<b>negative</b>	<b>11</b>
<b>Perpignan</b>	<b>positive</b>	<b>66</b>
<b>Perpignan</b>	<b>positive</b>	<b>66</b>

<b>Bordeaux</b>	<b>positive</b>	<b>33</b>
<b>Bordeaux</b>	<b>positive</b>	<b>33</b>

**Sentiment analysis base table 3 : *Voyage dans le Midi de la France***

<b>Placename</b>	<b>Sentiment</b>	<b>Department ID</b>
<b>Angoulême</b>	<b>negative</b>	<b>16</b>
<b>Bordeaux</b>	<b>positive</b>	<b>33</b>
<b>Bordeaux</b>	<b>positive</b>	<b>33</b>
<b>Bordeaux</b>	<b>positive</b>	<b>33</b>
<b>Bordeaux</b>	<b>positive</b>	<b>33</b>
<b>Bordeaux</b>	<b>positive</b>	<b>33</b>
<b>Bordeaux</b>	<b>positive</b>	<b>33</b>
<b>Lesparre</b>	<b>positive</b>	<b>33</b>
<b>Pauillac</b>	<b>positive</b>	<b>33</b>
<b>Bordeaux</b>	<b>positive</b>	<b>33</b>
<b>Bordeaux</b>	<b>positive</b>	<b>33</b>
<b>Toulouse</b>	<b>positive</b>	<b>31</b>
<b>Toulouse</b>	<b>positive</b>	<b>31</b>
<b>Toulouse</b>	<b>positive</b>	<b>31</b>
<b>Toulouse</b>	<b>positive</b>	<b>31</b>
<b>Toulouse</b>	<b>positive</b>	<b>31</b>
<b>Agen</b>	<b>negative</b>	<b>47</b>
<b>Bordeaux</b>	<b>positive</b>	<b>33</b>
<b>Bordeaux</b>	<b>positive</b>	<b>33</b>
<b>Bordeaux</b>	<b>positive</b>	<b>33</b>
<b>Bordeaux</b>	<b>positive</b>	<b>33</b>
<b>Dax</b>	<b>negative</b>	<b>40</b>
<b>Bayonne</b>	<b>positive</b>	<b>64</b>
<b>Bayonne</b>	<b>negative</b>	<b>64</b>

---

<b>Pau</b>	<b>positive</b>	<b>64</b>
<b>Tarbes</b>	<b>positive</b>	<b>65</b>
<b>Auch</b>	<b>positive</b>	<b>32</b>
<b>Toulouse</b>	<b>positive</b>	<b>31</b>
<b>Carcassonne</b>	<b>positive</b>	<b>11</b>
<b>Narbonne</b>	<b>positive</b>	<b>11</b>
<b>Montpellier</b>	<b>positive</b>	<b>34</b>
<b>Marseille</b>	<b>positive</b>	<b>13</b>
<b>Toulon</b>	<b>negative</b>	<b>83</b>
<b>Le Luc</b>	<b>positive</b>	<b>83</b>
<b>Cuers</b>	<b>positive</b>	<b>83</b>
<b>Grasse</b>	<b>negative</b>	<b>06</b>
<b>Cannes</b>	<b>positive</b>	<b>06</b>
<b>Marseille</b>	<b>positive</b>	<b>13</b>
<b>Vaison</b>	<b>positive</b>	<b>84</b>
<b>Valence</b>	<b>positive</b>	<b>26</b>

---

## **Attachment 8: Sentiment Analysis - Visualisations**

Link to interactive map in ArcGIS Online that contains all sentiment analysis maps (customizable) and shows information per department via mouse click:

<https://arcg.is/1rmWze>

Note: because this map contains premium content (the departments layer), it requires a log-in via a free public ArcGIS Online Account, which can be very easily created in less than a minute. When asked to log-in with an UvA ArcGis account, click: “login with a public ArcGIS account” at the bottom of the menu, and create a free public account. After logging in with this free account, the map will be visible.

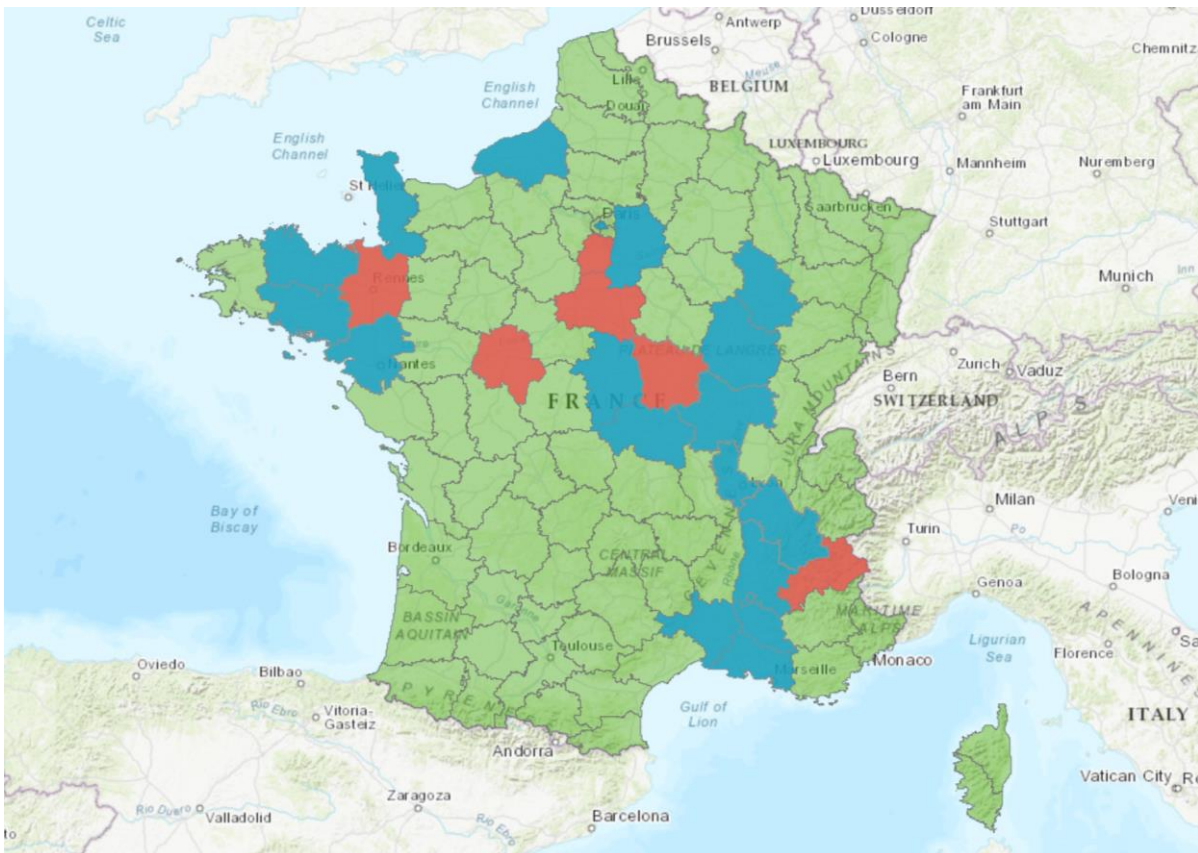
Legend for all maps:

Green = unvisited

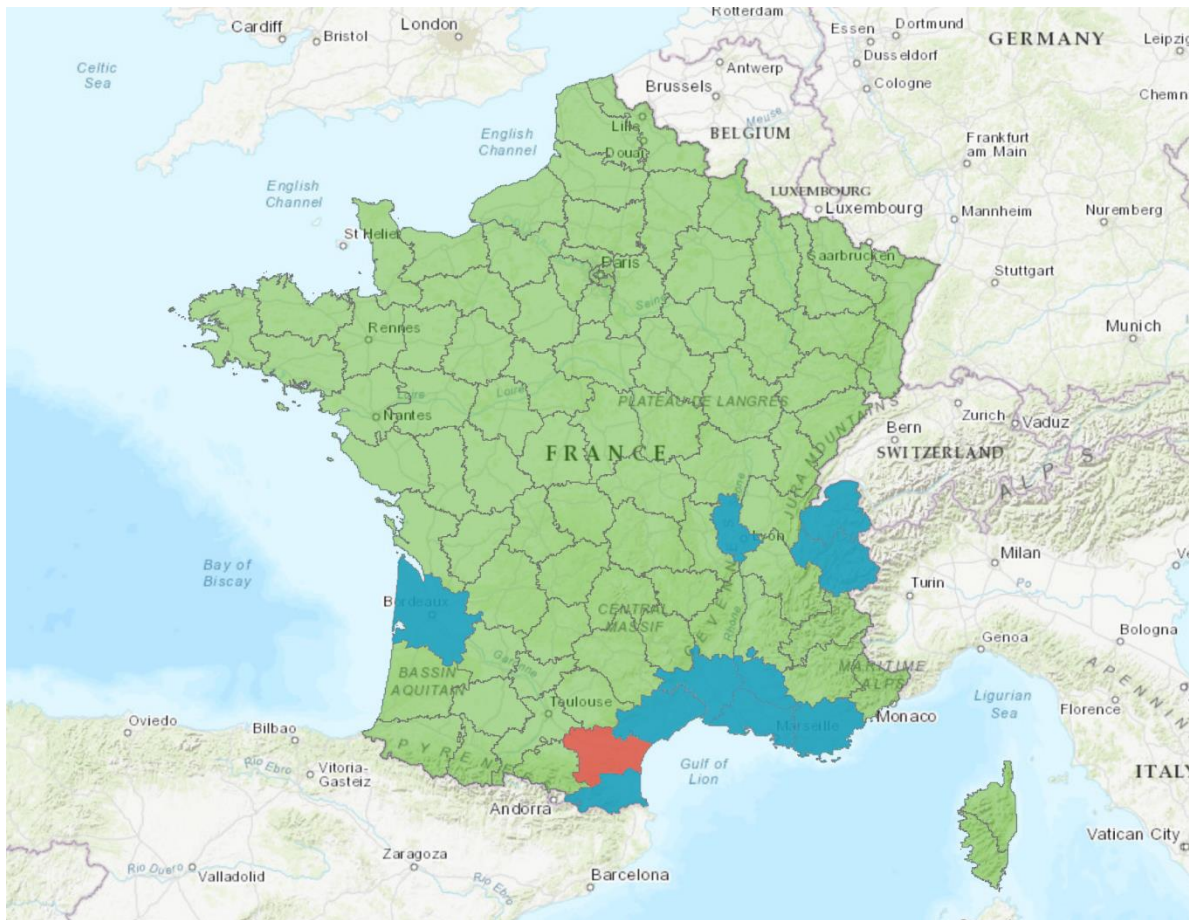
Blue = positive sentiment

Red = negative sentiment

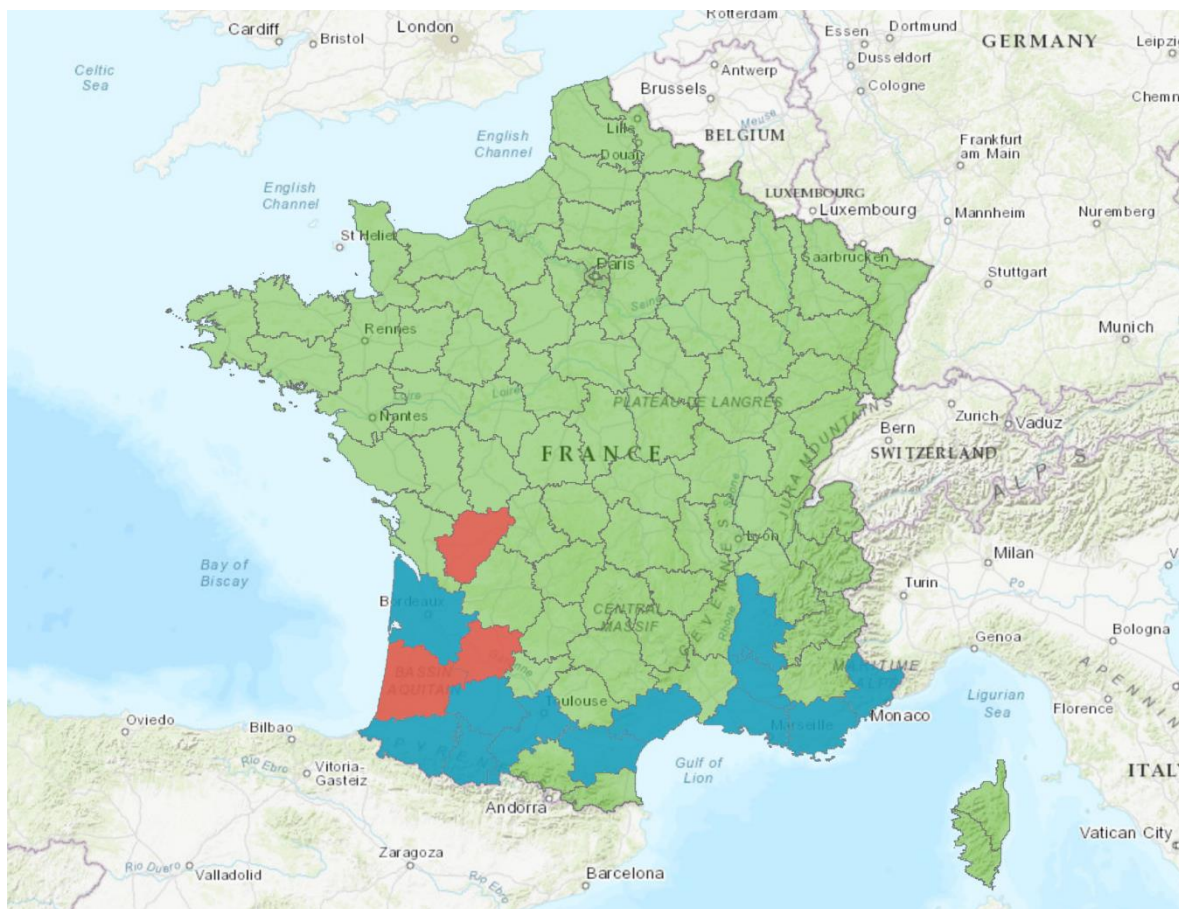
### **Sentiment analysis map 1 : *Mémoires d'un touriste***



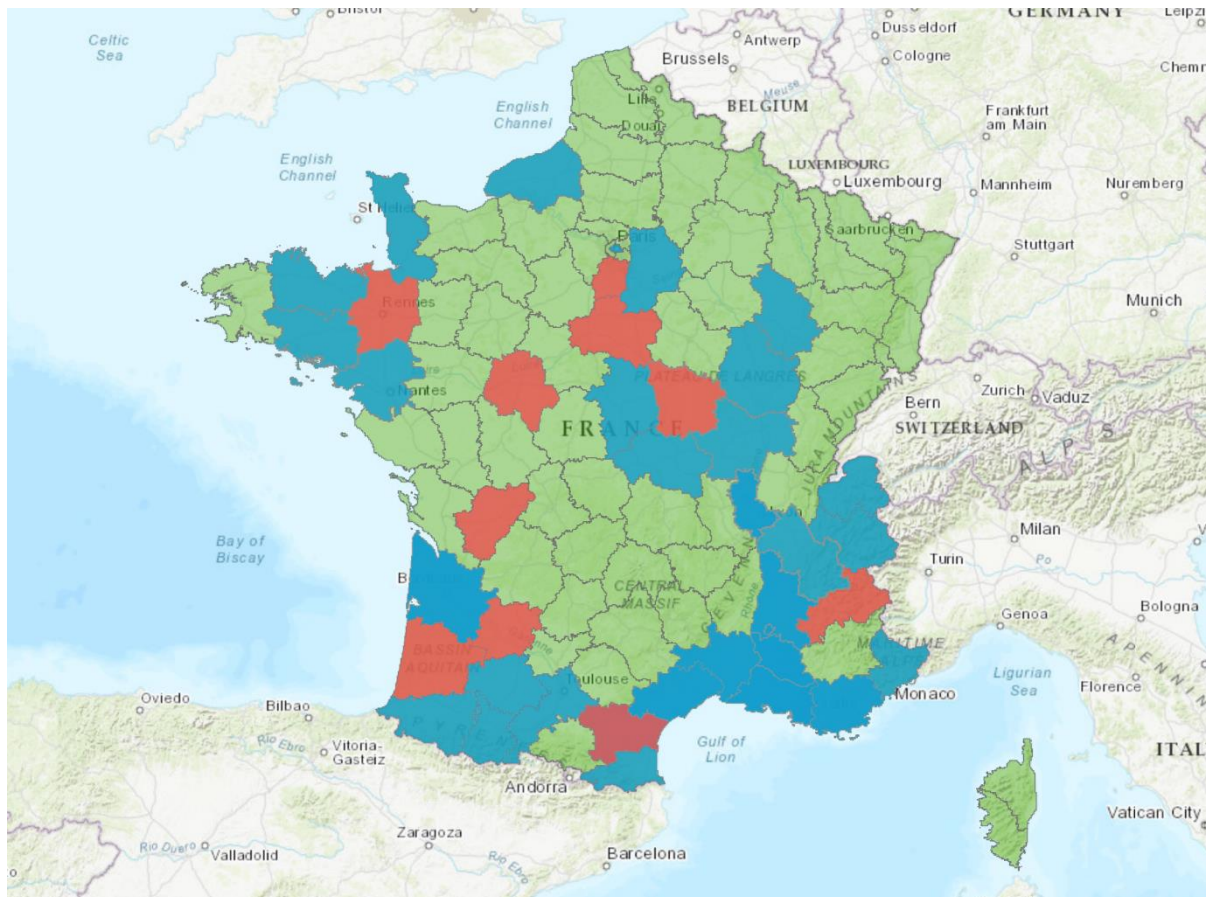
## Sentiment analysis map 2 : *Voyage en France*



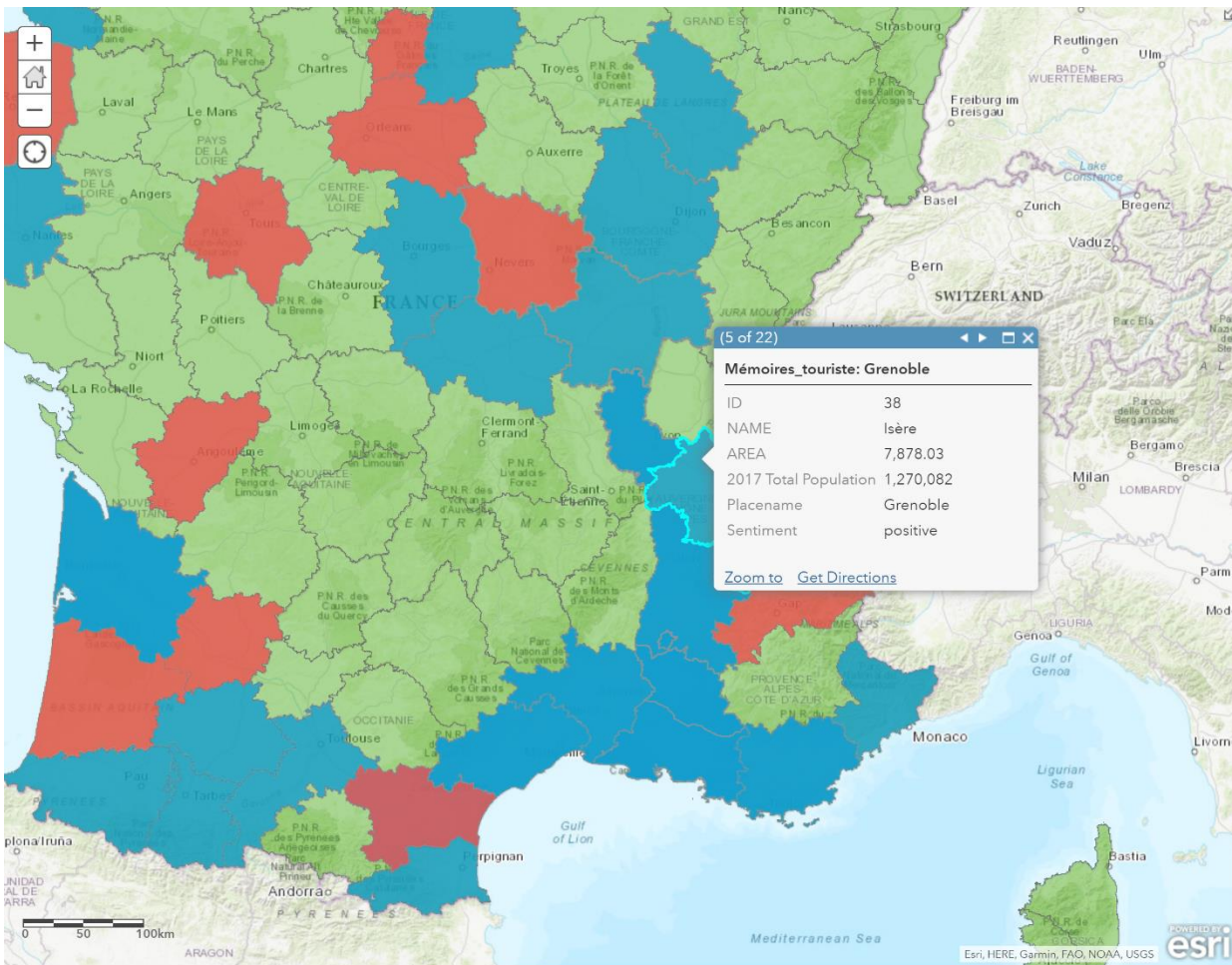
### Sentiment analysis map 3: *Voyage dans le Midi de la France*



## Sentiment analysis map 4: all three books combined



## Sentiment analysis map 5: example of information boxes on mouse-click



**Description:** by clicking on a department, more information is shown. In this case, when clicking on the Isère department, 22 different information tabs appear (see: 5 of 22 in blue upper bar). This means that there are 21 different chapters that are set in this department + 1 information tab for the department in general, makes 22 in total. In the information box, the first four categories belong to the 2017 Departments Map of France, and relate the department code, the name of the department, the size of the area, and the number of inhabitants in 2017. The last two categories belong to the custom-made thematic layers maps of the books, and show the place name belonging to this specific chapter, and the sentiment attached to it. In this way, the user can check for each department which chapters and sentiments belong to it.