Abstract

Mapping spaces in fiction seems like a simple idea. But in fact, it turns out to be a major interdisciplinary challenge at the crossroads of literary theory and cartographic concepts for more than one hundred years. Introduced and contextualised is the emerging field of a literary geography along with one of its core methods: literary cartography. After facing a certain period of stagnation, where no more convincing solutions could be found, this research area currently prospers, inspired and supported by means of an advanced digital, interactive, animated and database-related cartography. While the paper gives evidence that only such a powerful cartography provides adequate means to map literary settings in a meaningful and sensible way, occurring problems, limits as well as the potential of these methods are briefly sketched. The ongoing research project “A Literary Atlas of Europe”, Institute of Cartography, ETH Zurich, serves as an example.

1. Introduction

Since more than 100 years, literary scholars from various national backgrounds try to map literature – for different reasons, but always with a restricted range of techniques at hand (for a historical overview see Piatti 2008a and Döring 2009, both with map samples – but a comprehensive history of this approach still needs to be written).

In some cases, rather neat solutions for particular problems have been presented (see Moretti 1998), yet in an overall perspective there is still no convincing mapping system in sight, although a impressive number of researchers and projects have been and still are occupied with highly comparable problems (see paragraph 5). In other words: A certain stagnation has to be stated. While the research agenda (the horizon of possible questions which could be addressed as literary geography) is astonishingly rich, up to now the means to produce and provide adequate mapping solutions fall clearly behind.
This is due to the fact, that – with some rare exceptions – the majority of literary critics tried and still try to design those maps by themselves and hence were tied to conventional, static, printed mapping products.

Only lately, the fabulous possibilities of a digital, interactive, animated cartography with database support have been discovered, among them for instance visualisation models of uncertainty (one of the key elements of a literary geography is the fact, that settings quite often cannot be localised in a precise, but in a rather vague way). If a literary critic wishes to explore on such techniques, experts from the field of cartography are desperately needed.

In short: For a long time, there were far more ideas regarding literary geography than mapping solutions available. But suddenly, the tables might be turned, and the foremost weaker position – cartographic solutions – could subsequently become dominant: If this is indeed the case, then the literary scholars have to revisit key issues of literary geography, such as: What elements of the literary space can be mapped and what might proof to be unmappable (and should consequently be accepted as such)? Do we need different cartographic representations for different epochs or genres, e.g. realistic fiction and modernist texts, for narrative texts and poetry? Clearly, the theory of a literary geography has to be balanced and adjusted regarding the overwhelming means of an advanced cartography.

This paper outlines the field of “mapping literature”, discusses some reasons for the apparent difficulties in doing so and argues why we nevertheless should further develop this – currently still marginal – thread of literary studies by embracing both the potential and the limits of the field.

Although the paper seems to offer a mainly historical and theoretical approach, the backdrop of the following remarks is a thoroughly practical one: Most of the observations presented below have been made during the actual work on a prototype version of “A Literary Atlas of Europe”, which is currently under development at the Institute of Cartography, ETH Zurich, as a close cooperation between literary scholars and cartographers (for a detailed description of the prototype and the mapping concepts see Reuschel et al. 2009).

2. Literary geography and literary cartography

Initially, some explanations concerning the distinction between the terms “literary geography” and “literary cartography” are required. Literary geography is a wide and “fugitive field” (Stableford 2003: xxxv) which still lacks a precise outline. Despite a long tradition it is only about to be established in the academic discourse. This becomes evident, when one is searching for something like an introduction or a handbook to that heterogeneous field: Such a publication providing a coherent overview does not exist.
yet, in contrary to other large fields of literary studies such as intertextuality, structuralism, rhetorics and so on.

During the 1990ties, two crucial developments concerning the shaping of the field can be identified: First, following a decades-long period in which concepts of temporality were of primary importance in the humanities, for a while now it is space that has been predominant. As early as 1990, Erika Fischer-Lichte spoke of a “Paradigm Shift: From Time to Space”. This observation was refined by Sigrid Weigel (2002) as the “topographical turn”. A dramatical rise of contributions, conferences and projects could and can be witnessed, either presented or received as parts of an emerging literary geography. Topography and geography are thus in the process of establishing themselves as new paradigms of literary studies, although efforts in this direction continue to have a rather unsystematic character. Nevertheless, there are definite indications of a progressive institutionalising of this field, as despite their many differences, a multitude of studies can be logically subsumed under the heading “literary geography”. These include model studies such as that by Detering on Schleswig-Holstein (2001), by Ungern-Sternberg (2003) on the Baltic or by Lamping (2001) on border thematics, as well as essay collections (Frick 2002) or theoretical foundation works such as can be found in the substantial collection Topographien der Literatur (Böhme 2005), in Bulson (2007), Stockhammer (2005, 2007), Werber (2007) and Westphal (2007). All these contributions address aspects of literary geography – but an overarching systematics has been lacking until now.

Secondly, some older theories regarding the space of literature have been labelled as forerunners or foundations of an emerging literary geography with retrospective effect such as Mikail Bakthin’s theory of the chronotopes (Bakthin 1981, but written around 1930) or Michel Foucault’s concepts of heterotopia (Foucault 1984, but first presented in 1967).

One can easily imagine that soon the whole field became vaste, and hence almost unmanageable. Still, all this studies have at least one aspect in common: In one way or the other they all deal with spatial elements in literature. Popular topics are for instance the city in literature, the interactions and tensions between centre and periphery, travelling, crossing borders, places of imagination, literary tourism and so on.

Taking this as a background, literary cartography can be looked upon as a subdiscipline or an ancillary science. Obviously, the two terms are linked in a logical, hierarchical way: While literary geography is the overall topic, literary cartography provides one possible method, more precisely: tools in order to explore and analyse the particular geography of literature (it has to said, that this is by far not the only promising method to deal with topics of space in literature and literary geography, since Moretti points out and justifiably so, that some of the greatest studies ever written on space and narrative do not include a single map, see Moretti 2005: 35).
Literary cartography with its commitment to the actual mapping of literature is a contested method, confronted with a number of critical remarks (for a discussion of some reproaches see Piatti 2008a: 23-32). When looking at two quotations from famous modernist writers, the area of tension in which literary cartography is situated becomes evident immediately. Virginia Woolf stated in her 1905 essay *Literary Geography*: “A writer’s country is a territory within his own brain; and we run the risk of disillusionment if we try to turn such phantom cities into tangible brick and mortar…. to insist that [a writer’s city] has any counterpart in the cities of the earth is to rob it half of its charm […]” (Woolf 1986: 35). On the contrary, James Joyce “answers” Woolf’s statement with the following words, during a conversation with Frank Budgen: “I want 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.” (Budgen 1934: 67-68).

It goes without saying, that literary cartography follows the “Joyce-line”. One of its traditional starting points is precisely the assumption that a large part of fiction indeed refers to the physical/real world, called geospace in the following, by using an almost infinite variety of options to do so. Among them is for instance the use of identifiable toponyms or the dense description of existing spaces and places. As Malcolm Bradbury observes in his *Atlas of Literature*, “[a] very large part of our writing is a story of its roots in a place: a landscape, region, village, city, nation or continent” (Bradbury 1996: Introduction, unpag.). Having said that, literature is also able to create any other space, without any limitations – imaginary realms, invented cities, countries, continents, entire stellar systems… Those are the chapters of literature featuring no reference towards geospace at all. In-between, one can find various degrees of transformed settings, spaces and places in fiction which are still linked to an existing geospatial section but are alienated by using literary means such as re-naming, re-modeling or overlaying. One example: In the counterfactual novel *Fatherland* (1992) by Robert Harris, the plot starts in 1964 and the reader is right away confronted with a transformed familiar space: Berlin as Hitler’s “Reichshauptstadt” with gigantomanic buildings and “Victory” alleys has become reality, since a fictitious world is depicted in which Hitler has won WWII.

While some approaches take the fragile connection between geospace and fictional space for granted and offer a simple one-to-one translation of fictional settings to points on a map, others try to establish a more subtle relationship (for instance, the “Literary Atlas of Europe” takes into account several models of referencing to the geospace, see paragraph 4).

Despite this enormous variety in setting construction, a number of frequently used spatial models can be spotted and this is the key to a form of literary cartography, which is build as a whole system (both in theory and practice).

The core questions in the field of literary cartography can be easily identified as: How to actually map literature and to what end? In order to find some provisional answers, the following paragraphs are therefore explicitly dedicated to the mapping of literature.
for scientific purposes. The paper excludes publications and projects dealing with maps as paratexts or descriptions in literature such as Robert Louis Stevenson’s famous map of *Treasure Island* (see for instance Ljungberg 2003 and 2007). It also ignores mapping approaches of totally imaginary settings (see Manguel/Guadalupi 1980, Mokre 2000). Both issues also belong to the field of literary geography/literary cartography, but would call for separate investigation.

3. Towards a database-supported literary cartography

From its beginnings (see for example Sharp 1904, Nagel 1907), literary cartography can be divided into two main branches, closely linked: The mapping of a single text and its spatial elements and the mapping of groups of texts or aspects related to the texts, leading ultimately to statistical and quantitative approaches: Where and when do which landscapes and cities emerge, for instance on the literary map of Europe, and when are they submerged again in meaninglessness, or when have they exhausted their literary potential? Are there geographic areas that are entirely undocumented in literature? How densely settled by fictional works is a particular space? How international is the space, or is it inscribed almost exclusively by native authors? Under which political-historical and other conditions does the (imagination-) space of literature contract, and under which does it expand?

It is not without reason, that since almost two decades now, for the latter issues (quantitative approaches) literary scholars have detected the benefits of databases linked to mapping systems. Today, countless data and phenomena are georeferenced and, with increasing frequency, are represented on interactive maps. Several literary-geographical projects in German-speaking areas have already formed alliances with the exponentially increased possibilities for data processing. There have been two significant pilot projects, the *Historical Novel Project* (with 6700 German-language historical novels between 1780 and 1945, see Habitzel et al. 1995) and the *Digital Atlas of the Regional Literature of Brazil* (with 550 titles from the mid-nineteenth century until the present, see Lustig 2002). Neither of these has been developed further; the knowledge value of the generated maps is still relatively low and the possibilities for querying are limited.

A clear trend in the popularising of literary-geographical concepts is likewise evident in the various, newly developed internet services that link geographical places and regions with the contents of books, including the novel atlas of the *Frankfurter Allgemeine Zeitung* (www.faz.net/romanatlas), the public database www.handlungsreisen.de, and www.gutenkarte.org, a geographical text browser. All three projects are linked to Google Earth maps. They are similar in that all three of them place literature and real space into (overly) simple relation, and a theoretical foundation is plainly lacking. Upon closer observation, it becomes clear that these resources simply involve lists of texts and items of content that have been organised according to geographical criteria.
Besides the obvious advantages of handling and processing huge sets of data, the use of databases guarantees – at least to a certain extent – the comparability of the maps. If we aim at a comparative literary cartography, then we “have to agree on criteria, scales and methods of how to transform the literary rhetoric of space into a pictorial system” (Ungern-Sternberg 2009: 248).

However, this is easier said than done and leads not only to new and fascinating options, but also to a number of major problems which shall be discussed via the example of the above introduced project “A Literary Atlas of Europe” in order to give an impression of the complexity of the task.

4. “A Literary Atlas of Europe”: Data acquisition for the prototype version

The project aims at three case studies, outstandingly rich, but very different literary regions which have become settings in hundreds of fictional texts through centuries: an Alpine landscape (Lake Lucerne/Gotthard in Switzerland), a coastal border area (North Friesland in Germany), and an urban space (Prague, Czech Republic)

The texts which are in some way or the other linked to those regions are the primary material to be analysed. The core of the project is a database that, for each literary work, stores about 50 attributes/criteria of setting analysis (among them the degree of mappability, place name, locatability, function, additional meanings and connotations). Currently, literary scholars are reading texts, interpreting them and entering the data into an intuitive online template that guides them through the working process (including direct sketches of settings onto a base map via digital drawing tools). Once the data are fed into the database, they could be symbolised and displayed on specially prepared base maps. The result is an emergent Geoinformation System (GIS) for literature, which provides spatial and thematic analysis of the data, since an interface allows queries concerning a single or multiple, combined attributes. The results of the queries are displayed as automatically generated maps, conceived for individual texts, but also for large groups of texts, in view of the above-mentioned statistical issues. Those maps are by no means the final results, but once again starting points for further comments and interpretations provided by the literary scholar.

In the process of mapping literature the question of how to collect these data becomes a key issue. An advanced literary cartography calls for a careful reading and preparation of the texts to be mapped. This becomes evident, when looking at a more simplified project such as “Gutenkarte”, which is linked directly to the database “Projekt Gutenberg” offering a rich choice of digitized literary texts, mostly classics (due to copyright restrictions). “Gutenkarte downloads public domain texts from Project Gutenberg, and then feeds them into MetaCarta’s GeoParser API, which extracts and returns all the geographic locations it can find.” (see website “Gutenkarte”) The results are displayed in an interactive map.
Of course, the complex spatial dimension in fiction can never be captured by such an automatic search machine. On the contrary, it depends on the educated, professional reader to analyse the text, who has to accept, among other restrictions, that some spatial aspects of literature will prove to be unmappable. Robert Stockhammer draws a convincing line between mappable and unmappable fiction (see Stockhammer 2007: 67-88). But even with mappable fiction a variety of problems occur. Two examples concerning the complex process of data acquisition are given below.

Locability: Some geographical and topographical information can be extracted straight from the text (usually toponyms, which do not cause any problems), but in many cases there is a need for further interpretation. While some fictional plots are clearly anchored in existing regions, villages and cities, others are hard or even impossible to localise, whereby the settings are located ‘somewhere’, with no precise correspondences to a ‘real-world counterpart’. If the text works explicitly against a precise location, only reading experience along with detailed knowledge of a possible ‘real-world counterpart’ allows the researcher to point out a likely position or zone on the map. An example: How to position a village “two driving hours outside Prague” as in Milan Kundera’s short story *Laughable Loves* (1969)? But at least there is the indication of a center and a radius.

Changes in geospace: Vanished places in geospace are another category which calls for expertise, especially when it comes to fast reconfigured urban spaces: “Dickens, as might be expected, posed a unique challenge to literary cartographers [...] the London he wrote about was fast disappearing” (Bulson 2007: 32). According to the theory, that literary geography deals with the referentiality between geospace and fictional space (see paragraph 2), text experts have to decide whether an official building, street or city district has disappeared from the geospace or was never been there, in which case it has to be seen as an invention of the author.

It has to be noted, that such problems exist already on a theoretical/conceptual level (for more examples and a brief sketch of the whole theory behind the system see Piatti et al. 2008b and 2009). Different obstacles are to be encountered when it comes to the actual map design and implementation (see Reuschel et al. 2009).

Furthermore, working with such a database as mentioned above means nothing less than to formalise acts of individual interpretation – by entering data via tickboxes with single or multiple choices or by typing requested information into text boxes (see fig. 1).
This is not what critics usually do. Instead they produce so-called secondary literature, interpretations and comments covering various aspects in works of fiction such as the symbolic meaning of objects, the psychology of characters, the political and historical background of a plot and so on, usually carefully balancing between several possible streams of interpretation. There, ambiguity is a sign of quality, here, in developing a database-supported literary cartography, it becomes a problem.

The fact, that literary cartography is based on individual readings, needs to be problematised: One realises that literary cartography – already in its preparatory stage – has to deal with a double uncertainty factor, which has to be stated both in the primary material and in the methodology. First, the texts themselves do not always provide distinct information (see above); secondly, different interpreters can choose different viewpoints: “[…] the analysis of literature is traditionally seen as a subjective procedure. Objectivity, based on empirical evidence, does not seem to figure prominently in studies that elucidate meaning from literary texts.” (Rommel 2004: 88).

To a certain extent (which can again, partially, be controlled), every scholar might come to different conclusions hence resulting in different maps. Currently, the only practical solution is to clearly mark what data has been retrieved directly from the text and what data is already part of interpretation (for instance, direct vs. indirect referenced).

5. Common limits, shared problems and future challenges of literary cartography
Interestingly (but not surprisingly), the teams of the projects “A Literary Atlas of Europe” and of “Mapping the Lakes” (University of Lancaster, UK) are encountering a number of identical obstacles, among them the two following examples:
How to map paths and routes of fictional characters through fictional space? The tricky problem can be summarised as following: Whatever is depicted on the map, it is never what the text tells us/what can be read in the text. Literature is full of journeys and movements through space. But in many cases, the journey itself is not part of the narrative and left out as a blank (it is not described how a character actually leaves point A and arrives at point B). A straight line connection (like in flight magazines) between two points gives a wrong impression. “The use of straight lines to connect two points on a map can lead to a misleading visualisation of the textual representation of spatial experience. That is to say, the straight line methodology fails to represent the particularised geo-specific movements recorded by writers in their textual accounts of place. How can a literary GIS, then, represent the ways in which a writer articulates his or her movements through a particular topography? How can GIS technology map out specific, non-linear routes through space?” (see website “Mapping the Lakes”). A more plausible, interpreted way (suggested by a researcher who is familiar with the text) reads more between the lines than there is actually to find. One solution, proposed by the “Literary Atlas of Europe”, is to display different modes (schematic vs. interpreted) of such movements in fictional space with the option to switch from one to the other (see Reuschel et al. 2009).

Another problem lies in the constant “zooming effect” of literature: The perspective of storytelling can quickly change from an almost microscopic view to an international level: “How can digital maps be used to illustrate, for instance, the way in which a writer may move between ideas and images of the local, the regional, the national, and even the international?” (see website “Mapping the Lakes”)). Again, the “Literary Atlas of Europe” currently experiments with different scales of base maps, linked to each other: Maps for the model regions, for Europe, for the World.

Moreover, what are we going to do with jumps on the time scale (narrated time): There are texts which start at one point in time and then move backwards in terms of chronology (for instance, via an inlay story). Or what are we supposed to do, when characters suddenly move below surface, into mazelike spaces beneath earth as in Gustay Meyrink’s famous novel *The Golem* (1915), set in Prague around 1900? Indeed, the challenges for an elaborated literary cartography are almost limitless.

The “Literary Atlas of Europe” is a starting point, providing maps with information about the location of settings, their respective function, their name and finally the degree of referentiality between geospace and fictional space. Taking this as a solid basis, further visualisations – tailor made for fictional spaces – might be considered: “Likewise, maps of literature would have to focus on intrinsic relations and vectors rather than ‘real’ positions. [...] I would demand from them that they show how literature creates and organises ‘space’” (Ungern-Sternberg 2009 : 244, 248).

Among the future challenges of literary cartography visualisation for problems such as the following might come into view: How a fictional space *gradually evolves*, step by
step according to the plotline, by slowly building up a network of settings (this would call for a link between narrative/narrated time and the spatial dimension of a text which is a hugely complex matter)? What settings bear most meaning in terms of the plot (maybe one could think of morphed or distorted maps, where in a fictional space Paris as a major setting becomes inflated like a balloon and London as a minor setting shrinks to a point)? The hits on a setting – how often do characters (and which ones?) “touch” or visit a certain setting (while frequent hits do not automatically mean that there is also major meaning attached to a particular setting).

6. Conclusions

Literary cartography stands at the brink of a new era. The above described massive number of spatial studies are a strong sign for the current and future prosperity of the field. It is more than apparent that many researchers are currently occupied with similar questions regarding literary geography and literary cartography – but the dialogue, the exchange of ideas, the necessary culture of criticism is not at all eased. In this regard, a prototype system such as the one developed for “A Literary Atlas of Europe” could be of particular value – in the sense of a platform and experimental ground for future developments of the field.

After not only studying various earlier stages and examples of literary geography but also experimenting with a prototype of “A Literary Atlas of Europe”, the authors came to the conclusion, that only GIS technologies, digital, interactive and animated mapping is able to cope with the complexity of the literary space and hence might bring literary cartography one step further. GIS technologies offer options such as cartographic layering and comparison of maps side by side, the toggling between micro- and macro-cartographies, the calling up additional information in the sense of texts, text lists, diagrams, information graphics and so on. On the other hand, especially the literary scholars have to act with caution while facing the seemingly unlimited and tempting possibilities of today’s cartography: Not everything that could be done by the power of cartography should be done and makes also sense in terms of literary studies. There, a fine balance has to be negotiated and established.

If both disciplines – literary studies and cartography – join forces successfully, then a bright new horizon opens in front of us: Literary cartography might offer new possibilities in writing, explaining and teaching the history of literature. Since the methods are supposed to be transferable ones, any literature-related landscape or city could be studied. On one hand the literary riches of single regions could be illuminated, on the other hand fictionalised landscapes and cities could be examined comparatively, in the sense of a literary-geographical system. Such a spatially organised history of literature does not stop at national or linguistic borders since it follows a genuinely comparative approach. What comes gradually into view is the (imaginary) space of literature, which has its own dimensions, which functions according to its own rules, but which is nevertheless anchored in the ‘reality’ of existing spaces and places.
Finally, the practical research experience within the project “A Literary Atlas of Europe” has ultimately lead to the observation, that much has been written about tools, potential and limits of mapping solutions for literary spaces, many demands and critical remarks have been formulated, but in the end, only a combination of theory and practical (trial and error) experiments might eventually result in bringing the entire field to a new level. There is no doubt that a “new” literary cartography has to be performed in the sense of a strongly interdisciplinary, collective endeavour: More than enough work for experts from both disciplines lies ahead of us!

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