Short Proposal 1200 +/- 100 words in total (incl. references); strictly no indication of institute or author and no self-quotations (c.f. anonymized review)

Modelling between digital and humanities: thinking in practice

max. 1200 +/- 100 words (text box)

In Digital Humanities (DH), modelling is a creative process of reasoning in which meaning is made and negotiated through the creation and manipulation of external representations. The ambition of research in DH is making scholarly arguments practical via the creation and manipulation of digital models. Making external representations to reason with has been part of the scholarly Western tradition at least since the Enlightenment; DH extends this practice by actively creating digital artefacts in different media.

Through the lenses of critical humanities traditions and interdisciplinary takes on making and using models, this project will build on the novelty of DH research in making explicit and integrating existing diverse models of cultural phenomena (e.g. texts; events).

Its originality lies in using DH research to:

- explore possibilities for a new interdisciplinary language of modelling spanning the humanities, cultural studies and sciences;
- analyse modelling in scholarship as a process of signification;
- develop connections between modelling as research and learning strategies.

Rationale

By modelling we intend the creative process by which researchers create and manipulate external representations ('imaginary concreta', Godfrey-Smith 2009) to make sense of the conceptual objects and phenomena they study. Whether explicitly or implicitly, modelling has been at the intersection of several long term areas of inquiry in the humanities and cultural studies, including debates and theorisations around the meaning and mechanics of representation, abstraction, signification, fictionality, translation, knowledge and learning.

Modelling in the sciences has been the object of studies in the history and philosophy of science with recent efforts directed at integrating different frameworks (Frigg and Hartmann 2012; Morgan 2012). The practice of modelling in DH (McCarty 2005, 2009; Flanders and Jannidis 2015) is theorised mainly around understandings of modelling in the techno-sciences and computer science in particular (Mahr 2009). Only recently model-making has been theorised within a semiotic framework (Kralemann and Lattmann 2013; Marras and Ciula 2014).

To integrate these theories with a practical dimension, the project will make use of DH as an interdisciplinary departure to study modelling as anchored both to computer science and to the humanities. The project aims to link scholarly modelling as a formal and informal reasoning strategy across disciplinary boundaries, spanning also social, life and techno-sciences, and bridging across modelling in research and in teaching.

Research focus

Building on complementary expertise in DH research, project partners will aim at reflecting on modelling around two central concepts:

- **Textuality**, standing for the complexity of cultural objects and activities, is central to most humanities and cultural studies and a perfect example of the variety of subject specific approaches. An important first attempt to integrate models of textuality from several disciplines into a metamodel to chart and relate single models to each other is Sahle (2013). The metamodel acts both as a *model of* the phenomenon of

textuality and as a *model for* working with texts in the sense of representing, transforming, and analysing them. Therefore, this metamodel can inform the development of text technologies, digitisation practices, and rules for transcription and annotation.

- **Events**. While textuality mediates the world we live in, events are central to an epistemological perception and description of the processes shaping this world. Many disciplines contribute to theoretical reflections on and practical applications of the modelling of events. The groundwork from philosophy, literary studies, history, linguistics, and computer science will be combined with cultural heritage documentation and the news industry in the transition from *models of* events as things to perceive and talk about to *models for* event detection and description.

Our working hypothesis is that in DH research, implicit and explicit *models of* cultural phenomena are integrated into external metamodels, e.g. graphical representations, which often embed natural language and are informal. These metamodels are iteratively translated towards computable implementations via a variety of more or less formal models: *models for*. The analysis of modelling practices in the areas outlined above will hence aim at gaining new insights in the epistemology of modelling:

- How are theory and practice blended in these modelling efforts?
- What role do formal and informal metamodels play in translating models of cultural phenomena into implementations?
- What shared terminology can help us gaining an integrative and non-reductive understanding of digital modelling?
- Can we define the methods of digital modelling informed by such an integrative and non-reductive approach?

Comparisons and exchange across disciplines, within and beyond the humanities and cultural studies, will be crucial to draw an integrative concept of modelling and inform our understanding of:

- What draw us towards (digital) modelling
- How and what can we learn by modelling
- How does modelling change our perceptions and conceptualisations

Societal relevance

Learning from models in research is complementary to learning by doing (experiential learning) as a philosophy of education, rooted in conceptualisations of cognitive reasoning and processes of signification more in general (Hoffman 2011). The underlying assumption is that a feature of being human is making and manipulating models.

Models are ubiquitous in our contemporary society as powerful tools to schematise the complexities of our universe, from genes to climate, from the economy to the stars. Models are used in the classroom to make students grasp convoluted concepts. By linking DH practices to the 'craft' of computer science as well as to the critical humanities tradition, this project tackles issues at the centre of the construction and deconstruction of (digital) models. We propose a reflective DH research which offers the instruments to unpack the rhetoric of digital and data models, so as to contribute to a pedagogy of the digital age and to act at the core of a new cultural literacy.

Activities and outcomes

The proposed project (January 2016-June 2017) will aim at producing an open access **book** (1) about *modelling between digital and humanities* (possible venue: Palgrave Pivot series) organised tentatively around the following topics:

- Towards a new language for modelling
- Modelling and metaphoric reasoning
- Modelling as semiotic process
- Modelling as media transformation
- Metamodelling in Digital Humanities
- Case studies:
    - Modelling textuality
    - Modelling events
- Digital Humanities at a core of a new cultural literacy

The project will include regular mutual research **visits** (2) for the partners to develop this collaborative publication and organise:

- an international **workshop** (3) bringing in complementary expertise in the theorisation of modelling in interdisciplinary areas;

- **dissemination** activities (4) at relevant conferences.

The workshop (3) will be devoted to selected controversies around the theorisation and practice of modelling (e.g. fictions vs. non-fiction; theory vs. data). The outcome of the workshop will give important input to the book (1). In addition, a selected number of workshop participants will form a consulting group to discuss draft chapters and ongoing work.

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