ONAMA

Ontology of the Narratives of the Middle Ages. An onomasiological perspective on narratology via the Middle High German Conceptual Database

With the database REALonline (Institut für Realienkunde des Mittelalters und der frühen Neuzeit), a research platform of the Institute for Medieval and Early Modern Material Culture, and the Middle High German Conceptual Database (University of Salzburg 1992–), an onomasiological dictionary of Middle High German, two long-term research projects on the culture, language and art of the Middle Ages are carried out at the University of Salzburg. Meanwhile, these projects are based on graph technologies. Ontologies and Vocabularies such as Ontolex (McCrae et al. 2017) and SKOS (Miles and Bechhofer 2009) form the basic framework of MHDBDB. A dictionary article consists of several meanings formed by concepts of the conceptual system. In addition, morphologic and grammatical information is given. All corpus texts are lemmatized and tokens are connected to the matching meaning in context. In REALonline, images are described using scene graphs including the objects and persons shown in an image.

To link these two databases, the project ONAMA – Ontology of the Narratives of the Middle Ages (Hinkelmanns et al. 2019–), funded by the Austrian Academy of Sciences, was launched at the beginning of 2019. The aim of the project is the semantic connection of literature and paintings of the Middle Ages. Narratives serve as nodes between onomasiological concepts, scene graphs and text editions. The project will be realized on the basis of a self-developed OWL ontology, which will be anchored in the Semantic Web with references to CIDOC-CRM (Le Boeuf et al. 2017).

The questions and positions discussing the functional principles of such narratological elements are concentrated in interdisciplinary publications like the edited volume "Zur Bildlichkeit mittelalterlicher Texte" (Wandhoff 2008) or in Wenzel 1995 or in works on the visual narrative (e.g. Kemp 2017, 1996, 1992; Speidel 2013; Niehr 2015; Ranta 2014; Wolf 2011, 2003; Belting 1985; Belting et al. 1983). German studies equally focus on comprehensive questions regarding narratological structures, for instance the contribution by J. D. Müller (Müller 2007) or the articles within the recently edited volume "Narratologie und mittelalterliches Erzählen" (Contzen and Kragl 2018) as well as narrative motifs (Birkhan et al. 2009). Research projects on Ontologies in the field of narratives include studies of Nakasone and Ishizuka 2006; Damiano and Lieto 2013; Zarri 2014; Fisseni et al. 2014; Damiano and Lombardo 2016; Ciotti 2016; Lei et al. 2017; Gius et al. 2018; Dimpel 2018.

A narrative is described by the project as an elementary element describing an action that mediates between a previous and a subsequent state. Based on semantic roles, we describe actors and participants of the action and a setting that sets the framework of a narrative. By including literary archetypes, specific narratives such as "[Siegfried] [kills] [the dragon]" or "[Tristan and Isolde] [staying in] [the *Minne* Cave]" can be abstracted into common basic narratives – i.e. "[Hero] [kills] [Monster]" or "[the lovers] [at] [locus amoenus]". This makes it possible to discover parallels and disparities in the realization of narratives in images and texts. Thus, onomasiological concepts are no longer only associated with text witnesses, but can also be investigated in their pictorial implementation.

The project aims to provide a new tool for art history, linguistics and literary studies on the European Middle Ages that simplifies comprehensive research and thus promotes interdisciplinary cooperation.

Publication bibliography

Belting, Hans (1985): The New Role of Narrative in Public Painting of the Trecento. "Historia" and Allegory. In *Studies in the History of Art* 16 (Symposium Papers IV: Pictorial Narrative in Antiquity and the Middle Ages), pp. 151–168. Available online at https://www.jstor.org/stable/42617840.

Belting, Hans; Eichberger, Dagmar; van Eyck, Jan (1983): Jan van Eyck als Erzähler. Frühe Tafelbilder im Umkreis der New Yorker Doppeltafel. Worms: Werner.

Birkhan, Helmut; Lichtblau, Karin; Tuczay, Christa (Eds.) (2009): Motif-Index of German Secular Narratives from the Beginning to 1400. Online Edition der sechsbändigen Printausgabe. Österreichische Akademie der Wissenschaften. Wien: de Gruyter. Available online at http://hw.oeaw.ac.at/motifindex?frames=yes.

Ciotti, Fabio (2016): Toward a Formal Ontology for Narrative. In *Matlit* 4 (1), pp. 29–44. DOI: 10.14195/2182-8830.

Contzen, Eva von; Kragl, Florian (Eds.) (2018): Narratologie und mittelalterliches Erzählen. Autor, Erzähler, Perspektive, Zeit und Raum. Berlin, Boston: de Gruyter (Das Mittelalter: Beihefte, Band 7).

Damiano, Rossana; Lieto, Antonio (2013): Ontological representations of narratives. A case study on stories and actions. In Mark A. Finlayson, Bernhard Fisseni, Benedikt Löwe, Christoph Meister (Eds.): 2013 Workshop on Computational Models of Narrative. CMN 2013. Hamburg, 04.–06.08.2013. Wadern: Schloss Dagstuhl - Leibniz-Zentrum für Informatik GmbH (OASIcs - OpenAccess in Informatics, Volume 32), pp. 76–93. Available online at http://drops.dagstuhl.de/opus/volltexte/2013/4149/pdf/p076-damiano.pdf, checked on 8/1/2018.

Damiano, Rossana; Lombardo, Vincenzo (2016): Labyrinth 3D. Cultural archetypes for exploring media archives. In *Digital Creativity* 27 (3), pp. 234–255. DOI: 10.1080/14626268.2016.1212899.

Dimpel, Friedrich Michael (2018): Narratologische Textauszeichnung in Märe und Novelle. In Toni Bernhart, Marcus Willand, Andrea Albrecht (Eds.): Quantitative Ansätze in den Literatur- und Geisteswissenschaften. Systematische und historische Perspektiven. Berlin: de Gruyter, 121–147.

Fisseni, Bernhard; Kurji, Aadil; Löwe, Benedikt (2014): Annotating with Propp's Morphology of the Folktale: reproducibility and trainability. In *Lit Linguist Computing* 29 (4), pp. 488–510. DOI: 10.1093/llc/fqu050.

Gius, Evelyn; Reiter, Nils; Strötgen, Jannik; Willand, Marcus (2018): SANTA. Systematische Analyse Narrativer Texte durch Annotation. In Georg Vogeler (Ed.): DHd 2018. Kritik der digitalen Vernunft. Konferenzabstracts. With assistance of Dana Persch, Claes Neuefeind, Patrick Helling. DHd 2018. Köln, 26.02.–02.03.2018. Cologne Center for eHumanities (CCeH). Köln: Universität zu Köln, 302–305.

Hinkelmanns, Peter; Landkammer, Miriam; Nicka, Isabella; Schwembacher, Manuel; Zeppezauer-Wachauer, Katharina (2019–): ONAMA. Ontology of the Narratives of the Middle Ages. University of Salzburg. Salzburg, Krems. Available online at http://onama.sbg.ac.at, checked on 6/4/2019.

Institut für Realienkunde des Mittelalters und der frühen Neuzeit: REALonline. Krems. Available online at https://realonline.imareal.sbg.ac.at, checked on 6/4/2019.

Kemp, Wolfgang (Ed.) (1992): Der Betrachter ist im Bild. Neuausg., erw. und bibliogr. auf den neuesten Stand gebracht. Berlin: Reimer (Kunstgeschichte zur Einführung).

Kemp, Wolfgang (1996): Die Räume der Maler. Zur Bilderzählung seit Giotto. München: Beck.

Kemp, Wolfgang (2017): Erzählen in Bildern. In Martin Huber, Wolf Schmid (Eds.): Grundthemen der Literaturwissenschaft: Erzählen. Berlin, Boston: de Gruyter, pp. 472–484.

Le Boeuf, Patrick; Doerr, Martin; Ore, Christian Emil; Stead, Stephen (Eds.) (2017): Definition of the CIDOC Conceptual Reference Model. Version 6.2.2. Published Version. ICOM/CIDOC CRM Special Interest Group. Available online at http://www.cidoc-crm.org/sites/default/files/2017-09-30%23CIDOC%20CRM_v6.2.2_esIP.pdf, updated on 09.2017.

Lei, Xu; Meroño-Peñuela, Albert; Zhisheng, Huang; van Harmelen, Frank (2017): An Ontology Model for Narrative Image Annotation in the Field of Cultural Heritage. In Alessandro Adamou, Enrico Daga, Leif Isaksen (Eds.): Proceedings of the Second Workshop on Humanities in the Semantic Web (WHiSe II). Second Workshop on Humanities in the Semantic Web (WHiSe II). Wien, 22.10.2017 (CEUR Workshop Procedings), pp. 117–122. Available online at http://ceur-ws.org/Vol-2014/paper-13.pdf.

McCrae, John; Bosque-Gil, Julia; Gracia, Jorge; Buitelaar, Paul; Cimiano, Philipp (2017): The OntoLex-Lemon Model. Development and Applications. In Iztok Kosem, Carole Tiberius, Miloš Jakubíček, Jelena Kallas, Simon Krek, Vít Baisa (Eds.): Electronic lexicography in the 21st century. Proceedings of eLex 2017 conference. eLex 2017. Leiden, 19–21.09.2017. Brno: Lexical Computing, pp. 587–597.

Miles, Alistair; Bechhofer, Sean (Eds.) (2009): SKOS Simple Knowledge Organization System Reference. W3C Recommendation 18 August 2009. W3C. Available online at http://www.w3.org/TR/2009/REC-skos-reference-20090818/, updated on 8/18/2009.

Müller, Jan-Dirk (2007): Höfische Kompromisse. Acht Kapitel zur höfischen Epik. Tübingen: Niemeyer.

Nakasone, Arturo; Ishizuka, Mitsuru (2006): Storytelling Ontology Model Using RST. In: 2006 IEEE/WIC/ACM International Conference on Intelligent Agent Technology. 2006 IEEE/WIC/ACM International Conference on Intelligent Agent Technology. Hong Kong, 18.—22.12.2006: IEEE, pp. 163—169.

Niehr, Klaus (2015): Erzählebenen, Erzählformen, Erzählmotive im Bild. Die Festtagsseite des Göttinger Barfüßerretabels. In Cornelia Aman, Babette Hartwieg (Eds.): Der Göttinger Barfüßer Altar von 1424. Petersberg, Kr Fulda: Michael Imhof Verlag (Niederdeutsche Beiträge zur Kunstgeschichte, N.F. 1), pp. 161–176.

Ranta, Michael (2014): Iconography, Narrativity, and Tellability in Pictures. In Harald Klinke (Ed.): Art theory as visual epistemology. Online-ausg. Newcastle upon Tyne [England]: Cambridge Scholars Publishing, pp. 81–94.

Speidel, Klaus (2013): Can a Single Still Picture Tell a Story? Definitions of Narrative and the Alleged Problem of Time with Single Still Pictures. In *DIEGESIS* 2 (1), pp. 173–194.

University of Salzburg (1992–): Mittelhochdeutsche Begriffsdatenbank/Middle High German Conceptual Database (MHDBDB). Salzburg. Available online at http://www.mhdbdb.sbg.ac.at/, checked on 6/4/2019.

Wandhoff, Haiko (Ed.) (2008): Zur Bildlichkeit mittelalterlicher Texte. Berlin, New York: de Gruyter (Das Mittelalter. Perspektiven mediävistischer Forschung, 13.1). Available online at https://www.degruyter.com/view/j/mial.2008.13.issue-1/

Wenzel, Horst (1995): Hören und Sehen - Schrift und Bild. Zur mittelalterlichen Vorgeschichte audiovisueller Medien. Antrittsvorlesung. Humboldt-Universität zu Berlin. edoc-Server - Open-Access-Publikationsserver der Humboldt-Universität (46). Available online at https://edoc.huberlin.de/handle/18452/2293, updated on 1994, checked on 3/29/2018.

Wolf, Werner (2003): Narrative and narrativity: A narratological reconceptualization and its applicability to the visual arts. In *Word & Image* 19 (3), pp. 180–197. DOI: 10.1080/02666286.2003.10406232.

Wolf, Werner (2011): Narratology and Media(lity): The Transmedial Expansion of a Literary Discipline and Possible Consequences. In Greta Olson (Ed.): Current Trends in Narratology, vol. 8. Berlin, New York: de Gruyter, p. 15.

Zarri, Gian Piero (2014): Representation and Management of Complex 'Narrative' Information. In Nachum Dershowitz, Ephraim Nissan (Eds.): Language, Culture, Computation. Computing of the Humanities, Law, and Narratives: Essays Dedicated to Yaacov Choueka on the Occasion of His 75th Birthday, Part II. Berlin, Heidelberg: Springer Berlin Heidelberg, pp. 118–137.