

Rara Magnetica

A Repository of Historical Sources Related to the Premodern Research on Magnetism

Created by Christoph Sander ([ORCID](#) | [private website](#))

[raramagnetica.de](#) | doi.org/10.48431/res/qk19-bj96 | github.com/ch-sander/raramagnetica

Rara Magnetica (1269-1599) is the name of Gustav Hellmann's well known anthology published in 1898 ([PDF](#)). With this collection, he sought to provide access to some of the earliest, yet rare publications in the field of geomagnetism that predated William Gilbert's landmark publication *De Magnete* of 1600. The digital project and platform *Rara Magnetica* translates these efforts into the digital domain, going far beyond digital editions. The need to publish important but understudied sources is most efficiently achieved by providing curated digital structured and linked data.

Rara Magnetica hence – as an ongoing project – is both a repository and an interactive research platform. It publishes scans and transcriptions of (many hitherto unpublished) sources, data visualizations, and databases, all related to the premodern study of magnetism. Moreover, it provides various tools to investigate each of these resources independently and in combination. A major aim in fact is to enhance multimodal analyses that transcend media barriers by allowing to research imagery along with full texts, material sources along with their conceptual content. This is achieved by various but interlinked tools providing different ways of looking at the same sources.

Rara Magnetica's underlying data comprise three layers (see [fig. 1](#)). A semantic layer relates to works as carriers of ideas, consisting of text and images. A material layer related to the concrete manifestations of works, i.e. the unique copies of printed editions that may carry readers' annotations (see [fig. 2](#)). The social layer connects the two layers: Persons in different roles and capacities created these conceptual and physical objects. The data underlying the three layers are stored in different formats and with different metadata. While drawing on established standards where possible, the repository also created novel vocabularies and ontologies to neatly translate historical phenomena into structured data. The user perspective is reflected by the integration of different tools and platforms to visualize and explore the data.

Rara Magnetica will appeal to historians of the book exploring its census and annotation database (see [Magnetic Margins](#)), art historians tracing the evolution of scientific imagery, philologists seeking additional textual resources in premodern languages, historians of science reconstructing early understandings of magnetism, and digital humanists seeking a framework to organize interlinked textual and visual data drawn from a wide range of sources. However, its most important users are those aiming to discover and investigate historical sources across disciplines and media. This use of the platform has already been successfully put into practice in my teaching and publications.

Rara Magnetica was developed in an individual effort and as a side project, but with great support from institutions in Rome, Boston, Berlin, and Kansas City, and many helping hands and great colleagues (see [credits](#)). Its data and code is published under CC BY-NC-SA 4.0 in OpenAccess and committed to Open Linked Data (see [Github](#)). It is richly documented (see [documentation](#)), ongoing and continuously updated.

Figure 1: Conceptual Map of Rara Magnetica

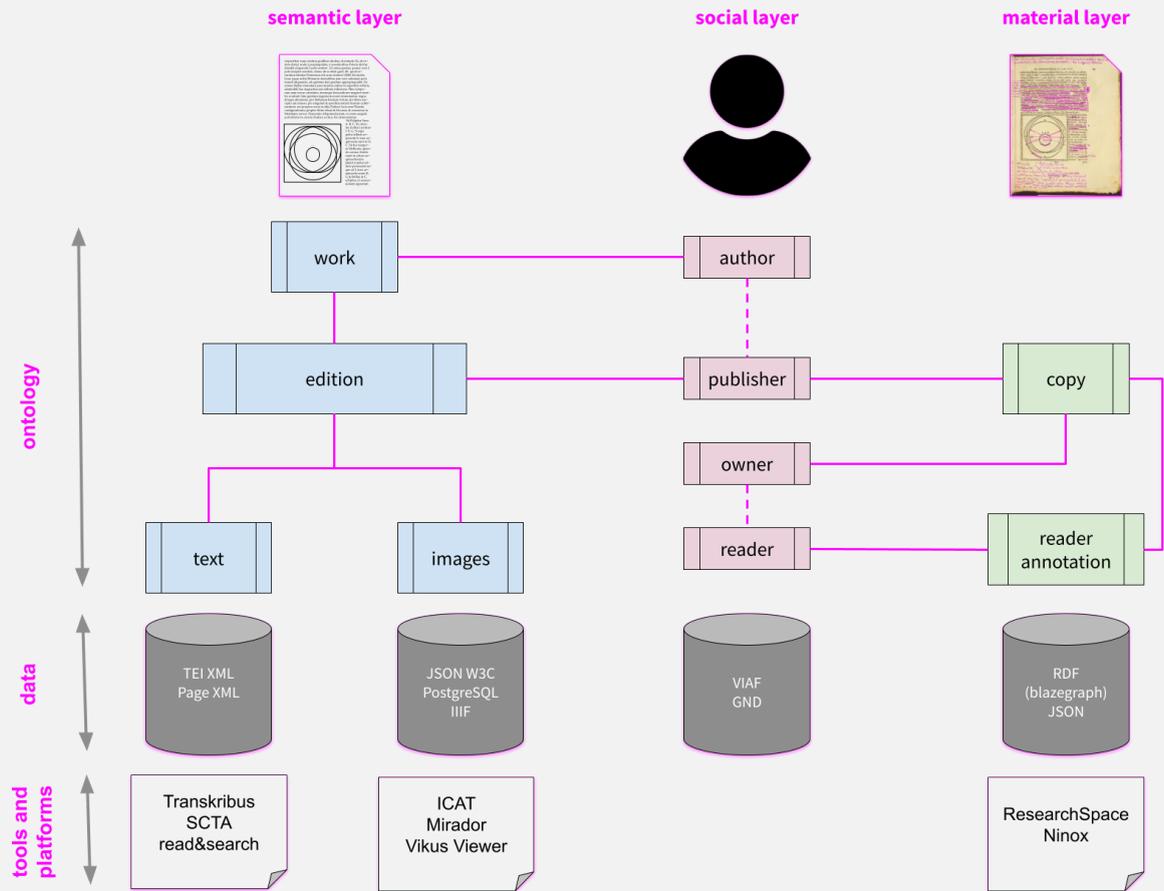
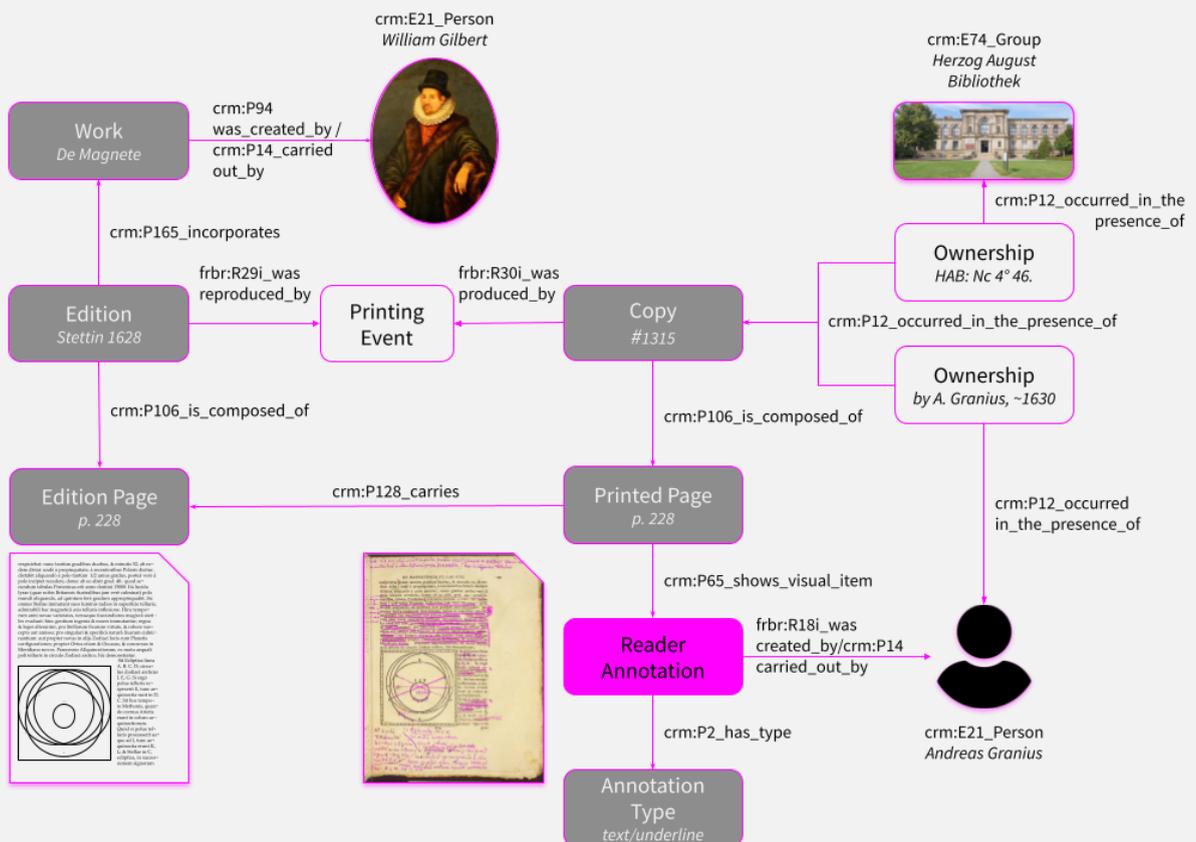
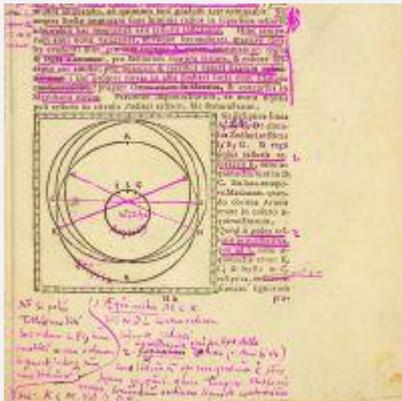


Figure 2: Simplified Ontology of Magnetic Margins



Highlights on Rara Magnetica



Magnetic Margins provides a census of major early-modern publications on magnetism and maps readers' annotations in the individual copies of these editions

- [Magnetic Margins](#) (updated frequently)
 - [conceptual explanation of the data](#)
 - [credits](#)



Images related to magnetism in early-modern science (1500-1650)

- [Vikus viewer for all images](#)
 - [list of all sources included](#)
 - [statistics for all tags](#)
 - [explanation of tagging vocabulary](#)

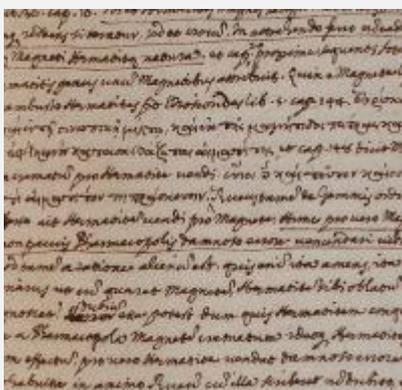
All of the c. 175 images found in manuscript and printed copies of Peregrinus' *Epistola de magnete* (1269)

- [Vikus viewer for all images](#)
 - [list of all sources used](#)



Leonardo Garzoni: *Trattato delli maravigliosi effetti della calamita et delle cause loro* (c. 1590), following the manuscript in Madrid, National Library of Spain, Mss/2020

- See full transcription on [read&search](#) and as plain scan (structured IIF)



Leone Allacci: *De magnete libri tres* (1625), following the manuscript in Rome, Biblioteca Vallicelliana, Allacci LXXVII

- See [scan \(structured IIF\)](#), digitized by Enrico Fontolan and Christoph Sander

...  or watch a video demonstration at raramagnetica.de/video.html

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