International Workshop, 18th and 19th of November 2021

Diagram Diversity in the Light of Digital Humanities:
Types and Ambiguous Cases

Diagrams play complex and multiple roles in scientific cultures. They are used for many different purposes and take various forms. Research on diagrams has now been flourishing for some decades. With the advent of digital humanities (DH) tools new ways of addressing established research questions are becoming available. Conversely, the novel tools also prompt new research questions. This workshop brings together the researchers and engineers coming from three projects linked to history of astronomy and mathematics ("Diagramming Scientific Knowledge" – Daejeon, Seoul; "Visualization and Material Cultures of the Heavens" – Berlin; "DISHAS / diagrams" – Paris). All three deploy DH and in particular artificial intelligence (AI) for, among others, some of the following objectives: to harvest, examine & study and provide searchable access & publish diagrams from different traditions.

The objectives of the workshop are to share examples and characteristics of different diagram types in the sources through selected case studies and to exchange ideas about common research questions: What is a diagram and what roles does it play in the history of astral and mathematical knowledge? What are the crucial features of a diagram? How does it relate to other visual formats like images, tables or charts? What aspects are contingent upon the medium it is embedded in or derive from the techniques, tools and materials for tracing the diagram? How can one characterize its connection to the accompanying text? What aims or functions are assigned to a diagram? Do the answers to all these questions depend on the disciplinary contexts or on connected practices like experimentation, exploring, observation, measuring or data-gathering, memorizing, teaching, or computing? How do the answers to all these questions vary according to cultural context and chronology?

Moreover, the workshop offers the opportunity for participants to engage in discussion with the DH and AI engineers and researchers about promising algorithmic approaches to tackle some of these questions. In this respect, it is most important to explore the technical requirements, thinking about data-models, and workflows leading to setting up databases and computer vision tools. The workshop is thought of as a first encounter between the historians and computer sciences teams, thereby laying the ground for possible future collaboration at all levels.

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Program

Venue: virtual via zoom

Thursday 18.11.21
9am-1pm (European time) / 5pm-9pm (Korea time)

Chair: Anna Jerratsch

9-9:45 Tina Mastorakou (VoH, MPIWG Berlin):
Diagrams and Visualization of Knowledge in Antiquity

9:45-10.30 Nathan Sidoli (Waseda University, Japan):
"Editing" and "Translating" the Diagrams of Theodosius' *Spheric*s

10:30-11:15 Rana Brentjes (VoH, MPIWG Berlin), Sonja Brentjes (VoH, MPIWG Berlin):
What is a Diagram? Suggestions from the VoH-Database

Chair: Eunsoo Lee

11:30-12:15 Tristan Dot (DISHAS, Observatoire de Paris):
Computer Vision for Manuscript Diagrams Analysis

12:15-1:00 Hawoong Jeong (KAIST Daejeon)
The Golden Ratio Myth: Statistical Analysis of Painting Arts

Friday 19.11.21
9am-1pm (European time) / 5pm-9pm (Korea time)

Chair: Matthieu Husson

9-9:45 Scott Trigg (DISHAS, Observatoire de Paris):
Diagrams for Visualizing Structure and Motion in Islamicate Astronomy

9:45-10:30 Eunsoo Lee (KAIST Daejeon):
Euclidean Diagrams in Network

10:30-11:15 Anna Jerratsch (VoH, MPIWG Berlin):
Diagrammatic Elements in Cometary Tracts: Three Cases of 1556

Chair: Sonja Brentjes

11:30-12:15 Samuel Gessner (DISHAS & CIUHCT - University of Lisbon):
Cross-cultural Diagram Traditions in Works on the Motion of the Eighth Sphere

12:15-1:00 Final discussion