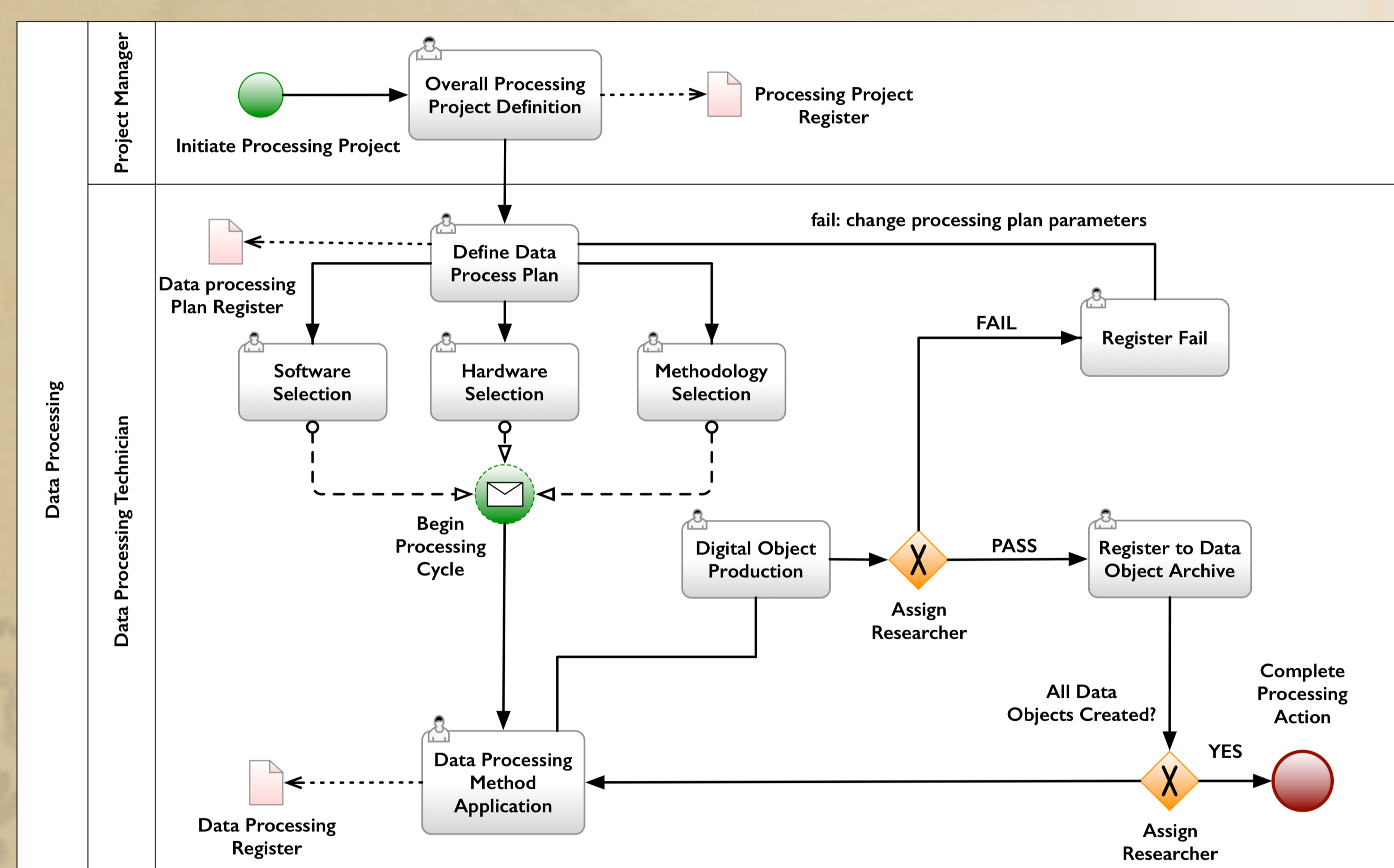


NICOLA CARBONI, ESR8

Aim & Objective Of The Research

The aim of the research carried on by ESR8, under the Work Package 4 framework, is to create a semantic structure for heterogeneous data (e.g. 3D, documentary sources, iconography, spatial localisation, etc.) able to reveal the relationships between the different aspects of a heritage artefact, for example the relation between its morphology and its conceptual description belonging to a specific context (social, cultural, geographical, etc.). The knowledge model should include information from several domains, in order to fully represent the "environment" of an artefact. It should additionally be able to link together various entities and attributes. The final result should be a map of the relationships between a cultural object and its social and environmental aspects, (including the tangible and intangible dimensions).

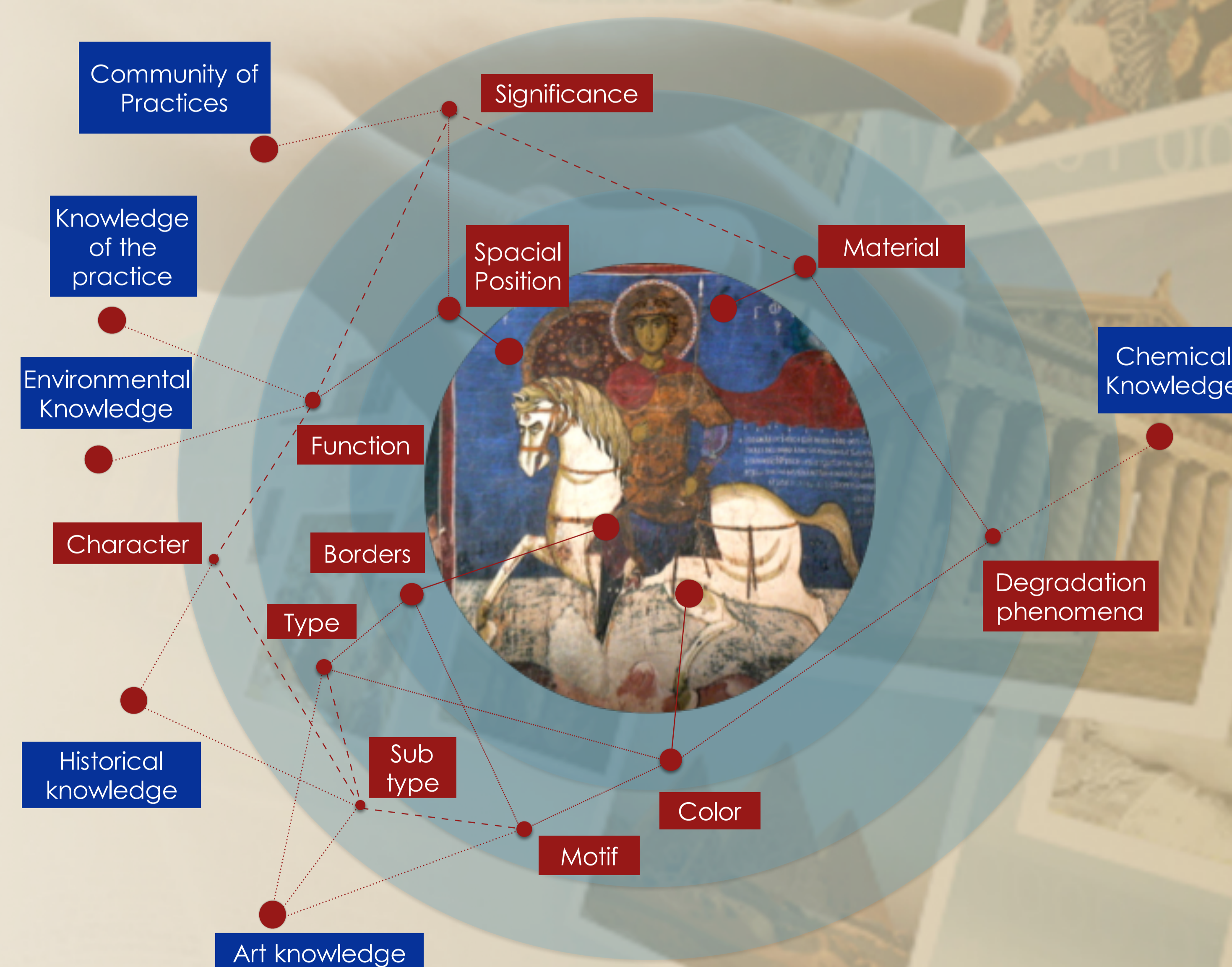


Recording of the provenance information

The documentation of the information regarding the provenance of a visual representation is of paramount importance for its scientific validation. This subject was investigated from both its technical and conceptual perspective. While the formalisation of the relationships between elements, as well as the reasoning that support the reconstruction hypotheses, was the subject of a formal schema, which allow the registration of information regarding the visual or literal source used for the reconstruction. From a technical perspective, a formalisation of the photogrammetric process (BPDM) was used for the definition of a set of metadata elements able to fully describe the different phases of a 3D model reconstruction. The consideration for the various phases, including the strong focus on the acquisition and processing of the data, allow a researcher to define the technical mean used for the realisation of the 3D documentation of a heritage artefact.

Semantic integration of CH data

The research focused on the documentation of the intangible/tangible heritage, investigating the theoretical framework developed within the various branches of the cultural heritage studies, providing a set of requirements. The focus provided has highlighted the prospect to develop a conceptual foundation that would cover the documentation of the conceptual, spatial and material characteristics of a cultural object. The theoretical assumption is then analysed from an ontological perspective, and tested using CIDOC-CRM as main ontology, developing a series of mappings including information regarding the material, spatial and conceptual elements of a scene in a narrative cycle painted in the narthex of a byzantine church in Cyprus. The graph created demonstrate the possibility to link the documentation of the construction of a physical element with its iconographical meaning, as well as its significance and use within a performative act.



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