

AI and Artworks: Object Detection, Image Classification and Iconographic Analysis



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Large-scale Study of Text-Image Layout in 20th-Century Periodicals –As a Reaction to the Absence of Archival Documents

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ABSTRACT

The literary, philological and historical study of illustrated magazines encounters numerous problems, especially when it comes to nineteenth-century or early twentieth-century periodicals. The main problem is due to the scarcity of preserved editorial archives and correspondence between publishers and writers/illustrators, documents that could record the production processes and editorial practices that guided the construction of the periodicals themselves.

The core idea behind this proposal is based on the observation that, if it is true that the editorial archives do not exist, it could also be true that much, we suggest, could be deduced from the periodicals themselves. For this reason, the research we wish to bring to your attention aims to study the mutation and/or persistence of layout within individual illustrated magazines issues: the recognition of recurring or discontinuous templates (i.e. “similar layouts”) could indeed provide philological data on the material history of periodicals – in particular on the evolution of the text-image relationship and the visual pervasiveness of advertising –and suggest deductions regarding editorial practices, such as the recognition of an “editorial line” instead of an “authorial intent” in the display of images. This could allow us to conjecture the type of relationship between writer(s)-publisher(s)-illustrator(s), but also to trace the presence of a more or less strong “author’s will” rather than a “publisher’s will”. In other words, the study of periodical layouts and templates could offer a sideways glance at the backstage of editorial practices.

We intend to study this on a selected dataset which includes several early 20th-century Italian magazines published in Turin considered as case studies. The layout analysis is performed using a pretrained segmentation-based model which partitions images, text and captions with bounding boxes. Dimensions, position and numbering of the identified bounding boxes are then evaluated. From this data, it is computed the percentage of space occupied by images within each page. The latter will be used as one of the two main variables, together with the number of images on the page, to evaluate similarities between layout of pages. In this way, similar layouts of pages will be highlighted providing explainability of their similarity based on a quantitative aspect. Moreover, an attempt to label the clusters of similar images with specific templates will be performed. The conference will be an opportunity to present the approach used and the early critical results obtained

Authors: PIZZAGALLI, Marta (Università della Svizzera italiana / Cambridge University); Mr FELICI, Rocco (Università della Svizzera italiana / Scuola universitaria professionale della Svizzera italiana)

Presenters: PIZZAGALLI, Marta (Università della Svizzera italiana / Cambridge University); Mr FELICI, Rocco (Università della Svizzera italiana / Scuola universitaria professionale della Svizzera italiana)

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