The Invisible Structures of the Artworld

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Figure 1: The Invisible Structures of the Artworld, 2019. (©Amalia Foka)

ABSTRACT

The Invisible Structures of the Artworld draws inspiration from the contemporary artworld processes through which artists and artworks are appreciated and gain recognition as well as the fact that the artworld structure at any given time is not entirely known. Another point from which this work draws inspiration is the approaches taken for social network analysis, the process of investigating social structures through the use of networks. *The Invisible Structures of the Artworld* is a data-driven work. It collects real-time social media data to identify artworld actors and finally visualize an artworld network whose structure becomes visible. Thus, it visualizes the global transformations of the contemporary artworld as well as the role and impact of artworld actors involved in the processes of the production and mediation of art.

CCS CONCEPTS

• Applied computing → Media arts • Human-centered computing → Social network analysis

KEYWORDS

artworld, social media, twitter, data mining

1 Concept

The artworld is regarded as a network of actors with various roles and positions that interact and determine the cultural value of artworks [5]. Although at different periods of time the notion of who constitutes the artworld and how they interact might vary, what remains as a constant is that an artwork's cultural value is primarily socially constructed by those participating in the artworld. Moreover, according to Pierre Bourdieu's field concept [7], actors in the artworld compete to gain more power and influence in the process of the social construction of value for artworks.

This aspect is also reflected in the various published art-related rankings. *Kunstkompass* [12] is published annually since 1970 and provides a ranking of the 100 most important artists. It is based on the notion that although the quality of art cannot be measured, art's resonance and appreciation within the artworld can be evaluated. Hence, Kunstkompass measures and evaluates exhibitions in major museums and art institutions to finally determine the ranking of artists. Similarly, *ArtFacts* [1] ranks artists based on their exhibition success since 2001. However, ArtFacts attempts to utilize in their rankings almost every exhibition happening globally and furthermore provide analytics rather than solely a ranking.

Another ranking, the annually published *ArtReview*'s Power 100, is described as a guide "to the forces that are driving the international contemporary art scene" and "the often invisible structures of the current artworld" [4]. The Power 100 is determined by an anonymous panel of international artworld figures which ranks in order of influence artists, collectors, gallerists, critics and curators.

Rankings are often regarded as something of importance only for the art market, although the previously mentioned rankings are different from others that focus on sales, such as the Artprice [3]. Nonetheless, for example, although ArtFacts defines as its primary

objective to make the artworld more transparent, it also has a focus on art investors who want to make better business decisions [2].

In general, today it is concluded that the artworld (e.g., artists, art critics, historians, and curators) and the art market (e.g. art dealers, art galleries, auction houses) are interdependent [8]. The ArtReview's Power 100 exemplifies this belief since it includes artists and curators along with collectors and gallerists and reflects how artists and artworks are appreciated and gain recognition in the contemporary artworld. Exhibitions in galleries and museums, as well as participation in biennials and art fairs, are key events through which art is mediated and appreciated. Furthermore, the accompanying discourse by critics, historians, and curators published in art magazines, catalogs or journals is significant in the process of the social construction of value for artworks.

The proposed work*, The Invisible Structures of the Artworld,* draws inspiration from the contemporary artworld processes through which artists and artworks are appreciated and gain recognition as well as the fact that the artworld structure at any given time is not entirely known. As previously discussed, the cultural value of artworks is socially constructed by the actors participating in the artworld. This process is essentially the basis in Kunstkompass and ArtFacts for concluding in artist rankings, regardless of what their end purpose is. Nevertheless, it seems like a paradox that artists are ranked based on the acknowledgment and appreciation they receive by the artworld, through exhibitions and other art-related events, although there seems to be no definite answer to who exactly constitutes the artworld and what its structure is.

On the other hand, the ArtReview's Power 100 is different as it attempts to identify the most influential artworld actors, albeit it's underlying process is internal, i.e. based on some artworld actors. Although ArtReview states that its Power 100 is the "most authoritative guide" and the "the world's definitive guide" to the current artworld structure, there are certainly others that would not totally agree. There could be different opinions on the determined order of influence or in other cases different opinions on who should be included or excluded from the Power 100. Moreover, the artworld is comprised of so many more actors than those in the Power 100.

From another point of view, the proposed work *The Invisible Structures of the Artworld* considers the approaches taken for social network analysis, the process of investigating social structures through the use of networks. Lately, social network analysis techniques have been applied to social media. Social media users engage in public conversations and post their opinion about a great variety of subjects. The messages and interactions of social media users provide a wealth of information that would otherwise be obtained by cumbersome procedures like surveys, polls, and interviews. Consequently, the continuous increase of social media users and content has given rise to numerous methodologies that have been proven a valuable tool for a wide range of applications. For example, prediction of an election winner or product sales, identification of adverse drug reactions, measurement of brand awareness and many more.

Thus, this work considers the social media analysis topics of *community detection* and *quantifying user influence*. Communities are groups of social media users that share common properties (e.g. traits, opinions, and preferences). Community detection methods mainly analyze user interactions - whom they like, follow, friend, reply, retweet, comment, tag - to extract and visualize a network structure. Various metrics on user interactions are utilized to quantify influence, i.e. find the users that have the most significant impact on other users.

Hence, *The Invisible Structures of the Artworld* is a data-driven work. It collects real-time social media data to identify artworld actors and finally visualize an artworld network whose structure becomes visible. The artworld is visualized as a network, where the artworld actors constitute its nodes that are connected with edges to denote interactions amongst them. The constructed artworld network is continuously updated as new data are mined from social media and in constant flux in terms of its structure as well as in terms of each actor's power and influence over others. Thus, *The Invisible Structures of the Artworld* visualizes the global transformations of the contemporary artworld as well as the role and impact of artworld actors involved in the processes of the production and mediation of art.

2   Process

The internal process of *The Invisible Structures of the Artworld* starts with a compilation of a list of exemplar artworld actors that serve as a seed for the identification of other artworld actors. The ArtReview's Power 100 rankings from 2015 to 2017 are utilized to create a list of exemplars that represent the most prominent artworld actors, at least as regarded by ArtReview. This work mines Twitter data and therefore the list of exemplars is comprised of 108 unique Twitter accounts representing artworld actors occupying a place in at least one of the three utilized ArtReview rankings.

After that, tweets posted by the exemplar artworld actors are continuously collected. The following exemplars' interactions are analyzed to add nodes connected with edges progressively:

user mentions the users mentioned in exemplars' tweets,
retweets the users whose posts were retweeted by exemplars,
friends the users that exemplars are friends with, i.e., they follow them on Twitter.

The above interactions infer an active endorsement of Twitter users as artworld actors. It is regarded that when an exemplar mentions, retweets or follows another Twitter user, it contributes to the establishment of this other user as an artworld actor. In Figure 2, the initial artworld network is shown in which only the interactions amongst exemplars are considered. The color of the nodes represents the community in which artworld actors belong determined by the methodology presented in [6]. Artworld actors are partitioned into communities which denote groups of actors who interact highly with each other. The size of the nodes represents the actors' evaluated influence according to the algorithm presented in [9]. A high influence actor is one that is mentioned, retweeted or followed by many other high influence actors.

The collected tweets are processed using Natural Language Processing (NLP) methodologies to detect if they refer to an art-related event. A tweet is considered for the construction process of the artworld network only if it contains a referral to a date on which an event takes place. Furthermore, considered tweets must contain words that have been classified as referring to an art-related process with a training procedure similar to the one in [11]. Examples of such words are exhibition, gallery, museum, curated, retrospective and solo. Finally, Named Entity Recognition (NER) [10] is also applied to the text of collected tweets; a Natural Language Processing (NLP) task that aims to identify which parts in a text are mentions of entities in the real world. Employing NER enables the recognition of the names of artists and other artworld actors that either do not own a Twitter account or they are mentioned by their name rather than their Twitter screen name.

Henceforth, the artworld network is continuously updated as new tweets are collected and processed. Nodes connected with edges, that correspond to any of the previously mentioned interactions: user mentions, retweets, and friends, are added progressively to the artworld network. The artworld network shown in Figure 1 was constructed by mining and processing all the public tweets posted by exemplar actors in 2018 and consists of 6,862 artworld actors. The presented artworld network, as well as the evaluated influence values, cannot be assessed as per their accuracy since the ground truth of the artworld structure is not available and moreover is beyond the scope of this work. However, although the work *The Invisible Structures of the Artworld* starts with a small set of exemplar artworld actors, it can identify many more new artworld actors and their connections through Twitter data. More importantly, the more time the work's internal process runs, the more the constructed artworld network resembles the "real" artworld as it exists offline.

3   Technical Information

The Invisible Structures of the Artworld is designed as a real-time data-driven work. However, changes in the artworld network structure are visible only after quite long time intervals. Therefore, it is proposed to present the work in offline mode in order to make its internal process visible to the viewers.

More specifically, it is proposed to present in ARTECH 2019 a video that visualizes the whole process. The video will start from the initial artworld network, which includes only the exemplar artworld actors, and then shows the gradual insertion of new nodes with their connections. The video will conclude with the final artworld network structure, similar to the one shown in Figure 1 after all collected tweets have been processed. It is proposed to collect new tweets for augmenting the network shown in Figure 1 in order to include data that will be more recent and closer to the date that ARTECH 2019 will take place. This video could be displayed either as a wall projection or on a large screen.

Furthermore, it is proposed that one more video is displayed on another small screen that will show the original tweets used for the
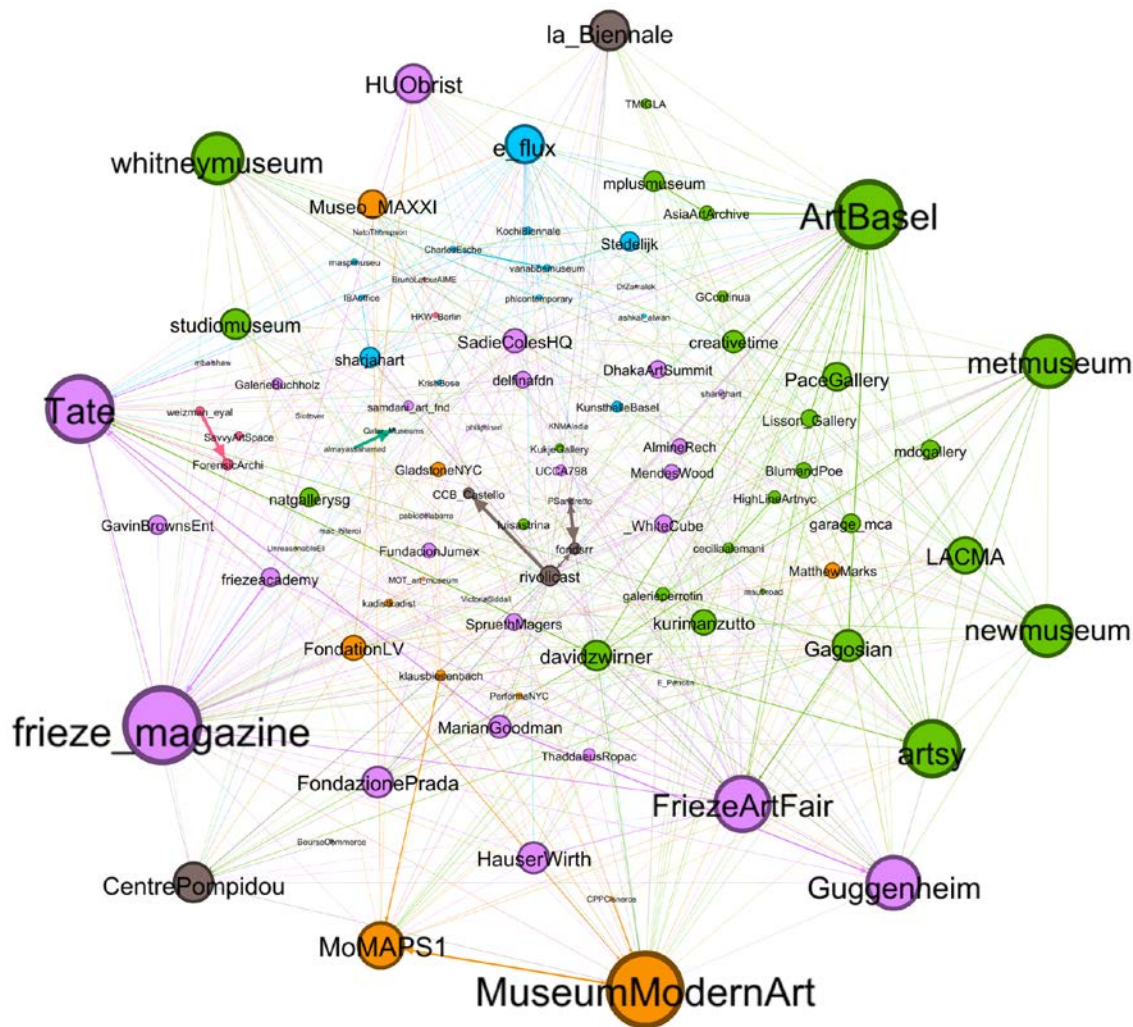
Figure 2: The initial artworld network comprised only by the exemplar actors. (©Amalia Foka)

construction of the artworld network in a scrolling mode. Showing the original data utilized by *The Invisible Structures of the Artworld* will further enable the visibility of its internal process to the viewers. Finally, the presentation of *The Invisible Structures of the Artworld* could also be accompanied by a stand-alone computer with an interactive presentation of the final artworld network so that interested viewers can explore it in more detail.

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