

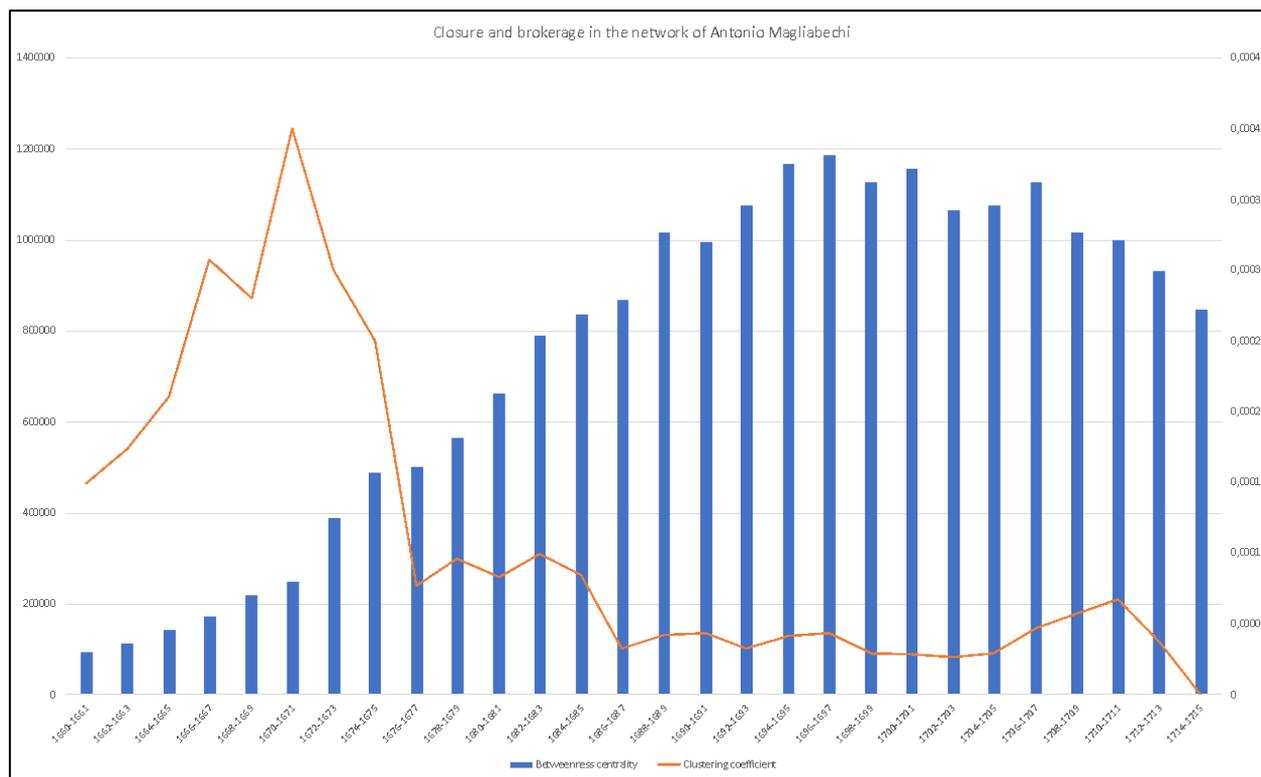
Balance-keeping in Early Modern Society

Ingeborg van Vugt
Utrecht University

This paper uses computational techniques developed by social network scientists to reconstruct and analyse the epistolary relations between the Grand Duchy of Tuscany and the Dutch Republic in the seventeenth century. The lively epistolary exchange between these two societies allows for a comprehensive view on the Republic of Letters, providing a framework to study the ways in which early modern scholars capitalized on opportunities in the social structure to which they were connected. Specifically, the social and religious differences between these two societies might have influenced the decisions Italian and Dutch scholars had to make in the formation of their network, as well as the strategies they adopted to secure their position therein. On the one hand, they needed to have access to innovative information and resources (Lux/Cook 1998). This means that they needed to get involved with scholars from outside their own circle of trust, reaching out to others who could provide them with new information and recently published books. On the other hand, they needed to guarantee that their network was secure and trustworthy – especially in light of the many tensions imposed by the *Sant'Uffizio*. To sum up, early modern scholars had to strategically negotiate between closure and openness in their network.

The relationship between network closure and openness is central to the research of sociologist Ronald S. Burt (2001, 2005). He argued that both network structures are essential in creating social capital (i.e. the advantage created by a person's position in the network). Networks with closure – that is to say, networks in which everyone is connected to each other – facilitate coordination within the group, increase trust and are less likely to be infiltrated by outsiders (Coleman 1988). Yet, if people move in the same circles and know the same people, it is very likely that they have access to the same resources and information (Granovetter 1973). Open networks, characterized by ties outside a social group, represent opportunities for brokers to have unique access to information and contacts. However, they pose a higher risk of betrayal and infiltration. Hence, the key for a successful network is to strike the right balance between closure and openness. Inspired by Burt's research, this paper will demonstrate how quantitative network analysis can be used to show how closure and openness alternately combined and clashed throughout the early modern scholarly network.

The digital turn of the last decades affords the unique opportunity to chart the scholarly exchange between the Dutch Republic and the Grand Duchy of Tuscany. As the number of historical letters shared online keeps growing it is time to take full advantage of these datasets that can be used in more sophisticated ways than just making use of them as an ordinary catalogue to query for results. In the context of this study, metadata are extracted from two online letter-collections – the *Catalogus Epistularum Neerlandicarum* (CEN) and the *Catalogo dei Carteggi* of the National Library of Florence. The CEN is a Dutch national database consisting of circa 500.000 metadata of letters from 1500 to present held at several Dutch institutions, among which are the National Library of the Netherlands and the University libraries of Leiden, Utrecht, Groningen and Amsterdam. The digitized *Catalogo dei Carteggi* captures on one index card per correspondence the basic metadata for a large portion of the



holdings of the National Library of Florence. Combining these two datasets, a network consisting of circa 10.000 epistolary contacts between the Dutch Republic and the Grand Duchy of Tuscany has been reconstructed. This network has been further enriched with archival transcriptions of letters extant in various library and archival collections in the Netherlands, Germany and Italy. Moments of openness and closure in this network are identified using measures such as betweenness centrality and clustering coefficient, two metrics that have been proven effective within the broader field of the digital humanities (Ahnert and Ahnert 2015, Graham 2015).

The results of this “distant reading” analysis are shown in the following figure which provides us with a blueprint of the epistolary career of Antonio Magliabechi (1633-1714), librarian of the Medici family in Florence. The figure shows the precise moments when Magliabechi strove for closure (orange) or openness (blue) in his network. A close-knit network is a characteristic feature in the early career of Magliabechi – as shown by a high clustering coefficient in the first stage of the graph. In this first stage, he needed to prove himself as a trustworthy and valuable correspondent in order to build an extensive cross-cultural network that posed more risks as to the integrity of the communications and exchanges that took place in that network. As his career progressed, he opened his network to other minds and became a broker between Florence and the Dutch Republic, as measured by an increasing betweenness centrality in the 1670s. These “distant reading” techniques not only enable us to capture moments of closure and openness implicated in a large body of correspondence, but identify letters that require closer examination. In other words, the value of this research lies in the combination of methods for network analysis for distant reading of large sets of letters with close reading devoted to achieving a deep understanding of the source. This mixed use of

qualitative and quantitative methods, coined by me as disclose reading, is particularly important in the historical field where data is often sparse, incomplete and fragmented.

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