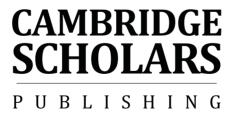
Social Networks in the Long Eighteenth Century

Social Networks in the Long Eighteenth Century: Clubs, Literary Salons, Textual Coteries

Edited by

Ileana Baird



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I owe my deepest gratitude, first, to a distinguished group of readers whose scholarly expertise helped hone the articles included in this collection to their highest potential. I'd like to thank Pamela Buck, Dorothy Couchman, Irene Fizer, Christine A. Jones, Laure Marcellesi, Kevin M. McGeough, Angela Rehbein, and Sophie Thomas for their invaluable feedback and stimulating suggestions for improvement. Special thanks to Brad Pasanek, whose generosity, insightful comments, and digital expertise never cease to impress me. I value, above all, their prompt and enthusiastic support for this book and I consider them, more than colleagues, among my most cherished friends.

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INTRODUCTION

SOCIAL NETWORKS IN THE LONG EIGHTEENTH CENTURY: THE PUBLIC SPHERE REVISITED

ILEANA BAIRD

In the March 10, 1711 issue of *The Spectator*, Joseph Addison provides a playful description of the eighteenth-century clubs in which he felicitously sums up the main tenets of the Spectatorian model of sociability:

Man is said to be a Sociable Animal, and, as an Instance of it, we may observe, that we take all Occasions and Pretences of forming ourselves into those little Nocturnal Assemblies, which are commonly known by the name of Clubs. When a Sett of Men find themselves agree in any Particular, tho' never so trivial, they establish themselves into a kind of Fraternity, and meet once or twice a Week, upon the Account of such a Fantastick-Resemblance. ... When Men are thus knit together, by Love of Society, not a Spirit of Faction, and do not meet to censure or annoy those that are absent, but to enjoy one another: When they are thus combined for their own Improvement, or for the Good of others, or at least to relax themselves from the Business of the Day, by an innocent and chearful Conversation, there may be something very useful in these little Institutions and Establishments 1

Addison's view of man as a "sociable animal" prone to congregate in "little Nocturnal Assemblies" in order to converse, relax and enjoy his peers' company is obviously as far-fetched as the resemblance among the interlocutors that it alludes to. His rendering of such assemblies as

.

¹ Joseph Addison, *The Spectator*, 8 vols. (London: Printed for S. Buckley and J. Tonson, 1712), 1: 48.

"fraternities" of men who "do not meet to censure or annoy" each other but to "agree" on issues related to "their own Improvement" or to "the Good of others" is framed in terms too good to be true: such sociability involves sentimental homosocial bonds ("Men ... knit together, by Love of Society"), spatial and corporate intimacy ("little ... Assemblies," "little Institutions and Establishments"), joyful and harmless interaction ("innocent and cheerful Conversation"), and an overall sense of loss of one's self in the harmonious whole of the group. The seamless slide from "Man" to "Men" reflects the leveling effect of such commonality of interests, a process through which "the one" gets lost in the closely-knit social tissue of "the many": the club member becomes a piece in a network of associations whose goal is the "Improvement" or "the Good of others."

Addison's model of sociability is strikingly evocative of Georg Simmel's understanding of sociability as "the play form of associations": in Simmel's words, the world of sociability, "the only one in which a democracy of equals is possible without friction, is an artificial world, made up of beings who have renounced both the objective and the purely personal features." The individual is subsumed, in other words, to the well-being of the social machine, and one's interactions contribute to the creation of what Simmel calls "the common consciousness of a group."³ Belonging to the social system takes precedence over the individual who becomes "a somewhat unformed complex of contents, powers, [and] potentialities," experiencing the pleasure of association as a goal in itself. The need for an institutional frame within which a group member could practice this ideal form of conversation—be it a club, a literary society, a coffeehouse crew, or a confederacy of kindred spirits—is more than an expression of a coalescing "togetherness": it also reflects a community of interests and goals that conflates spatial with spiritual proximity.

The problem with this model is, as Simmel correctly pointed out, its manifest artificiality: ideological debate cannot flow undisturbed, contradictory opinions are inherent to dialogic exchange, and one's voice cannot be heard when it is part of a chorus. A less democratic model of sociability emerging during the same time, the Scriblerian one, was summed up by Jonathan Swift in a brief but suggestive statement: "I have often endeavored to establish a friendship among all men of genius, and

² Georg Simmel, "The Sociology of Sociability," in *Simmel on Culture. Selected Writings*, eds. David Frisby and Mike Featherstone (London: Sage Publications, 1997), 122.

³ Ibid., 127.

⁴ Ibid., 123.

would fain have it done: they are seldom above three or four contemporaries, and if they would be united would drive the world before them." These "men of genius" included, as is well-known, poets Alexander Pope, John Gay, and Thomas Parnell, physician John Arbuthnot, Tory politician Henry St. John, first Viscount Bolingbroke, and Queen Anne's chief minister, Robert Harley, first Lord of Oxford. The obviously hierarchical and exclusionary nature of this associational model seems to support Jürgen Habermas's argument about the essential role played by the intellectual elite in the formation of the public sphere. Importantly, it also reflects the growing awareness of the enormous gap between classic and popular culture that became a leitmotif of the public debates of the time.

If the Spectatorian model of sociability attempted to make the coffeehouse news industry and "the cultural politics of Augustan Britain safe for a Whig oligarchy," the Scriblerian one was deeply exclusionary in its promotion of a high culture paradigm and positioned itself as a defender of Tory principles of political conservatism. While Addison and Steele conceived of coffeehouses, intellectual and literary salons, and the print media as arenas of sociability, civic involvement, and polite behavior, the Scriblerians saw them, instead, as promoters of bad taste, moral corruption, and political compromise. The Scriblerian model aimed less at a reformation of manners or the creation of a civil society and more at condemning an incipient modernity characterized by newsmongering. political partisanship, and a suspect interest in science over religious faith. As such, they distanced themselves from the "rabble" and engaged in a fierce crusade for which they created their own army of self-destructive "scribblers"—the many Martinus, Simon, Andrew, Erasmus, Cornelius, Minimum, or Maximum Scriblerus—who are nothing else but grotesque embodiments of a modernity gone wild.

Between these two polar opposite views on modes of social interaction, eighteenth-century sociability emerges as a notion difficult to conceptualize when using traditional methods of investigation. As suggested by the Spectatorian and Scriblerian models described above, practices such as corporate authorship, answering each other's works, engaging the readers in public debates, plagiarizing or pirating one's work,

⁵ Jonathan Swift, Letter to Pope, 20 September 1723, in *The Works of Jonathan Swift*, ed. Thomas Roscoe, 6 vols. (New York: Derby & Jackson, 1859), 6: 359.

⁶ Jürgen Habermas, *The Structural Transformation of the Public Sphere. An Inquiry into a Category of Bourgeois Society*, trans. Thomas Burger and Frederick Lawrence (Cambridge: MIT Press, 1989), 57-67.

⁷ Brian Cowan, "Mr. Spectator and the Coffeehouse Public Sphere," *Eighteenth-Century Studies* 37.3 (2004): 361.

outrageous advertising through puff, gossip, and rumor, as well as the growing interest in innovation, news, and celebrity of the time describe a diversification of the channels of influence to and from centers of political and cultural authority that defy existing hierarchical descriptions. In an attempt to make better sense of the impressive diversity of positions and relations that characterizes the eighteenth-century world, this collection proposes a new methodological frame, one that is less hierarchical in approach and more focused, instead, on the nature of these interactions, on their Addisonian "usefulness," declared goals, and (un)intended results. Unlike similar attempts to re-enact Augustan cultural politics, this collection shifts focus from a cultural-historicist approach to sociability to the *relational* nature of eighteenth-century associations, approaching them through new methodological lenses that include social network analysis. assemblage and graph theory, actor-network theory, as well as social media and digital humanities scholarship. Imagining the eighteenthcentury world as a *networked* community rather than a competing one reflects a recent interest in novel forms of social interaction facilitated by new social media-from Internet forums, weblogs, microblogs, wikis, and podcasts to Facebook, Twitter, Instagram, and other types of social networking sites.⁸ It also signals the increasing involvement of academic communities in digital humanities projects that use new technologies to analyze data embedded in literary texts, or to map out patterns of intellectual exchange. As such, the articles included in this collection demonstrate the benefits of applying interdisciplinary approaches to eighteenth-century sociability, and their role in shedding new light on the way public opinion was formed and ideas disseminated during pre-modern times. Moreover, they allow for a cross-cultural exploration of these connections, by including surveys of social networks developed throughout Europe and on both sides of the Atlantic which highlight associational trends and networking practices of truly global significance. Such an approach challenges the thesis about British clubbability as an insular phenomenon and offers a more nuanced view of the complicated

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⁸ Clifford Siskin and William Warner's important collection, *This Is Enlightenment* (Chicago: University of Chicago Press, 2010) is the first attempt to explore Elightenment as "an even in the history of mediation" (1), by shifting attention to the form in which representations were transmitted through mass media during pre-modern times. Considering the new infrastructures of early modernity— from the development of new channels of communication to the proliferation of new sites of ideological exchange—, this volume opens up the conversation about how periodical press, voluntary associations, and public credit created new practices and areas of inquiry that anticipated the current social media phenomenon.

network of ideological exchange that brought the eighteenth-century world together. It is our hope that these new methods of investigation will open up the conversation about the possible similarities or differences between eighteenth-century social networks and modes of communication and today's social media boom.

Actors, Networks, Publics: Relational Data in the Analysis of Social Structure

Social network analysis emerged during the 1930s and rapidly developed as a powerful investigative method. From its very beginning, it brought together a variety of disciplines that attempted to make sense of how connected systems operate and ideas spread within large groups of populations. As Cornell University scholars David Easley and Jon Kleinberg have aptly summarized it,

From computer science and applied mathematics has come a framework for reasoning about how complexity arises, often unexpectedly, in systems that we design; from economics has come a perspective on how people's behavior is affected by incentives and by their expectations about the behavior of others; and from sociology and the social sciences have come insights into the characteristic structures and interactions that arise within groups and populations. The resulting synthesis of ideas suggests the beginnings of a new area of study, focusing on the phenomena that take place within complex social, economic, and technological systems.⁹

This revolution in data analysis started in the 1930s with the gestalt theorists' development of the sociometric method which eventually produced graph theory.¹⁰ Their research focused, among other things, on

This tradition is associated principally with the work of Wolfgang Köhler, Kurt Lewin, Jacob Moreno, and Fritz Heider. During the 1930s, Lewin established a Research Center at the Massachusetts Institute of Technology and Moreno founded the journal *Sociometry*. Heider's work focused on group dynamics; in his influential *Psychology of Interpersonal Relations* (New York: John Wiley & Sons, 1958), he explored the psychological balance of an individual within a group, and how people come to explain (make "attributions" about) the behavior of others and themselves.

⁹ David Easley and Jon Kleinberg, Networks, Crowds, and Markets. Reasoning about a Highly Connected World (New York: Cambridge University Press, 2010), xi.

developing psychotherapeutic methods to uncover the system of friendship choices, on unveiling the way in which psychological well-being influences the structure of a social configuration, and on understanding how social meaning is constructed by group members based on personal experiences within a given "social space." Psychosociologist Jacob L. Moreno was the first to create sociograms—graphic depictions of social links in which individuals were represented by points and their connections with one another by lines connoting positive or negative relationships within a group. First formulated by mathematician Dénes Kőnig in 1936, graph theory developed as a way of visualizing group dynamics, ¹² and was given deserved attention in the 1950s by Frank Harary, R.Z. Norman, and Dorwin Cartwright, whose research was fundamental to understanding the network structure as a building block of balanced or unbalanced relationships.¹³ Their work has steered the discussion about social network organization in new and fruitful directions, including small group behavior, 14 transmission of ideas and innovations, 15 and spread of gossip and rumor within a social network. 16

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¹¹ For details, see Jacob Moreno, *Who Shall Survive?* (New York: Beacon House, 1934) on the notion of the sociometric "star" (i.e. the recipient of numerous and frequent choices from other individuals), Kurt Lewin, *Principles of Topological Psychology*, transl. Fritz Heider and Grace M. Heider (New York: McGraw-Hill, 1936) on the notion of "perceived" environment and, by the same author, *Field Theory in Social Science: Selected Theoretical Papers*, ed. D. Cartwright (New York: Harper & Row, 1951) on field theory and group dynamics.

¹² Dénes Kőnig, *Theory of Finite and Infinite Graphs*, trans. Richard McCoart (Boston: Birkhäuser, 1990). Interestingly, the origins of graph theory are to be found, according to some scholars, in the eighteenth century: as Norman L. Biggs, E. Keith Lloyd, and B.G. Wilson argued, Leonhard Euler's's paper on the *Seven Bridges of Königsberg* (1736) may be considered the first study in the history of graph theory. For details on Euler's solution see Biggs, Lloyd, and Wilson, *Graph Theory 1736-1936* (Oxford: Clarendon Press, 1976), 1-11.

¹³ F. Harary, R. Z. Norman, and D. Cartwright, *Structural Models: An Introduction to the Theory of Directed Graphs* (New York: Wiley, 1965).

¹⁴ See L. Festinger, S. Schachter, and K. Back, *Social Pressures in Informal Groups: A Study of Human Factors in Housing* (Stanford: Stanford University Press, 1950).

¹⁵ See, especially, Everett Rogers, *Diffusion of Informations* (New York: Free Press, 1962). Rogers' influential study has gone through five editions so far.

¹⁶ See, for instance, K. Back et al., "The Methodology of Studying Rumor Transmission," *Human Relations* 3 (1950): 307-12, and T. J. Fararo and Morris H. Sunshine, *A Study of a Biased Friendship Net* (New York: Syracuse University Youth Diversity Center, 1964). Their work influenced, among others, psychologist T. M. Newcomb, who studied the tendency of two people who are close to one

During the 1940s and 1950s, Harvard researchers A. R. Radcliffe-Brown, Émile Durkheim, Elton Mayo, and W. Lloyd Warner focused on analyzing patterns of interpersonal relations and the formation of cliques. They investigated workgroup behavior and group solidarity, and defined for the first time the notion of the "clique": "an informal association of people among whom there is a degree of group feeling and intimacy," outside the realm of family and professional or religious associations.¹⁷ Their work laid the foundations for new developments in the study of social interactions, such as exchange theory, ¹⁸ which posits that social change and stability is a process of negotiated exchanges between parties, and elite theory, ¹⁹ which considers the power relationship between the ruling class and the ruled.

another to adopt similar attitudes toward third parties. For details, see T. M. Newcomb, "An Approach to the Study of Communicative Acts," *Psychological Review* 60 (1953): 283-304.

Studies on the "spread" or "diffusion" of rumors have been produced at an impressive rate, especially after the social media boom started in the 1990s. Some studies that have uncovered particularly interesting results are Prashant Bordia and Ralph L. Rosnow, "Rumor Rest Stops on the Information Highway: A Naturalistic Study of Transmission Patterns in a Computer-Mediated Rumor Chain," *Human Communication Research* 25 (1995): 163-79, P.G. Lind et. al., "Spreading Gossip in Social Networks," *Physical Review* E76 (2007),

http://arxiv.org/pdf/0705.3224.pdf, Eric K. Foster and Ralph L. Rosnow, "Gossip and Network Relationships," in *Relating Difficulty: The Process of Constructing and Managing Difficult Interaction*, eds. D. Charles Kirkpatrick, Steve Duck, and Megan Foley (Mahwah and London: Lawrence Erlbaum Associates, 2006): 161-80, Albert-Lázló Barabási and R. Albert, "Emergence of Scaling in Random Networks," *Science* 286 (1999): 509–12, and Benjamin Doerr, Mahmoud Fouz, and Tobias Friedrich, "Why Rumors Spread Fast in Social Networks," *Communications of the ACM* 55.6 (2012): 70-75. Some of these results have been popularized in best-selling books such as Malcolm Gladwell, *The Tipping Point: How Little Things Can Make a Big Difference* (Boston: Little Brown and Company, 2002), A.-L. Barabási, *Linked: How Everything Is Connected to Everything Else and What It Means for Business, Science, and Everyday Life* (New York: Plume, 2003), and Johan Berger, *Contagious: Why Things Catch On* (New York: Simon & Schuster, 2013).

¹⁷ W.L. Warner and Paul S. Lunt, *The Social Life of a Modern Community* (New Haven: Yale University Press, 1941), 32.

¹⁸ See, for instance, George Homans, "Social Behavior as Exchange," *American Journal of Sociology* 63 (1958): 597-606.

¹⁹ An example of network analysis applied to class power relationships is G. William Domhoff's *Who Rules America?* (New Jersey: Englewood Cliffs, 1967). For an overview of his main argument see "The Four Networks Theory of Power:

Almost simultaneously, the Manchester anthropologists Max Gluckman, John Barnes, Elizabeth Bott, Siegfried Nadel, and J. Clyde Mitchell developed a new analytical model that emphasized the importance of conflict and change in tribal and village environments. Barnes is the first one to describe the power configurations within kinshipbased societies by using terms such as "web" and "social network" to define "the whole of social life" and distinguish it from the informal sphere of interpersonal relations, or "partial networks."²⁰ Nadel's definition of the social structure as "an overall system, network or pattern" of relations calls attention to "the interlocking of relationships" that influence each other, and to the importance of role analysis within a social group.²¹ Mitchell takes this idea a step further, introducing the concept of "personal order," or "ego-centric" networks—that is, networks of personal relations, distinct from structures of institutional relations—, as well as that of network "density" (i.e. the extent to which all possible relations are actually present) and "reachability" (i.e. how easy it is for group members to contact each other through a limited number of steps).²²

A breakthrough moment in the development of social network analysis occurred in the 1970s, when Stanley Milgram first formulated what came to be known as the "small world problem": "Starting with any two people in the world, what is the probability that they will know each other?"²³ Also known as "six degrees of separation,"²⁴ Milgram's experiment proved that any two people, no matter how remote from each other, could be linked by a mean number of intermediaries somehow greater than 5. His experiment demonstrated the existence of a communication net within

A Theoretical Home for Power Structure Research," *WhoRulesAmerica.net*, April 2005, http://whorulesamerica.net/theory/four networks.html.

^{2005,} http://whorulesamerica.net/theory/four_networks.html.

²⁰ See John A. Barnes, "Class and Committees in a Norwegian Island Parish," *Human Relations* 7 (1954): 43.

²¹ Siegfried F. Nadel, *The Theory of Social Structure* (London: Cohen and West, 1957), 87.

²² For details, see J. Clyde Mitchell, *Social Networks in Urban Situations: Analyses of Personal Relationships in Central African Towns* (Manchester: Manchester University Press, 1969).

²³ See Stanley Milgram, "The Small World Problem," *Psychology Today* 1.1 (1967): 61-67. This article was expanded and republished with J. Travers in *Sociometry* 32.4 (1969): 425-43; here, Milgram's calculations indicate that the mean number of intermediaries is 5.7.

²⁴ The notion of "six degrees of separation" was originally set out by Hungarian playwright and novelist Frigyes Karinthy in his short-story "Chains" (1929). It reached popularity, however, only after the publication of John Guare's homonymous play in 1990.

which "there is likely to emerge a sociometric star with specialized contact possibilities."²⁵ During this decade, the study of social networks increasingly focused on the use of algebraic methods to describe an individual's role in a social structure, as well as on multidimensional scaling, i.e. mapping relationships in a social space. In 1972, sociologist Joel H. Levine introduced the notion of the "sphere of influence" in a study that mapped out the networks of relations among the boards of several major banks and industrials. His analysis addressed the issue of centrality and distance in interpreting social relationships and stressed the importance of identifying the patterns of connections in which individual actors belong when examining emerging trends and network robustness.²⁶ In 1973, Harvard sociologist Mark S. Granovetter formulated his influential theory on "the strength of weak ties," which explains the spread of information in social networks. In his view, individuals with many weak ties (i.e. casual acquaintances) are best placed to diffuse innovation or distribute rumor more widely. This happens because "[t]hose to whom we are weakly tied are more likely to move in circles different from our own and will thus have access to information different from that which we receive," creating "local bridges" that allow information to be crossed.²⁸ Weak ties are, therefore, indispensable to one's integration in a community, while strong ties (i.e. family members, close networks of friends) lead to overall fragmentation due to their exclusionary emphasis on local cohesion.

At the turn of the twenty-first century, Albert-László Barabási made groundbreaking contributions to social network analysis by introducing two fundamental concepts: the notion of "preferential attachment" (i.e. the tendency of nodes to link themselves to hubs that have the most connections), and the notion of "fitness" (i.e. fitter nodes

²⁵ Milgram, "The Small World Problem," 68. In 2003, Columbia University scholars Peter Sheridan Dodds, Roby Muhamad, and Duncan J. Watts replicated Milgram's experiment in a web-based environment; the mean chain length confirmed Milgram's findings that social searches can reach their targets in a median of five to seven steps. See "An Experiment Study of Search in Global Social Networks," *Science* 301 (2003): 827-29.

²⁶ Simply put, "more links imply less distance" among groups. For details, see Joel H. Levine, "The Sphere of Influence," *American Sociological Review* 37.1 (1972): 14-27.

Mark S. Granovetter, "The Strength of Weak Ties," American Journal of Sociology 78.6 (1973): 1360-80.
 Ibid., 1371.

attract more links at the expense of less fit nodes).²⁹ Barabási's research has also focused on identifying a system's control nodes, or "observers," which could make possible the reconstruction of the full internal state of the system.³⁰ His findings have been fundamental to studies in network biology and network medicine, as well as in human dynamics and network control.³¹ In the past decade, further work involving social networks included studies in game theory,³² markets and strategic interactions in networks,³³ the structure of information networks,³⁴ network dynamics and population effects,³⁵ network loyalty,³⁶ crowd intelligence,³⁷ large data analysis,³⁸ as well as in institution operation and aggregate behavior.³⁹ All

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²⁹ See A-L. Barabási and R. Albert, "Emergence of Scaling" and, by the same authors, "Statistical Mechanics of Complex Networks," *Reviews of Modern Physics* 74.1 (2002): 47-97.

³⁰ For details, see Yang-Yu Liu, Jean-Jacques Slotine, and A.-L. Barabási, "Observability of Complex Systems," *PNAS* 110.7 (2013): 2460-65.

³¹ Barabási's model indicates that daily patterns of human activity are not random but "bursty," and therefore predictable, alternating rapidly occurring events with long periods of inactivity. His model has been popularized in the bestseller *Bursts: The Hidden Patterns Behind Everything We Do, from Your E-mail to Bloody Crusades* (New York: Plume, 2011).

³² The fundamentals of game theory have been laid down by J. Newman in his groundbreaking work, "On the Theory of Games of Strategy," trans. A. W. Tucker, in *Contributions to the Theory of Games*, eds. A. W. Tucker and R. D. Luce, 4 vols. (Princeton: Princeton University Press, 1959), 4: 13-42.

³³ See, for example, Yann Bramoullé, Rachel Kranton, and Martin D'Amours, "Strategic Interactions and Networks," *American Economic Review* 104.3 (2014): 898-930.

³⁴ See, for instance, Christopher D. Manning, Prabhakar Raghavan, and Hinrich Schütze, *Introduction to Information Retrieval* (Cambridge: Cambridge University Press, 2008), and the now classical article, "The Anatomy of a Large Scale Hypertextual Web Search Engine," by Sergey Brin and Lawrence Page, http://infolab.stanford.edu/~backrub/google.html.

³⁵ Easley and Kleinberg, *Networks, Crowds, and Markets*, 509-42.

³⁶ See David Kreps, "My Facebook Profile: Copy, Resemblance, or Simulacrum?" *ECIS 2008 Proceedings*. Paper 141 (2008), http://aisel.aisnet.org/ecis2008/141.

³⁷ James Surowiecki, *The Wisdom of Crowds* (New York: Anchor Books, 2004).

³⁸ See, among other works, Eric D. Kolaczyk, *Statistical Analysis of Network Data* (New York: Springer, 2009).

³⁹ For more on the fundamental concepts and practical applications of such theories, see Easley and Keinberg's comprehensive study, *Networks, Crowds, and Markets* cited above, Mark Newman, *Networks: An Introduction* (Oxford: Oxford University Press, 2010), and Charles Kadushin, *Understanding Social Networks. Theories, Concepts and Findings* (Oxford: Oxford University Press, 2012), to name just a few recent titles. On the history of social network analysis, particularly

these studies have attempted to use the computational methods provided by new technologies to unveil, anticipate, and predict patterns of behavior that could answer empirical and theoretical questions about the nature of social interaction

Increasingly, the interest in how social networks explain decision making processes and/or the dissemination of new information and trends has spread to the humanistic fields as well, providing new investigative methods for large data. At Stanford, Franco Moretti has used quantitative methods to analyze literary history, proposing what he has called "distant reading," an approach which moves attention "from texts to models": in his view, "distance is... not an obstacle, but a specific form of knowledge: fewer elements, hence a sharper sense of their overall interconnection."40 Borrowing metaphors from quantitative history, geography, and evolutionary theory. Moretti has unraveled cycles of rise and fall in the development of the novel closely related to the occurrence of particular political events, and wave-like patterns of emergent genres—from epistolary to gothic to historical novels—where gender and genre are in synchrony with each other.⁴¹ At a more granular level, his work has also involved analyzing social networks embedded in literary texts with a view to unveiling plot, or what the characters' interactions tell about their actions: by graphing such relations, issues related to character centrality. hierarchies of power, conflicting cliques, the role of peripheral actors, networks of speech acts, or character and genre symmetry have become fundamental topics of investigation. This approach calls attention to the benefits of analyzing character relations in order to "make visible the micro-patterns out of which ... larger network shapes emerge."42 and uses data visualizations to raise new questions about text.

useful are John Scott, Social Network Analysis. A Handbook (London: Sage Publications, 1991), 7-37, and Linton C. Freeman, The Development of Social Network Analysis. A Study in the Sociology of Science (North Charleston: BookSurge, LLC, 2004).

⁴⁰ Franco Moretti, Graphs, Maps, Trees. Abstract Models for Literary History (London and New York: Verso, 2005), 1.

41 Moretti suggestively calls these patterns "the hidden thread of literary history";

⁴² Franco Moretti, "Network Theory, Plot Analysis," New Left Review 68 (2011): 102. Reactions to Moretti's approach have been mixed: while commending the new interpretive possibilities created by the use of computational methods, some of his critics have either decried the fact that his models render obvious answers, or have questioned the validity of his conclusions given that the literary universe is an artificial one

A hugely ambitious enterprise and the most significant contribution to date to the study of eighteenth-century social networks, *Mapping the Republic of Letters* started in 2008 as a collaboration of a group of Stanford scholars with an increasing network of international partners. This project aims at unveiling the social networks created by scientific academies, *salonnières*, or travelers through their letters, from the age of Erasmus to the age of Franklin. With case studies including epistolary networks, charting the movement of intellectuals and socialites between salons, mapping out the social spaces of the Grand Tourists who visited Italy during the eighteenth century, and prosopographical studies of production and circulation of scientific knowledge during the pre-modern era, to name just a few, this initiative uses sophisticated visualization tools to show how such networks facilitated a transnational circulation of ideas, people, and things.⁴³

Another important hub of digital research, the University of Virginia has engaged in projects involving data visualization of large social networks as part of its Science, Humanities and Arts Network of Technological Initiative (SHANTI). The SHIVA Network Tool developed by its team of digital scholars allows visualizations of social networks that bring to light patterns of group organization that are structurally embedded in literary texts but not obvious or immediately legible given the mere amount and complexity of the information. Such projects range from visualizations of Alexander Pope's networks of dunces and friends to character networks in Jane Austen's Persuasion, to give just a few examples relevant to our field.⁴⁴ At University of York, a Leverhulme funded project, Networks of Improvement, explores the role of clubs and societies from 1760 to 1840 as sites of social and individual improvement. 45 Similar social network analysis initiatives have flourished in the past years nationally and internationally, fostering collaborative research initiatives that blurred clearly-cut disciplinary boundaries and created their own communities of intellectual exchange. 46

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⁴³ For more details about participants, goals, and case studies, see http://republicofletters.stanford.edu/.

⁴⁴ For additional information about this particular tool, see https://wiki.shanti.virginia.edu/display/KB/SHIVA+Networks+Tool. For more examples of network graphs developed as part of SHANTI initiative, see http://shiva.virginia.edu/gallery?page=4&f[0]=shivanode_element_type%3A10.

⁴⁵ For details about this project, see Georgina Green, "Eighteenth-Century Social Networks," http://www.york.ac.uk/eighteenth-century-studies/research/networksofimprovement/#tab-3.

⁴⁶ Additional examples of interdisciplinary centers of social network analysis include the Center for Computational Analysis of Social and Organizational

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While graph theory and data visualization, more generally, have played a major role in the formation of social network analysis as a distinctive hermeneutical field, at least two other directions of investigation have led to notable developments. Drawing on work by Gilles Deleuze and Félix Guattari, 47 philosopher Manuel DeLanda has developed a fully-fledged theory of the "assemblage," an investigative method that accounts for "the synthesis of the properties of a whole not reducible to its parts."48 The originality of his approach lies in his considering of both material and expressive components of assemblages: the bodily mechanisms behind the production of sense impressions, for instance, as well as the linguistic and nonlinguistic components involved in maintaining their associations. As DeLanda argues, in order to maintain a stable personal identity, one needs to maintain habitual or routine associations; in the event of a break in such associations, deterritorializing processes such as madness or augmentation of capacities occur. 49 Applied to networks of individuals, or "social encounters," this theory accounts both for relations of interiority, i.e. the relations of the component parts of an assemblage to other parts in the whole, and for relations of exteriority, i.e. "relations that exist between two groups with similar command over economic and cultural resources wherever they happen to be located geographically."⁵⁰ In explaining the *modus operandi* of an assemblage. DeLanda makes use of language eerily evocative of social network theory:

When conversations (and other social encounters) are repeated with the same participants, or with overlapping sets of

Systems (CASOS) at Carnegie Mellon University, Duke Network Analysis Center, the Center for History and Economics at Harvard University, the LINKS Center for Social Network Analysis at University of Kentucky, the Human-Computer Interaction Lab (HCIL) at University of Maryland, the Virtual Center for Supernetworks at the University of Massachusetts, and NULab for Texts, Maps, and Networks at Northeastern University, to name just a few.

⁴⁷ Gilles Deleuze and Félix Guattari, *A Thousand Plateaus*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1987). Here was introduced for the first time the notion of territorialization as an ordering of bodies in "assemblages," i.e. heterogenous bodies—persons, physical objects, happenings, events, or linguistic utterances—joined together in a "consistency" (4).

⁴⁸ Manuel DeLanda, *A New Philosophy of Society. Assemblage Theory and Social Complexity* (London: Continuum, 2006), 4.

⁴⁹ Ibid, 50.

⁵⁰ Ibid., 63.

participants, longer lasting social entities tend to emerge: interpersonal networks. From the assemblage point of view, interpersonal networks are perhaps the social entities that are the easiest to handle, given that in network theory the emphasis is always on relations of exteriority. That is, it is *the pattern of recurring links*, as well as the properties of those links, which forms the subject of study, not the attributes of the persons occupying positions in a network. These attributes (such as gender or race) are clearly very important in the study of human interactions, but some of the emergent properties of networks tend to remain the same despite changes in those attributes. This implies that the properties of the links cannot be inferred from the properties of the persons linked.⁵¹

By using terms such as link strength, reciprocity, network density, network stability, or group solidarity, DeLanda ambitiously tackles the relation between the micro- and the macro-levels of social reality. Social cycles, means of social coercion, justice movements, distribution of financial and industrial resources, and enforcement mechanisms, for instance, are seen as consequences of the interactions within assemblages to which people and institutional organizations belong. In this view, both small and large scale social entities (persons, transnational organizations) can be best understood when looking at their components themselves as unique systems of assemblages.

A similar broadening of the understanding of a network to include, this time, non-human entities has been proposed by Bruno Latour in his influential actor-network theory:⁵²

Put too simply ANT is a change of metaphors to describe essences: instead of surfaces one gets filaments (or rhizomes in Deleuze's parlance...). More precisely it is a change of topology. Instead of thinking in terms of surfaces—two dimension—or spheres—three dimension—one is asked to think in terms of nodes that have as many dimensions as they have connections. As a first approximation, the ANT claims that modern societies cannot be described without recognizing them as having a fibrous, thread-like, wiry, stringy, ropy, capillary character that is never captured by the notions of levels, layers, territories, spheres, categories, structure, systems. It aims at explaining the effects accounted for by those traditional words

⁵¹ Ibid., 56.

⁵² Bruno Latour, *Reassembling the Social. An Introduction to Actor-Network-Theory* (New York: Oxford University Press, 2005).

without having to buy the ontology, topology and politics that goes with them. ANT has been developed by students of science and technology and their claim is that it is utterly impossible to understand what holds the society together without reinjecting in its fabric the facts manufactured by natural and social sciences and the artifacts designed by engineers. As a second approximation, ANT is thus the claim that the only way to achieve this reinjection of the things into our understanding of the social fabrics is through a network-like ontology and social theory.⁵³

By emphasizing that the actor is nothing else but the sum of its relations with other actors, the ANT claims that, "literally there is nothing but networks."54 Such a "capillary" view of the social fabric is obviously nonhierarchical and a-spatial: conventional binaries such as proximity and distance, inside and outside, small and large, center and periphery lose their organizational relevance making room, instead, for a view of social fabric as a web of relations between humans and/or things that are never relevant in themselves but only as part of a social process. Insisting that ANT has very little to do with the study of social networks. Latour and other Latourians claim that what it does is to rebuild a social theory of networks rather than simply add social networks to social theory. According to ANT, social order involving a single center or a single set of stable relations simply does not exist; power is the effect of more or less chance ordering, resistance, and interaction and it is constantly threatened by human and nonhuman reassemblages that reorganize the social in new power relationships.⁵⁵

An obvious methodological difficulty of using ANT as a practical analytical tool is its insistence on process at the cost of the agent: the fact that, as John Law suggestively put it, to ANT practitioners "Napoleons are no different in kind to small-time hustlers." In real terms, however, networks of relations always coalesce around select centers of intensity—be they human or non-human—and these centers are significantly more than the sum of their parts. In order to unveil the impact of innovators within a given field, the role played by personal prestige in disseminating

⁵³ Bruno Latour, "On Actor-Network Theory. A Few Clarifications Plus More than a Few Complications," *Soziale Welt* 47 (1996): 369-81, accessed on May 25, 2014, http://www.bruno-latour.fr/sites/default/files/P-67%20ACTOR-NETWORK.pdf.

⁵⁴ Latour, "On Actor-Network Theory," 4.

⁵⁵ For more on ANT, see John Law, "Notes on the Theory of the Actor Network: Ordering Strategy and Heterogeneity," *Systems Practice* 5 (1992): 379-93. ⁵⁶ Ibid. 380.

ideas, or the power of particular individuals to shape public opinion, for instance, we need a view of the social that accounts for personality or desirability traits that single out the one among the many.⁵⁷ To use Barabási's words, not all nodes are identical to each other: their status increases according to the fitness (talent, conviviality, leadership, intuition, or any particular set of unique skills) they possess at given moments in time. As the contributors to this collection attempt to demonstrate, social network analysis is one way to address this difficulty by providing us with the very tools that allow users to reassemble social phenomena in meaningful narratives of influence, alliance, and control.

Eighteenth-Century Sociability: The Public Sphere Revisited

Analyzing the eighteenth-century world with a view to its networks of social, cultural, and scientific exchange is particularly relevant given the paramount importance of an emerging public in redefining the political and cultural spheres of the time. Cultural life in early eighteenth-century Britain was characterized by a climate of vibrant intellectual exchange that encouraged a lively public dialogue on a variety of issues of common concern. It was an epoch that witnessed a flourishing of sciences under the aegis of the Royal Society, a diversification of popular and elite entertainments, an explosion of the print industry, an introduction of new literary genres, a reshaping of the stage in its theatric and operatic form, an emergence of celebrity culture, and a decisive entry by women writers on the literary marketplace. It was also an epoch of great ideological debates, be they about the prevalence of the ancient or modern models, conflicting theories of the sublime, the morality of the stage, the legitimacy of new cultural practices, or the emerging notions of individual freedom, democracy, tolerance, and egalitarianism that paved the way to civic participation for more diverse social groups. These debates were increasingly held in public spaces such as coffeehouses, clubs, societies, literary salons or in the ideological avenue offered by the press, were more inclusive in terms of participation, and divided the public into more ideologically cohesive social groups. Literature reflected social concerns with a new immediacy and with more attention to their moral implications,

⁵⁷ This objection has been acknowledged, although not resolved, by Latourians who have admitted that ANT "is a very bad tool for differentiating associations." See Latour's conclusion to "On Actor-Network Theory," as presented to the Centre for Social Theory and Technology (CSTT), Keele University, UK.

bringing to public debate fads, attitudes, behaviors, and ethical issues which were sorted out through a lively dialogue involving social groups with clear camp affiliations and support systems.

A culture of sociability that values the rational exchange of ideas over class, gender, and ideological affiliations bears obvious political implications. In London alone there were around 2,000 coffeehouses by 1714, many of them clearly split along political lines: Tories frequented places like Ozinda's, the Cocoa Tree, or the fashionable White's, while Whigs were regular visitors of St. James's. St. Jonathan's in Change Alley was the nucleus from which emerged the English Stock Exchange. Dick's, Will's, and the Grecian were rendezvous places for the wits, Man's Coffee-House catered to stockjobbers, Child's was frequented by clergymen, Old Slaughter's by artists, Button's by authors, Smyrna by a learned society of musicians, poets, and politicians, and so on. Providing their clients with a generous supply of newspapers, tracts, pamphlets, and broadsides, coffeehouses turned into important centers for exchange of ideas and political debate.

Clubs like the Kit-Cat, frequented by Robert Walpole and Joseph Addison, among others, or the Scriblerians, which included Pope, Swift, Arbuthnot and Gay, had a politically inflected agenda, while places like the Literary Club, founded by Sir Joshua Reynolds, or the Brooks', one of London's most exclusive gentlemen's clubs, were organized around the artistic and scientific interests of their members. Defined by Johnson in 1751 as "assembl[ies] of good fellows, meeting under certain conditions," 60

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⁵⁸ The number of coffeehouses in London at the beginning of the century varies between 500 and 3,000, depending on the author. I have used here data provided by Daniel Statt in his article, "Coffee and Coffeehouses," published in *Britain in the Hanoverian Age, 1714-1837. An Encyclopedia*, ed. Gerald Newman (New York: Routledge, 1997): 146-47, as the most recent estimate available. For particularly insightful analyses of London's cultural and pleasure life under the two Georges, see Jay Barrett Bosford, *English Society in the Eighteenth Century* (New York: The Macmillan Company, 1924), 208-42, Robert J. Allen, *The Clubs of Augustan London* (Cambridge: Harvard University Press, 1933), Derek Jarrett, *England in the Age of Hogarth* (London: Hart-Davis, MacGibbon, 1974), 172-205, Pat Rogers, *Literature and Popular Culture in Eighteenth-Century England* (Sussex: Harvester Press, 1985), and Roy Porter, *London. A Social History* (London: Hamish Hamilton, 1994), 160-84.

⁵⁹ Peter Stallybrass and Allon White, *The Politics and Poetics of Transgression* (New York: Routledge, 1986), 99.

⁶⁰ Samuel Johnson, A Dictionary of the English Language: in which the words are deduced from their originals, and illustrated in their different significations by

the clubs of the time were, indeed, private associations, overwhelmingly male, meant to promote homosocial bonds while also serving as arenas of educational, political, scientific, or philanthropic initiatives. Although significantly fewer in number, clubs that included a mixed-gender membership, such as the Hillarians in the 1720s, or women's clubs, such as the Bluestockings in the 1750s, also emerged during this time, providing ideological avenues where politics, public affairs, and religious topics often sparked heated debates. 61

In this intellectually ebullient environment, a significant number of societies sprang up, organized around common moral, scientific, or artistic goals. The interest in Greek and Roman antiquity during the Hanoverians gave rise to the culture of the collection and the museum, and triggered a new fascination with archeology, travelling, landscaping, and homebuilding in the neoclassical style. Started as a dining club whose members had enjoyed the excitement of the Grand Tour, The Society of Dilettanti (1734), which included David Garrick, Uvedale Price, and Richard Payne Knight, developed into an active sponsor of archeological excavations. The Royal Society of London (1660) had its origins in two coffeehouses frequented by Robert Boyle, Christopher Wren, and Thomas Sprat.⁶² Presided over, in the first half of the century, by Sir Isaac Newton and Sir Hans Sloane, it included a diverse membership, most of it made of nonscientists, a clear indicator of the vivid interest in scientific investigation of the early eighteenth-century public. The Society for the Reformation of Manners (1691), one of whose most tireless supporters was Rev. Josiah Woodward, attempted to correct the profanity of the times and strengthen the role of Anglicanism by aligning it more closely with the Whig administration. This diversification of the public's interests and of the avenues of sharing them had important consequences for the creation of a

examples from the best writers. To which are prefixed a history of the language and an English grammar (London: Printed by W. Strahan, 1750), vol. 1.

⁶¹ In his *A Tour to London: or, New Observations on England, and Its Inhabitants*, 3 vols. (Dublin: Printed for J. Exshaw et al., 1772), Pierre Jean Grosley describes the case of Lord Tyrconnel who, tired of hearing nothing but politics in the gentlemen's clubs visited during his trip to England, "invited some ladies of pleasure to sup with him at a bagnio; but scarce had they sat down to table, when the conversation turned upon a subject, which was then under parliamentary debate, and highly interesting for the nation.... In vain did Amphitryon endeavor to change the discourse, and to make them talk of subjects more pleasing and agreeable: they persisted to talk politics: he quitted them in a passion, and made haste back to France" (1: 176).

⁶² Aytoun Ellis, *The Penny Universities. A History of the Coffee Houses* (London: Secker and Warburg, 1956), 76-77.