Networks of the Enlightenment: French Salons and Academies as Networks

MELANIE CONROY

I. Networks in Enlightenment Studies
The concept of the network is used in the humanities in at least three distinct ways: 1) as a metaphor for non-hierarchical groups, 2) as a descriptor for groups whose structures are unknown, and 3) to describe quantifiable relations between known entities. While all three concepts can be fruitful, I would like to consider the ways in which the network as a mathematical construct can be used to understand cultural systems, both quantifiable and unquantifiable. In this paper, I explore uses for network mapping within Enlightenment studies, specifically the interaction of formal and informal Enlightenment-era networks, taking academies and salons as examples of each.

The Enlightenment era is an ideal period for such an inquiry because Enlightenment-era society—at least in France—was characterized by the complex interaction of formal social networks like state-sponsored academies and informal networks like salons. The data for the study of the Enlightenment are abundant and of high quality—features that make network analysis more useful. In France, the most elite salons and academies even assembled many of the same people—for example, at least some of the guests of prominent salonnières like Tencin and Graffigny were elected to academies like the Académie française and the Académie des sciences. While generally less useful for understanding small groups, network analysis, particularly of the quantitative kind, can reveal broad patterns in larger networks. Likewise, network analysis is useful for tracking interactions between networks; such interactions potentially give us insight into the institutional structure of Enlightenment-era society. By creating and analyzing network graphs of academies and salons, I can locate the most central institutions to the networks of French En-

---

1 For more on social networks and the French Enlightenment, see Daniel Roche, Les républicains des lettres: gens de culture et lumières au XVIIIe siècle (Paris: Fayard, 1988).
2 At the time of this writing, the Electronic Enlightenment Project at the University of Oxford, the largest collection of Enlightenment-era correspondence, contained 70,057 documents and 8,560 biographies of Enlightenment-era figures; for more information and an updated count of the database’s contents, see http://www.e-enlightenment.com/. The Congrès des sociétés historiques (CTHS) has compiled a dataset of thousands of members of French academies from the small to the large. The CTHS’s L’Annuaire de la France savante XVIIe-XXe is available online at http://cths.fr/an/selec.php?sc=pr. The largest dataset for eighteenth-century salons (The Salons Project) is substantially smaller but contains data on more than 750 figures central to Enlightenment-era sociability. The Salons Project is available online at http://www.salonsproject.org/. Finally, the Bibliothèque nationale de France’s (BNF) data portal and the Virtual International Authority File (VIAF) portal together provide virtually complete records of authors and their publications, with datasets that permit the quantification of publication records (e.g. numbers of records, editions, library holdings, etc). The BNF’s data portal (http://www.bnf.data.fr) contains publication data, organized by author, including archival materials and letters. VIAF (http://www.viaf.org) tracks international library holdings by author.
lightenment society, as well as individuals who provided vital connections between distant parts of the network.4

Quantitative analysis of the social networks of the French Enlightenment reveals that the most central figures of Enlightenment society were a tight-knit group who knew each other through many venues, including salon networks, academies, publication networks, and correspondence networks. These subnetworks were—in the terms of network analysis—highly clustered, meaning that their members were very likely to know one another (i.e. friends of friends were likely themselves to be friends); further, distinct subnetworks were tightly linked to one another. For this reason, the social networks of the French Enlightenment themselves formed one larger social network of which both the salons and the academies were but highly visible parts.5

II. Salons as Networks

The key tool of network analysis is the network diagram. In a network diagram, nodes are connected to one another by edges. A node can be any entity. In cultural studies, nodes are most often people, or, less frequently, entities like books. Edges, or network connections, can represent social relationships; they can also indicate shared membership in an organization or joint participation in an activity, such as co-authorship. Large network graphs can be hard to read and make sense of, but they show broader patterns within the network. In my analysis of salon networks, I have chosen to make individual people the nodes in the network. An edge represents shared attendance of an elite Enlightenment-era French salon.6

The structure of salon networks is as much an artifact of the way the data are collected as it is representative of real historical relationships. Most notably, the salonnières are overrepresented in the network, since it is easiest to document the presence of the hosts. Salon networks are best conceived of as ego networks, centered on the salon host, with salons linked together by shared guests. (An ego network is a network that consists of one node and its neighbors, and potentially the neighbors of its neighbors) We cannot, therefore, draw too many conclusions about the structure of the salon network as a whole based on network analysis of salon data, especially given how fragmentary the data on salon attendance are. It would also appear that famous or infamous figures are overrepresented because they are more often mentioned as attending a salon, especially in the case of infrequent attendance. This means the common guests who link one salon to another in the network diagram may be disproportionately famous or worthy of mention. Nevertheless, we can still locate the most central salons and the figures that connect one salon to another. Looking at the salon network as an ego network centered on Mme Geoffrin’s salon, for example (Figure 1), we can see which salons Mme Geoffrin’s salon was most connected to and the salons with which Mme Geoffrin’s shared the most members.

5 See Comsa et al.
6 The data for this study of Enlightenment-era French salons were collected and verified with Chloe Summers Edmondson as a part of the Salons Project, a database of European salons from 1700 to 1800, and a part of Mapping the Republic of Letters. We studied the salon attendance of more than 550 habitués of six Parisian salons (Graffigny, Tencin, Geoffrin, Defland, Lespinasse, and Necker).
Fig 1. The Eighteenth-Century French Salon Network: Geoffrin’s Salon in Context

In this network diagram, the nodes are colored green and sized according to the number of connections that each node has with other nodes. Each node represents a person, whether a salon host or a guest. Mme Geoffrin’s Paris salon has the largest number of connections with Lespinasse’s salon, as well as a large number of shared connections with Tencin’s salon. Lespinasse’s salon is, therefore, located close to Mme Geoffrin’s node, down and to the right; so, too, is Tencin’s salon, located directly below the node for Geoffrin’s salon. Graffigny’s salon shares more members with Quinault’s and Mme

---

7 Data from Conroy and Edmondson, *The Salons Project*. The WORKSHOP NUMBER 6 (JUNE 2019)
d’Épinay’s salons and is, therefore, located farther from the node for Geoffrin’s salon and closer to those other nodes. Salons and individuals with fewer or no connections to Mme Geoffrin’s salon are located around the periphery of the diagram; they are not connected to the core network, which is centered on Geoffrin, Tencin, and Lespinasse’s salons, nor are they connected to those salons that are connected to Mme Geoffrin’s salon. Lambert’s salon, which is located to the left of Geoffrin’s salon, has a large number of members but most of the connections between Geoffrin and Lambert’s salons are indirect, meaning that they have members mutually shared with other salons.

By looking more closely at individual nodes, we can see which individuals connect these core salons. Lespinasse’s salon was tightly linked to Geoffrin’s through shared guests, such as the abbé de Bon, Étienne Charles Loménie de Brienne, and the Baron d’Holbach, himself an important host of dinners with an atheistic reputation. Mme Tencin shared with Geoffrin guests like Charles Pinot Duclos and Bernard Le Bovier de Fontenelle, who were both members of several academies, including the Académie française and the Académie des Inscriptions. Other salons, such as Épinay’s, Dupin’s, Quinault’s, and Graffigny’s, were more marginal and tended to be linked to Tencin’s salon, not directly to Geoffrin’s. Later salons like Mme de Staël’s and Mme de Genlis’s were linked to late-eighteenth-century salons like Lespinasse’s. In short, the structure of the salon network was heavily dependent on the chronology of the salons, such that the earliest salons were linked to one another and the latest salons were linked to one another.

While there are other ways of finding common members and shared connections between salons, network analysis allows us to find large numbers of connections quickly. It also allows us to find rare connections, such as individuals who attended two salons which shared few members. We can also quickly locate those individuals who had no known connection to Geoffrin’s salon—in other words, those nodes that are located around the periphery of the diagram. This is particularly useful in locating individuals who may have attended another salon with a member of Mme Geoffrin’s salon, but who did not attend hers. Even the participants of salons themselves may not have known about such connections, nor the lack thereof, given that social connections like friends of friends may be known to members of the network, or they may not. Yet the network can influence people without their being aware of its structure. Social networks affect the news people hear about, the books they read, and the opportunities they have, based on the social status and capital that they derive from their place in the network.

III. Enlightenment-Era Salons and Networks of the Enlightenment

One of the most active debates about the salons and their role in the Enlightenment turns on the presence of the philosophe s and their allies in elite social milieux like mondain salons. Network analysis can reveal the degree to which a group like the encyclopédistes was integrated into the salon network, as well as how they were integrated. Of the more than 550 salon hosts and guests in this pilot project, twenty-two were found to be contributors to the Encyclopédie, the signature project of the French Enlightenment. Here I am using contribution to the Encyclopédie as a proxy for contribution to the French Enlightenment, even if it is a rough and insufficient measure. Network analysis shows that the encyclopédistes were well integrated into the salon network, despite being a minority in all of the salons studied. Figure 2A shows the ego network of these encyclopédistes—that is, the contributors to the Encyclopédie—in the salon network at a depth of one...
(showing only one edge and the nodes connected to the *encyclopédistes* directly). At this depth, 8.4% of nodes are visible and 6.5% of edges are visible. Figure 2B shows the same diagram at a depth of two. At this depth, 11.3% of nodes are visible and 15% of edges are visible. The majority of significant salons in the French salon network are already visible, since they are connected to the *encyclopédistes* through one or more of their guests (Geoffrin, Lespinasse, Necker, etc.); so, too, are minor salons like Deffand’s, Quinault’s, and Dupin’s. At a depth of three, 53.8% of nodes are visible and 59.4% of edges are visible (Figure 2C). In the last diagram, the ego network is visible at a depth of four; at this depth, 82% of nodes are visible and 87.6% of edges are visible (Figure 2D).
Between a depth of three and a depth of four, the segments of the salon network least linked to the *encyclopédistes* come into view: Tencin’s salon, which was too early to be connected to the authors of the *Encyclopédie*; the younger members of Staël and Genlis’ salons, and guests who only frequented one salon. (The elements of the salon network that remain invisible and are still not connected to the *encyclopédistes* include the marquise de Scudéry’s seventeenth-century salon, which is far too early to contain *encyclopédistes*, Scudéry having died in 1701). These diagrams show that the *encyclopédistes* were central to the eighteenth-century French salon network; they were also closely linked to the salons that were central to the French salon network, such as Geoffrin and Lespinasse’s salons. This suggests that the French salon network was open to the philosophes and their allies. Once again, time emerges as the strongest factor in the organization of the French salon network, rather than ideology or social status, also indicating a high degree of mobility and permeability across salons and across classes.

The picture that emerges of these elite French salons is of a high degree of *mixité*, or, at least, a lack of social segregation. For one thing, the most significant segregation of the salons was based on time; in the case of the extended networks of both Mme Geoffrin and of the *encyclopédistes*, the primary driver of segregation and disconnection was chronological. For another, the *encyclopédistes* were clearly moving in the same circles as these elite salonnieres, since some *encyclopédistes* attended all of the major salons that were contemporaneous with the *Encyclopédie* and were linked to other, mostly minor, salons through co-attendance.

IV. Academies as Networks
Informal networks such as salons can be studied using network analysis on a small scale. Networks like ego networks centered on one individual or one salon capture the structure of small or transient networks well. More formal networks like academies, with more reliable documentation of members, and often longer timelines and larger memberships, can be studied even more profitably using network analysis, since we know more about the structure of the larger network and we can draw more conclusions from these more reliable data. Using network analysis to study Enlightenment-era French academies, we can see that academies were loosely connected, with a few key members—often the most highly accomplished—connecting even the most disparate academies.

My study of academies is based on the work of the Congrès des sociétés historiques (CTHS), which has compiled a dataset of thousands of members of French academies. By analyzing the affiliations of 1,307 members of 77 eighteenth-century French academies, I discerned broader patterns within the academic network. French academy members were part of one network—with the exceptions of the Académie de Cora and the Académie de Bretagne, which did not share documented members with other academies. This academic network was centered in Paris and connected every major region of France. The royal academies in Paris—particularly the Académie des sciences, the Académie française, and the Académie des Inscriptions et belles-lettres—were highly integrated with one another and the rest of the academic network, in France and throughout Europe.

---

8 The CTHS’s “L’Annuaire de la France savante XVIIe-XXe” is available online at http://cths.fr/an/selec.php?sc=pr.
The Académie des sciences was the largest academy, with 326 members. It was also the heart of the French academic network. The Académie des sciences shared 8% of its members with the Académie française and the Académie des Inscriptions. As a proportion of the other academies, the weight of shared membership with the Académie des sciences was even more substantial: 32% of the Académie française and 10% of the Académie des Inscriptions, as well as 10% of the Académie de peinture et de sculpture, 29% of the Académie d’agriculture, and 18% the Académie de marine in Brest.

While some of the major academies did not share members, for example, the Académie française and the Académie de marine, the academic network as a whole shared enough members for each major academy to be linked to another by a relatively short path. The academic superstars who were members of three or more academies accounted for most of the integration of the French academic network. Yet, even they would likely be ignorant of the extent of integration of the network, especially of connections that existed three or four hops from their place in the network.

The French academic network is particularly well suited to quantitative analysis because it was so large and because academies kept thorough records. Indeed, French

---

academies have been studied as examples of relatively closed and fixed groups that are good case studies for historical demography.\textsuperscript{11} My study of the CTHS academies data reveals the truly national character of that network. Though most academy members were only members of one academy, most of the académiciens in the network were linked to the Académie des sciences by three or fewer hops. The following diagram shows the Académie des sciences as an ego network—that is, with the Académie des sciences at the center and the members of the academy linked to that node (Figure 4A). All of the nodes are colored according to their degree—in other words, the number of links to that node. Another way to think about degree is to say that the red dots have only one connection, or edge; the blue dots have two connections; the pink dots have three connections.


11 For example, from 1634 to 1757, the average age of election to the Académie française was 44; between 1758 and 1878, it was 50, see Véron, ‘L’Académie française et la circulation des élites’, p.457.
The second diagram shows the Académie des sciences as an ego network again; this time the graph also shows “neighbors” of members of the Académie des sciences (Figure 4B). The majority of members of the French academic network, as well as the network’s structure, are visible in the third graph, which shows the Académie des sciences as an ego network at a depth of three (Figure 4C). For the most part, this means that many members of the Académie des sciences were also members of other academies and most members of the eighteenth-century French academic network were members of these academies that are “friends of friends” of the Académie des sciences. In fact, so many académiciens were in academies which shared members with the Académie des sciences that the network can almost entirely be reconstituted in three hops. The national French academic network was, thus, geographically broad but remarkably integrated, with the Académie des sciences as its anchor.

V. How Salons Related to Academies
The elite salon world was not nearly as well documented as the world of the academies. From what we do know about the membership of elite French salons (those most likely to be documented), salons were integrated into the national network of academies chiefly through the Parisian royal academies. The six salons that we studied shared a significant number of members with the royal academies and a smaller number with the provincial academies. All six salons that we studied contained academy members; between roughly 15-50% of salon participants (including women) were academy members. Tencin, Lespinaisse, and Necker’s salons were remarkable for having a large proportion of their participants in royal academies. Deffand’s salon contained the fewest academy members—in part because her salon included a higher proportion of women than the other five salons.

Fig 5. Percentage of Academy Members in Six Elite Parisian 18C Salons

Members of the Académie française were well represented in the salon world, constituting around 30% of the members of Tencin, Lespinasse, and Necker’s salons, and accounting for under 10% of members only at Deffand’s salon. The Académie des Inscriptions et belles-lettres, the Académie des sciences, and the Royal Society of London were less represented, especially given the larger number of members of the Académie des sciences. Still, these academies constituted a significant minority of between 5% and 15% of documented guests at most of the salons, aside from Deffand’s, where, as already stated, academy membership was lower due to the high proportion of women, and at Tencin’s salon, where membership in the Royal Society of London was particularly high, at nearly 20% of its participants. As we have already seen, the triad of large Parisian royal academies was integrated into a national network of academies that brought together scholars from throughout France. It would appear that the elite salons were plugged into that national academic network through the significant number of académiciens among salon guests. Yet the existence of common members of both networks does not address the larger question of how these informal networks related to formal networks.

VI. The French Enlightenment Network
Analysis of eighteenth-century French correspondence networks reveals that salons and academies were not only enmeshed with each other but also part of a broader network of friends, family members, and acquaintances who knew each other through multiple venues. According to earlier research on the Electronic Enlightenment dataset, there were 1,994 French correspondents of major Enlightenment figures during the eighteenth century, of whom 282 were academy members and 202 were members of the French royal academies. Like the French academy network, these correspondents formed a large network centered on Paris, which we referred to as the French Enlightenment Network. But, far from constituting two separate networks, the French Enlightenment network, established through correspondence connections, and the French academic network, established through academic affiliations, shared significant numbers of members with each other, and with elite Parisian salons. Those who were more central in French Enlightenment correspondence networks were far more likely to be academy members than those who wrote fewer letters. Those who were more central in the Enlightenment network were more likely to be members of salons. And members of elite salons were more likely to be members of the most elite academies or of multiple academies. The fact that centrality in all of these networks was correlated suggests that they were mutually reinforcing.

Members of the Royal Academies—especially the Académie française and, to a lesser extent, the Académie des sciences and the Académie des inscriptions et belles-lettres—were frequent correspondents of the major figures of the French Enlightenment (Voltaire,

---


14 See Comsa et al.
D’Alembert, Rousseau). But there were differences in the proportion of academy members among the correspondents of Enlightenment figures. Rousseau’s French correspondents were the least likely to be academy members. Only 16% of Rousseau’s French correspondents were in an academy; 11% were in a royal academy and 4% were only in a provincial academy. Voltaire’s French correspondents were slightly more likely to be in an academy than Rousseau’s French correspondents: 21% were in an academy; 3% were only in a provincial academy. D’Alembert’s French correspondents were the most likely to be in an academy. Nearly 50% of d’Alembert’s French correspondents were academy members. 30% were in a royal academy. Among his 143 correspondents, 23 were members of the Académie française (16%); 18 were members of the Académie des sciences (13%); 14 were members of the Académie des inscriptions et belles-lettres (10%). D’Alembert’s correspondents were the most likely of these three writers’ to be in an academy.

The correspondents of each of these major Enlightenment figures appear in all six elite Parisian salons—with the exception of Deffand’s salon, which hosted none of Rousseau’s correspondents. Voltaire’s correspondents were the most common in all salons, again with the exception of Deffand’s, which hosted more of D’Alembert’s correspondents. Lespinasse and Necker’s salons had the highest proportion of correspondents of major Enlightenment figures (about 45% of their guests were correspondents of Voltaire); Tencin and Graffigny had fewer (30% to 40% correspondents of Voltaire; only 5% to 15% correspondents of Rousseau or D’Alembert). Surprisingly, given the reputation of her salon as a meeting place for the philosophes, Geoffrin’s salon had many fewer Enlightenment correspondents than any salon other than Deffand’s. The salon network was, thus, well integrated into the correspondence networks of Enlightenment France but more through Voltaire than through D’Alembert, who was preeminent in the French Academic network.

VII. Conclusions
In eighteenth-century France, the French academic network and the elite Parisian salon network were highly integrated, with salons sharing many of their members with the much larger, or at least better documented, academic network. Institutional histories of the salons and the academies have generally focused on the ways in which one type of institution created connections. Networked histories show how these institutions were themselves constituted by prior connections and how various types of social networks interacted with one another. Members of elite salons shared academic connections, publication networks, and knowledge networks, as well as social connections. The encyclopédistes and their acquaintances were present in all of these networks, likely because Enlightenment philosophy was present, and potentially propagated, through the machine of the French Enlightenment network.

Insofar as we can determine the importance of the salon network to the academic network, the French academic network was so large and disseminated that it is hard to see how a few elite salons could act as gatekeepers for the much larger academic network. Rather, it seems that the most elite salons and the most elite Parisian academies, especially the Académie française and the Académie des Inscriptions, all drew from the larger French Enlightenment network, which itself drew upon and contributed to the academic network. Whereas scientific networks were more decisive for the French Academic net-
work, salon networks were more integrated into literary networks. Thus, more salon participants were elected to the Académie française and the Académie des Inscriptions et belles-lettres than to the Académie des sciences or the Royal Society. Given the larger size of all these academies in comparison to the salons, it is more likely that the shared membership of salons and academies derived mainly from the complex web of social connections that existed in eighteenth-century Paris—from educational networks to socio-economic networks—than the actions of the salonnières to have specific men elected to the academies.

While we should be hesitant about drawing conclusions about the structure of informal and loosely documented networks like salons based on network analysis, even such networks can be profitably studied so long as we remain aware of the limitations of network analysis and the underlying data. Larger networks are more easily studied as networks; we should, nevertheless, maintain an awareness of the extent to which participants were aware, or not aware, of the network’s structure, which tends to be more extensive than historical actors realize. Network analysis offers us a unique view of the complex social interactions and connections within human societies, inaccessible by more direct accounts and methods, whether contemporaneous or in our own time.

Bibliography


Electronic Enlightenment Project http://www.e-enlightenment.com/


