

# Mapping Cultural Networks and its Discontents

## Kültürel Ağları ve Hoşnutsuzluklarını Haritalama

Finn FORDHAM\*

### Abstract

The ‘network’ is a powerful concept and metaphor, a tool for and focus of much recent research and scholarship. We envisage our very world as ‘networked.’ ‘The network’ also has aesthetic or formal possibilities: in the interconnected, reticular, knotted or participatory work. Interest in networks from within literary study arose arguably out of cultural history and sociology, where a ‘social text’ was imagined, partly as a means to displace an outmoded focus on the single author, the autonomous individual, the heroic genius. Readers and texts are imagined together forming ‘networks’ of meaning, feeling, and judgement. But do we take the concept for granted? Though powerful as a tool, is it also somewhat blunt? Can we ever succeed in ‘mapping’ a cultural network, or describing one accurately? Is the metaphor too knotty or nodal for the fluid forms it hopes to catch in its structures? What absences does this metaphor forget? Do we overvalue the notion of a network from the context of our own professional networks, at the cost of forgetting the disconnected? Does disconnection from the ideas of disconnection explain the shock and surprise at how recent democratic processes unfolded? Referring to my research that considers formations and disruptions of cultural networks and of value at the outbreak of World War 2, and to representations of data in the Digital Humanities, my paper addresses these questions amongst others.

**Keywords:** Networks, digital humanities, disconnection.

### Öz

‘Ağ,’ güncel birçok eğitim ve araştırmanın aracı ve odağı olan güçlü bir kavram ve metafordur. Biz kendi dünyamızı ‘(b)ağlanmış’ olarak tasavvur ederiz. Birbirine bağlı, retiküler, düğümlü veya katılımcı eserlerde, bu ağ, aynı zamanda, estetik ya da biçimsel olanaklara da sahiptir. Edebi çalışmalar içerisinde ağlara olan ilgi, bir ‘sosyal metnin’ tek yazara, özerk bireye ve destansı dehaya yöneltilmiş olan modası geçmiş bakışı kısmen yerinden ettiği düşünülen bir araç olarak kültürel tarih ve sosyolojiden tartışmalı bir şekilde ortaya çıkmıştır. Okuyucuların ve metinlerin bir araya gelerek bir anlam, duygu ve yargı ağı kurdukları düşünülür. Acaba bu kavramı hafife mi alıyoruz? Acaba bu kavram, bir araç olarak güçlü olduğu halde, aynı zamanda biraz körelmiş midir? Herhangi bir kültürel ağı, haritalamada ya da tam olarak açıklamada hiç başarılı olabilir miyiz? Acaba metafor kendi bünyesinde yakalamayı umduğu akışkan formlar için çok karmaşık veya düğümlü müdür? Bu metafor hangi boşlukları, bağlantı eksiklerini unutmaktadır? Kendi profesyonel ağlarımızın bağlamında olan bir ağ kavramına, kopuk olan ağı unutma pahasına, gereğinden fazla mı değer veriyoruz? Kopukluk fikirlerinden kopmak son demokratik süreçlerin nasıl geliştiğine dair şoku ve şaşkınlığı açıklıyor mu? Bu çalışma, başka konuların yanı sıra, 2. Dünya Savaşı’nın patlak vermesi ile ortaya çıkan kültür ağları ile değer oluşumları ve bozulmaları göz önünde bulunduran araştırmama ve Dijital Sosyal Bilimler’deki veri temsiline atıfta bulunarak bahsettiğim sorulara yönelecektir.

**Anahtar Kelimeler:** Ağlar, Dijital Sosyal Bilimler, kopukluk.

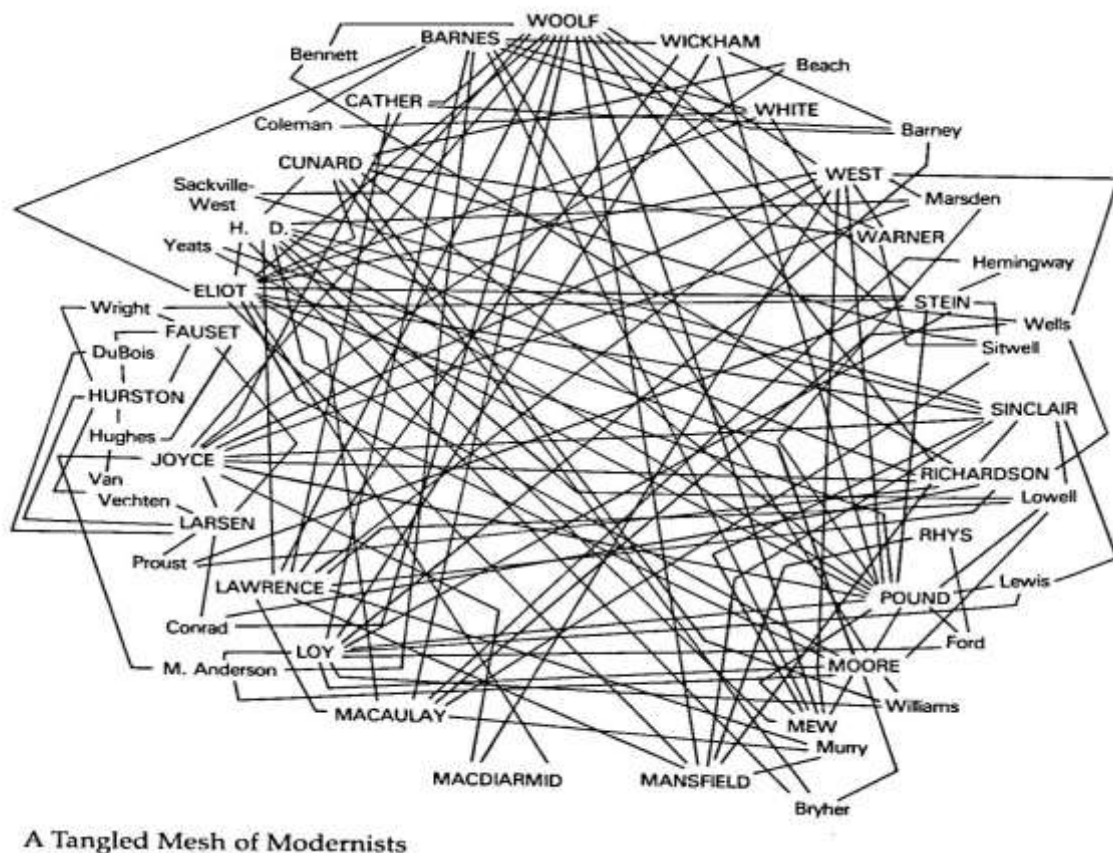
### Introduction

The idea of this article stems from facing up to a gap in an ongoing research project, an experiment in cultural history, studying culture on and around the day that war was declared by Britain and France against Germany: September 3<sup>rd</sup> 1939. It focuses on the presence of avant-garde and modernist culture around that day both in Britain and for British subjects abroad, and on the contexts in which that culture was perceived and received, how it was threatened, how it survived - if it did - and how it responded to this moment of global crisis. More concretely, it recounts what cultural figures were doing that day, whom they were communicating with, where they were travelling to and from (many were interrupting their holidays), what they were working on, what they were reading (Fordham, 2018). Initially, being a scholar of James Joyce’s *Finnegans Wake*, I wished to understand how the reception of that dense work, which came out in May 1939, was affected by that troubled period – as it undoubtedly was (Fordham, 2020). A detailed picture of intersecting cultural groups and of works newly con-

\* Prof. Dr., Royal Holloway University of London, Department of English, Finn.Fordham@rhul.ac.uk

textualised could, I imagined, form a valuable contribution to the history of that period, and to modernist studies.

At the start I had aimed to reconstruct the matrix of producers and consumers, individuals and institutions, and consider how values and tastes were effectively produced and reproduced. To this end, I intended to offer maps of cultural networks. Materials would arise from the research that would make it possible, as I wrote in an early outline describing the project, to “build new and more detailed pictures of cultural networks in the period” and of how they shifted, emerged, or dissolved. I realised I would need to reflect on what networks are, how they form, function, and break down. This desire to focus on ‘the network’ had several origins in my reading and teaching: in writings by Jerome McGann and Guy Bourdieu, in the New Modernist Studies, and in the idea of the Death of the Author, Barthes’s undead text. These works come together to question the individual subject as the entity through which value and meaning are produced. The destabilisation of the subject and of the autonomous ‘genius’ author is assisted by attention and gestures towards networks. Texts, readers, society, history, context are each one reconceptualised as networks in themselves and, taken all together, comprise one vast cultural network. Work on networks may also question and reveal canon formation, and help its reformation. One early and influential example of this appears in a vivid diagram from Bonnie Kime Scott’s ‘Gender of Modernism’ (See Figure 1). Notice in the diagram how Ernest Hemingway has been banished somewhat as a lonely relatively disconnected outlier, while Virginia Woolf sits confidently at the top, on a peak of her own. Scott does describe it as a ‘tangled mesh’, but the apparent objectivity signalled by the diagram’s geometrical rigidity is still a sleight of hand which hardly conceals a bold transvaluative attempt to establish a new canon of writers that embodies a new set of values.



**Figure 1:** “A Tangled Mesh of Modernists” (Scott, 1990, p. xxii)

As my research developed alongside such scepticism, less and less time was spent developing the thinking around ‘the idea of the network’. I became busy simply amassing the materials (from archives, letters, biographies, memoirs) and then trying to arrange those materials into narratives made up of people, characters, texts, organisations, cultural objects, and journeys. I still sought connections and groupings, and I revelled in surprising encounters and coincidences, like Thomas Mann and H.G. Wells meeting at the PEN congress in Stockholm early in September 1939, or Cecil Beaton being on holiday with Gertrude Stein in South West France at the end of August; and in chains, with six degrees of separation, which connected Anais Nin, for instance, at one end, to the actor John Gielgud at the other. The nature of the links in these chains varied, responding to the needs of narrative and to the pleasures of intricate form. Forgotten, overlooked cultural figures did indeed emerge, like Sir Francis Rose who had introduced Beaton to Stein; or the mystic psychoanalyst E. Graham Howe who linked Anais Nin to Malcolm Muggeridge.

While network analysis needs a defined set of nodes or vertices, my set kept growing and, reflecting a common feature of social networks, it is in fact still growing. So I deferred or avoided systematic constructions of networks according to predetermined categories such as class, geographical location, or literary magazines. These all felt too rigid for the emerging material and for the effects of surprise I wanted to achieve through the forms of sequence that the writing produced. Individuals who were all published in one magazine did not necessarily know each other and thus constitute a kind of network. And to what extent did the existence of tight networks actually matter to the subjects of my project? How much reliance was there at the time on contingency? I encouraged myself to subvert conventional linkages, and no longer discouraged elements of randomness from shaping the connections. I also, frankly, allowed myself to be seduced by biographical detail and by gossip. ‘Networks’, I began to persuade myself, would simply emerge, as and when they needed to. A reviewed B, B wrote to C, C had started an affair with D, to whom E wrote offering work for the Ministry of Information, which was overseen by F, who had also asked for Noel Coward’s help. Theorizing all this could come later, or not at all. But such a strategy was perhaps a *faute de mieux*, unfolding because the alternative (an analysis of the dynamics of networks, which I still quietly nurtured), was simply not happening, distant, perhaps unfeasible. Without realising it, I had failed to provide myself with a basic working definition of ‘networks’.

So the gap mentioned at the start of this article, is this blurry focus on ‘the network’ and its concepts. This article, then, attempts to bring that moment of theorization off the back burner, to mind the gap, and to sharpen the focus to see if it is worth filling in or stepping over, and to produce a critical introduction to theories of networks, and kinds of network analysis. My argument reflects the results of explorations into the field that are only preliminary because ‘network theory’ features in many disciplines over a wide area, far larger than I’d known when I first chose a focus on ‘networks’. In the last twenty years, attention to various forms of networks has spread virally through academic research – not just in the humanities, but also the social sciences, economics, and mathematics. Why is this? What are the purposes of this attention? What are its uses and abuses? Are there problems in the terminology that these disciplines deploy? Is it time for ‘network theory’ or the pursuit of networks to dissolve, secede, fragment? My conclusion is that it is, and that mapping networks, especially shifting ones, is doomed to failure. This may look like a compensation for diverging from attempts to map them. But I hope my argument explains why such a deviation turns out to chart a better course for understanding the relations within the consumption and production of culture.

One reason for the spread of ‘network theory’ is that while networks have a very simple definition and can seem ubiquitous, they can nevertheless become very complicated systems. A network is defined as a set of connected elements, and I would set a lower limit on the number of these elements of greater than two. These elements are referred to as vertices or nodes, and the connections between them are known as ‘edges’ or ‘links’. The simplicity of this definition helps explain the wide applicability of the term, and why the concept is exploited and exported over such a wide field.

The size of this field can be gauged from Caroline Levine’s chapter *Networks* in her recent and well received work *Forms* (Levine, 2017, pp. 113-132), which references some 37 different authors over just twenty pages, including major names of ‘network theory’ – Deleuze, Guattari, Moreno, Barabasi, Latour, etc. Intriguingly, neither Jerome McGann nor Foucault are mentioned, though the presence of the latter can be felt clearly if indirectly through the references to the New Historicists, Gallagher and Greenblatt. Levine’s references to them are critical, since within the kind of ‘formalism’ that she is keen to promote, New Historicism is something of a whipping boy, and so Foucault, being key to New Historicism, is being avoided. In fact Levine and the New Historicists share a positive evaluation of a “networked sublime” (Levine, 2017, p. 130). I’ve found Levine particularly useful for this talk even though – or, as we’ll see, *because* - I’ve picked some holes in the weave of her arguments. Levine’s work also illustrates the intense development of interest in the concept of networks. The development can be used to represent a symptom of that modernity classically understood to have originated with the expansions of transport infrastructure and communication networks during the 19<sup>th</sup> Century, the latter now accelerating exponentially with the internet and social media applications. The latter, in their easily manipulable digital format, have provided a vast new quantity of data for analysis which is spawning a brave new research world in which ‘social network analyses’, or ‘social physics’ are under the microscope. This research ranges from being descriptive, to critical, to instrumentalised: how, for example, can understanding social networks help us exploit human resources? (Pentland, 2014).

My criticisms of ‘network theory’ in this article derive chiefly from ‘social network analysis’, and can be grouped in three inter-related areas. First, I identify problems related to the applications of the metaphor and the terminology that are associated with network analysis. I inspect the nature of the links that analysts posit between humans-as-nodes, and also question the use of diagrammatic forms in representing social interactions. Second, I show how predominantly visual representations of social networks lead to difficulties analysing their dynamics, their emergence, development, rearrangement, and dispersal: networks, essentially, are hard to historicise. Indeed, when injecting time into social network analysis, it appears that everyday social interaction and relations cannot be described in terms of networks at all. Third, and my main point, I criticise network theorists for the frequency with which they appeal to ubiquity (“networks are everywhere”), and to a sublime concept of unbounded networks, and thence the idea that networks are disruptive or redemptive, or both. The commitment to ‘networks’ and their disruptive sublimity is symptomatic of a disconnection from the idea of disconnection itself in the humanities. What if we were to try going off grid for a while? There is a politics here, though it is belated: the focus on a Utopian sublime connectivity underestimates the fact and the power of disconnection, which may come back and pull the rug out from under the supposedly self-supporting networked society. Concrete communication networks – railways, roads, radios, computers – are a deceptive model or metonym for social networks: using such a model, social networks become structures emptied of content. Once they are fleshed out with content, the initially primary fact of the structures becomes incidental. The model of the concrete network can no longer be used to analyse communication in action. In action, the network dissolves.

## Definition, metaphor, visual form

The origin of the metaphor of the network (like all our metaphors for abstract notions of society as a constructed form), lies in the concrete world of the artisan: the Oxford English Dictionary provides two early instances for the word's definition as "work in which threads, wires, etc., are crossed or interlaced in the fashion of a net" ("Network", 2010, OED). As so often, translation triggers linguistic innovation and neologism: Tyndale encounters the Hebrew word 'neshek' in Exodus 38, a chapter in which Moses commissioned a sacred barbecue for his altar, where burnt offerings to God were to be made, specifying a grill (in the form of a net or grid) to hold the sacrificial material. The suffix 'work' being welded on to 'net', signals something skilfully made and fine or ornate. In a 1592 comedy by Robert Greene one character takes up the fancy new word and promises to another: "thou shalt have ... rich networks for thy head attire" ("Network", OED, Sense A.1.). Networks are simply fancily worked-up kinds of net: they may be rigid or flexible, may have a simple grid-like form or be more complex, as if made of lace. There is a sense of wonder and exoticism woven into the term: anatomical studies in the 17<sup>th</sup> Century begin to identify parts of the body, like the heart, that featured "networks" (Charleton, 1659, p. 87). The OED notes the emergence of the term being applied as a metaphor to *immaterial* forms in the 19<sup>th</sup> century, with fascinating breakthrough examples from Coleridge, to whom we now leap, writing in 1817 that 'property' constitutes an abstract network that holds society together; and then from Emerson who, in 1856, writes about English law being a 'network of fictions' (Sense A.3.). Emerson's is an early example of the perception of 'discourse' (law being a kind of discourse) as a network, which, like a net therefore, may contain, hold together, shape, or trap. Talk of the "network of railroad" (Sense A.4.a.) has by this time recently begun, in 1850, so the imaginary associations are stretching over space, over-taking their physical expansion across the earth, with a celerity no less than that of thought. From this point, associations of 'a network' will be symptomatic of technological modernity and have concrete applications. Thus from the 1880s, the term will be used by electrical engineers to describe varieties of circuits, and also in economic writing to describe business organisations (A.4.b and A.5.a) In 1914, the word appears in the context of early radio broadcasting (A.4.c), where it will become a dominant and enduring metaphor. After WW2, the term will be applied to coteries of power: spies, old boys, etc. ("Old Boy", 2010, OED). The first social networks then are in fact quite contained, and, revealingly, are also anti-social networks: cliques, closed circles. The phrase 'Computer networks' appears as early as 1962 (Sense A.4. d), while 'network computers' takes off in the 1980s, ushering in - or perhaps just coinciding with - a bold new conceptual phase of 'the network.' Michel Foucault, in 1982, writes an afterword in English for Rabinow and Dreyfus's landmark book about him: "Power relations are rooted in the system of social networks", he claims (Foucault, 1983, p. 224). Networks being at the root of power, it now becomes possible to gesture towards society as a whole as a network, and towards discourse as a network. Thus Foucault, again, in the *Archaeology of Knowledge*: "A statement is always part of a network of statements" (Foucault, 2002, p. 111). Alongside this arise 'social network analysis', and Latour's 'Agent-Network-Theory', where individuals themselves are imagined as constituting a network, a microcosm of social networks (Latour, 2006, p. 140). Comparison produces some useful defamiliarisation. Consider Hobbes's metaphor for society in *Leviathan*: an enormous artificially produced man. It is a sign of the ineffability or unencompassability of 'society', one of those elusive totalities (like 'world', 'community', or 'nation'), that we project new terms for their structures by borrowing terms that have been applied to newly configured structures which have been relatively easy to describe and encompass. In the case of "networks", computer networks are the concrete structures whose terms are transferred to describe larger abstract structures. These perceptions and theories about networks are thus relatively

recent, but they are now well embedded - or, we might say, 'networked'. They are instances, moreover, of the sublime object of the network – an observation which foreshadows the third and central point of critique in this article.

In the transportation, or metaphorical translation of the word applied to physical structures, whether delicate or tough, over to immaterial entities, eventually to embrace the abstraction of social structures, there is a story about the imagination grasping concepts as tools to help craft concrete ideas of the social. The story of the word's journey reveals the concept as a reassuring construct produced in the wavering light of human unpredictability. Through this story, weak points, opportunities, contradictions, and inconsistencies in the construction emerge. One effect of the uncertainties is that discourse will tend to flow between the contradictions and seek resolution in debate. Social theory is in part a dialectical wrangle with the metaphors that are inevitably applied to abstract social concepts. This can be seen clearly in parts of Latour's work (2006, pp. 128-133).

This problem becomes clear when we look again at the terminology provided by network mathematicians, of 'vertex' and 'edge' (Newman, Duncan and Barabasi, 2006, p. 12). A vertex is an element in a system, a point, a node, or a hub. It could be a railway station, or a port, or a computer, or an individual human. It might stretch to being a book, or a fictional character. Between these 'vertices', joining them together, are the 'edges': links or lines of connection or communication, like 'cables', 'wires,' or, in the analysis of illness spreading, paths of contagion. With these definitions, a group of railway stations or computers existing in a network makes eminent sense. Mathematicians can play games with the abstract forms of these systems: they can vary at will the numbers of nodes and the links between them, producing figures and formula for understanding connectivity, clustering, spreading, fitness (a recent term which refers to "an intrinsic ability of a vertex to compete for edges at the expense of other vertices") (Newman et al., 2006, p. 341). The terminology can be applied to 'real world' situations: the spread of diseases for instance, citation or collaboration networks (where 'A' collaborates with 20 researchers, each one of whom collaborates with between 5 and 15 researchers, and so on). Network mathematicians talk joco-seriously about their 'Erdős' number, which designates the relative distance of being a collaborator with Paul Erdős, himself a theorist of networks, on a published article (see Figure 2). This gives birth to the 'small world' or 'six degrees of separation studies', though the phrase has been criticised as conjuring social myths of connectivity (Newman et al., 2006, p. 9). These myths, in which the world's interconnectedness is reproduced as the diagram of a network, nevertheless serve an important purpose, presenting a sublime possibility of complex relational totality, filling a gap in the social imaginary. These imaginary global maps supplement the enlightenment project of Mercator's projections with its nets of latitudinal and longitudinal lines, providing geographical coordinates for every point on the planet.

---

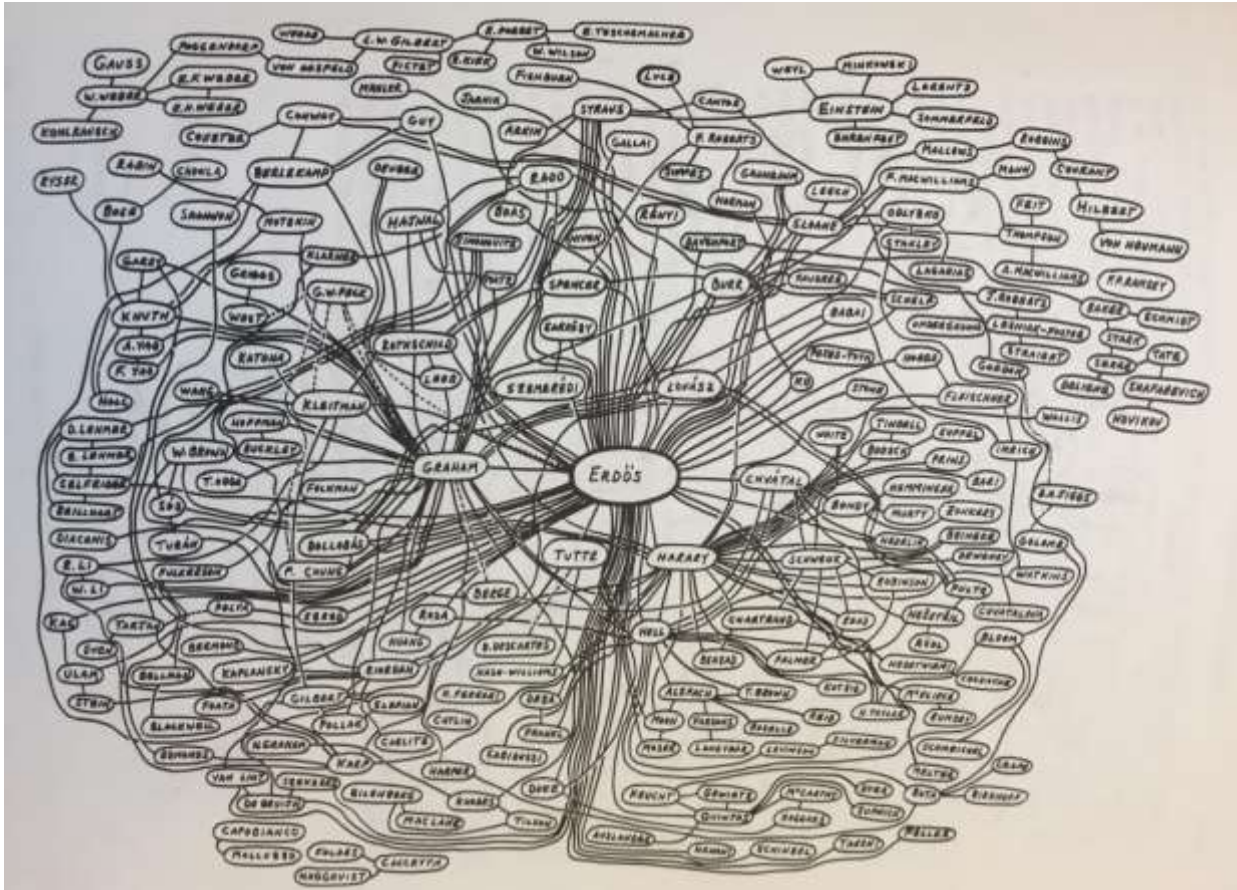
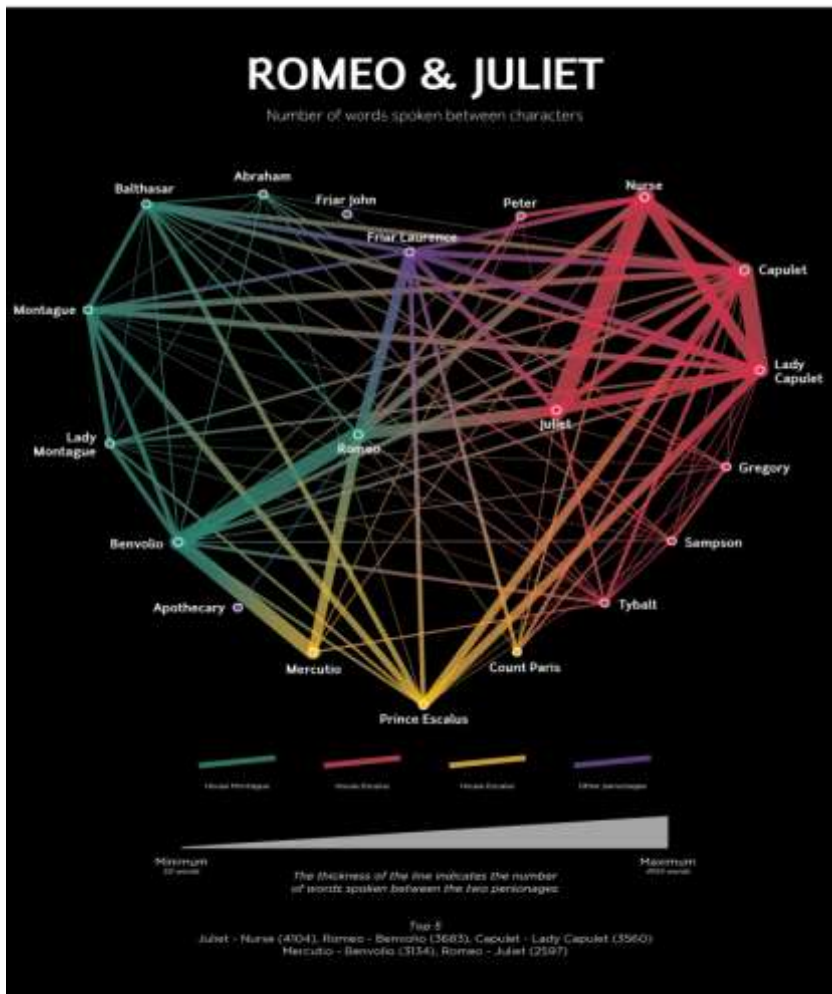


Figure 2: Representation of Erdős collaborative network (Harary, 1979).

So humans appear as ‘nodes’, easily enough. The problem emerges in how the ‘edge’ or ‘link’ is defined. It must signal a form of relation, a kind of knowledge: A has spoken to B, therefore a channel of communication (an edge) has been opened up between them. Leaving to one side the content of the speech, and the nature of the relation (whether professional, social, familial), a link can now be drawn, and it can be represented as strong or weak.

Figure 3 is an example of such a map made of the social networks in Shakespeare’s *Romeo and Juliet*, where thickness of a line indicates a quantity of social interaction calculated via the number of lines addressed between characters. The thickest line joins Juliet to her Nurse, so theirs is the most ‘verbal’ relationship. Colour is also used to code different groups or houses: the Montagues, Capulets, Escalus, and Other. Positionality (left and right sides) is partly determined by the theme of opposition, but also more arbitrarily by the Romantic icon of the heart shape. Romeo and Juliet sit with an unsuitable snugness at the heart of this heart. The representation is a composite structure bringing together and numbering all the spoken lines. It contains usefully surprising facts: that the pair who speak most lines to each other are the Nurse and Juliet. But it doesn’t reflect a social network as it exists at a given moment, nor the relation of a character to another character within a social network at a given moment. It fails to represent the dramatic unfolding of social processes. It seeks expressive form, but is limited in its expressive capacities, like an abstract or constructivist painting. This is a general criticism of these diagrams qua diagrams, of which there are many, the result, often, of pioneering explorations in Digital Humanities, keen to harvest the newly available data, represent them in innovative ways, which coincidentally reflect the interest in networks in both real and fictional worlds.

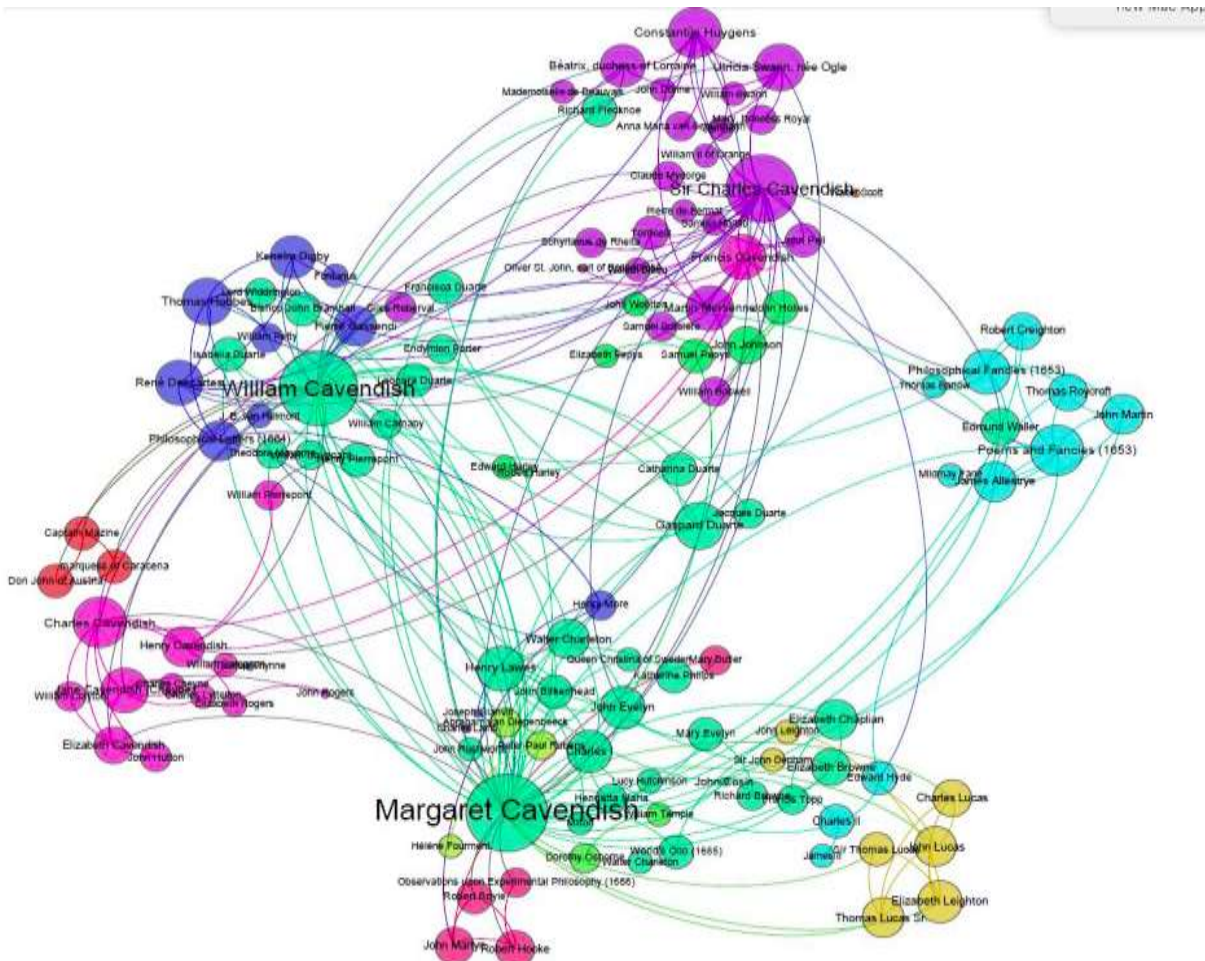


**Figure 3:** Network of *Romeo and Juliet* characters

[https://www.reddit.com/r/dataisbeautiful/comments/8ivizh/visualisation\\_of\\_words\\_spoken\\_between\\_/and/](https://www.reddit.com/r/dataisbeautiful/comments/8ivizh/visualisation_of_words_spoken_between_/)

Figure 4 shows us another such diagram produced to represent the social networks that can be shown to exist around the 17<sup>th</sup> century writer Margaret Cavendish (Moore, 2015). The form is beautiful and stylishly contemporary, with overlapping swerves and parabolas that resemble the asymmetric lines and spurs produced in a cloud chamber. It seeks to be decentered, though the size of the nodes, and the number of ‘edges’ imply values around ideas of ‘influence’. These can inform hierarchies that illustrate social and cultural power. The knowledge on display is impressive and it communicates well the complexity and international range of a particular cultural network – its modernity, as it were. Like the *Romeo & Juliet* diagram, it unites, as pictures do, several moments as existing at one moment. It is de-narrativised, de-historicised. But one aim of the project, as its devisers say, is in fact to inject time and to historicise: “we will attempt to create a moving network ... so we can track when the networks are created in place and in time” (Moore, 2015). This overlaps with the initial aims of my project, but I notice they have not done theirs yet, and I sympathise. The problem is that while networks may expand, movements of elements in that network, even the tiniest of movements, will destroy the mimetic aspect of the representation of that network.





**Figure 4:** An “early visualisation of Cavendish’s networks” (Moore, 2015).

The Cavendish network is made up chiefly of names of people but, looking closely, it includes texts (Moore, 2015). Is this inconsistent? It seems reasonable to say that we are linked up by texts, edges joining us as nodes, but it is also fair to say that they can be nodes in themselves like us. Bruno Latour might agree, as he argued there are both human and non-human ‘actors’ in given networks – though in order for this to work he had to redefine what he meant by the word network, toying with the word ‘worknet’ (Latour, 2005, pp. 142-143). In any case, I find this to be magical or theological thinking however – reflecting the fact that Latour’s perspective as a practising Christian will require the word of God to have as much if not more autonomy than human beings. I contend simply that the inclusion of texts alongside humans is inconsistent in a way that usefully emphasises an issue when those analysing social networks apply mathematicians’ terms to situations of social communication. There is a problem applying such terms to language.

Is language an edge or a node, or something else - a node that moves along a line? Networks, in their origin as nets, are basic structures designed to have a relation to other materials – they will hold them in place, or enable movement along their tracks and between the nodes that structure them – ashes, flames, air, or small fry must be able to pass through. And if we accept the idea of the Death of the Author, or an author’s desired anonymity or invisibility, then a network should not represent a structure comprising an author connected to readers as equal kinds of nodes. When language passes from one person to another person (granting that each one is a node or vertex), one could say that the passage of words describes a line or edge: that it actualises a channel that was always potentially there. If this is so, then air con-

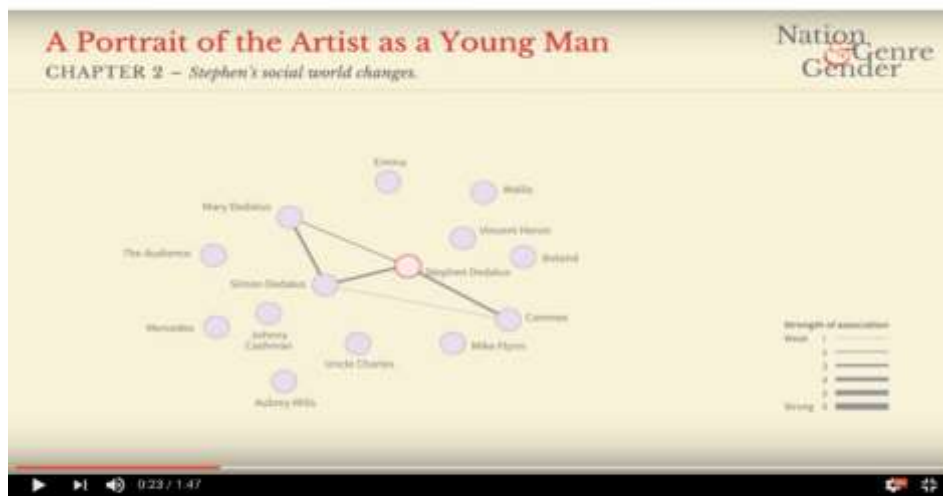
---

sists of an infinite potentiality of channels, a conception which makes the air seem sublime – a quality we will return to. Signifiers move along or through the channel which their very movement has carved out of thin air. Speech, unmediated, passing mid-air between us, scores invisible lines, airy nothings on which social networks come to be built. But these lines are vulnerable and ephemeral, are subject to the fallibility of human communication. The signifieds, the meaning, message, content, which are carried by the signifier, may get lost or distorted along the way. The lines' structures, trembling and unreliable, produce castles in the air. And where do these lines or 'edges' end? At the ear of the person, or the brain, or the soul? Is the ear just another node on the way towards the brain as another node? There may moreover be an intention but also an unpredictable effect of the utterance, and these may contradict one another. What sort of line in a network diagram could represent intention or effect or their contradiction? How might we represent distortion, or show mistrust or deception? The diagrams showing social networks are relentlessly content-free. But how do we show content? We do so with more complex lines we already have to hand, those which form letters and words.

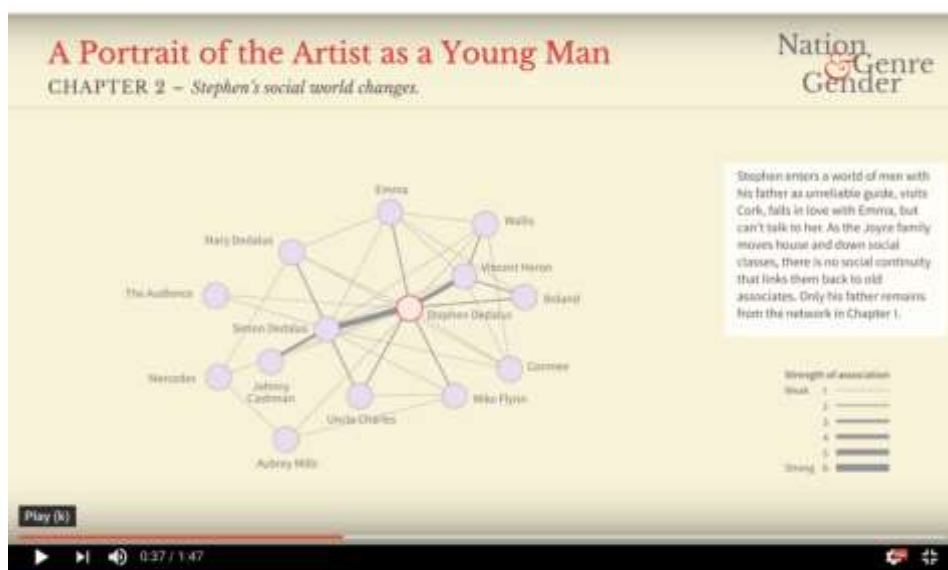
This sceptical treatment of how the structures of social networks are represented may remind us of what was once well-covered ground in criticism: in the post-structuralist critiques that targetted structuralist conceptions of communication. Over that ground a post-card was seen to be travelling – one which claimed however, that it would never arrive (Derrida, 1980). This suggests to me that certain forms of structuralist analysis survive or have returned, that they inform modes of social network analysis, and that therefore we may have to repeat a form of the post-structuralist critique. If we do, let's not however romanticise the deferral of meaning or the ineffable this time.

One further illustration of these problems of content can be found in another Digital Humanities experiment entitled "Nation, Genre and Gender: a Comparative Social network Analysis of Irish and British Fiction, 1800-1922" designed to represent social networks within fictions. This project has carried out work on several texts, including *A Portrait of the Artist as a Young Man*. In this case, the team of Digital Humanities scholars have produced a series of animations to communicate a sense of the dynamic shifts in the forms that social networks take (as if reading the novel wouldn't give you a richer and more accurate sense of that dynamic). These animations can be watched unfolding on the project website, and I include a couple of images (Figures 5 and 6) to show how the animation shifts the images over time around the start and the end of Chapter 2 (Meaney et al., 2015). The nodes in these networks are all characters' names. So, unlike the Cavendish network, there are no texts. However, one of the names, Mercedes, comes from a text within Joyce's text. She is the beautiful heroine of Dumas's bestselling *Count of Monte Cristo*, which the young Stephen Dedalus has read. Mercedes helps Stephen construct a figure in his life of the idealised unreachable woman. Assuming this inclusion is not an error, does this not introduce an inconsistency in the network? If it's not an error, then shouldn't we open the flood gates and let *all* imaginary social entities in the novel function as potential 'nodes.' In that case, why not include 'God', about whom Stephen has many more thoughts than about Mercedes, or the "phantasmal comrades" (Joyce, 2000, p. 70) into the diagrams with whom, we're told, Stephen preferred to spend time than with the other boys at school.

---



**Figure 5:** The social networks of *A Portrait of the Artist as a Young Man*, start of Chapter 2 (Meaney et al., 2015)



**Figure 6:** The social networks of *A Portrait of the Artist as a Young Man*, end of Chapter 2 (Meaney et al., 2015).

The animation shows the forms of the diagram shifting continually with the network always increasing in size. It too is seeking the holy grail of network analysis by trying to capture their dynamics. Mathematicians are aware of the difficulties in this quest, as they acknowledge: “This is a particularly challenging area of study in which analytic progress has proved elusive” (Newman et al., 2006, p. 294). The animation aims to communicate Stephen’s evolving networks as they extend over time. There is a pattern in these animations in which the networks always get bigger across a chapter and then suddenly disappear with a new chapter which begins from scratch, implying that his network does not continue from one chapter to the next, whereas in fact Stephen’s family, though it changes shape and intensity, is always there in the background. But when we read Joyce’s text, and accompany Stephen

through his life, we see his relation to other characters never evolves in one direction. This graphic fails to capture even a rudimentary quality of Stephen's existence, which is that it swings back and forth between intense and diverse social situations and isolation. This graphic implies that there is a build up in each chapter and then a sudden dissolution, so we begin again. But there are such dissolutions in the middle of chapters also. Stephen's acquaintances moreover tend always to dissolve over time not increase. Even though the animated representation moves and changes, it nevertheless reduces all relations into the form of a line. But of course the form of Stephen's relations vary not just in number but in kind, often depending on setting: playground, infirmary, classroom, dinner table. Place creates different potential and actual network forms. This may be obvious, but it is absent from these animations.

The grail of these representations – of the Margaret Cavendish and Stephen Dedalus networks - is to capture flow and dynamism of networks-in-progress. It is a reasonable assumption that networks are dynamic, because people are always moving into and out of one group to another. But in the attempts to chart these flows we find the study of networks and the idea that society is a network will – as it should - break down. There is too much that these content free, pseudo-geometrical representations leave out to give us any understanding of how people interact, how groups and organisations actually work, how they maintain their structure, or destroy others. Why not leave that to the novel?

Moving towards my third criticism, I should point out that I do not wish to throw out the baby with the bath-water. There are of course rigid and rigidly enforced structures in human organisations which can be described as networks, and the study of them can usefully reveal channels of communication and the structure of power relations, whether insidious or liberating. Modern technology provides data for analyses of such networks and also allows the concept of the network to spread. But it is not technology alone which helps this happen. It is also encouraged by narratives which responded to that developing technology and to power structures in general: narratives which were explored by the 19<sup>th</sup> Century realist novel. For in that form lie the origins of this social imaginary of human society as a global network of overlapping systems. These kinds of novels do not have the cultural status they once had, attracting a smaller proportion of the total attention that is paid to cultural narratives. The success of that form of the novel is nevertheless a precursor to the emergence of the vision of the social as it has recently developed. This vision now arises critically in part as compensation for the relative loss of the cultural power of the realist novel from its 19<sup>th</sup> Century heyday, where an earlier version flourished. In the recent vision, however, or in the version of it that I want to criticise, 'the network' has become a sublime thing, both disruptive and redemptive.

The sublime network is infinitely expandable, unencompassable, a key to the maintenance of truth, and at the root of power. Thus "networks are everywhere" for (Newman et al., 2006, p. 1); and in Bruno Latour's vision, according to Barbara Herrenstein Smith, networks in essence underpin truth: "the stability, reliability and seeming autonomy of scientific facts and entities are produced and sustained by networks of interacting agents" (Smith, 2012, p. 25). Jerome McGann presents history as a sublime network: "It moves... forward, sideways, and backwards – all at the same time – and its movements are not uniform but heterogeneous, comprising a large network of filiations which themselves display discontinuous and non-uniform types of relations. ...The ideal – not realizable – would be to hold that entire network in one's social mind" (McGann, 1987, p. 171). To illustrate this myth in literary criticism, I return to Caroline Levine's *Forms*, mentioned earlier, in which she uses Dickens's *Bleak House* to argue that networks in the novel do not, as you might expect "stop at the borders of the nation" (Levine, 2015, p. 124). She gives an example in which Dickens, "links Jo [the cross-

sing sweeper] to networks that spread to distant places on the globe”, and quotes the following passage:

Jo comes out of Tom-all-Alone’s, meeting the tardy morning which is always late in getting down there, and munches his dirty bit of bread as he comes along. His way lying through many streets, and the houses not yet being open, he sits down to breakfast on the door-step of the Society for the Propagation of the Gospel in Foreign Parts, and gives it a brush when he has finished, as an acknowledgement of the accommodation. He admires the size of the edifice, and wonders what it’s all about. He has no idea, poor wretch, of the spiritual destitution of a coral reef in the Pacific, or what it costs to look up the precious souls among the coco-nuts and bread-fruit (*Bleak House* quoted in Levine, 2015, p. 124).

Levine (2015, p. 125) argues that in this passage “the nationalistic *Bleak House* reaches beyond national borders.” While she might have considered how such a ‘reach’ could be used to strengthen the book’s own nationalistic agenda, she contends instead that:

Jo does not know anything about the connection between himself and ‘Foreign Parts,’ but this is no hindrance to the operation of a network; indeed, most of the characters in *Bleak House* are entirely unaware of their function as nodes in a dense overlapping of networks, but they are linked nonetheless to far-flung strangers in remote places through multiple webs of interconnection.

Levine is suggesting that two elements being linked (or just being adjacent to one another on the globe – like Jo sitting at the threshold of a Missionary Society) is in some fashion sufficient to contributing to a globally networked sublime. It creates for the novel a global perspective, one which helps redeem any narrower nationalism that may be diagnosed.

But just as Jo does not know about the Society, the Society does not know about Jo. The mutual ignorance of these subjects and their very different networks, one small and private, one large and public, is in fact a tragedy, and a failure of emerging international networks. Surely this is Dickens’s point, which is a nationalistic one: that charity should begin at home. It’s driven home in the ironic allusion to a “spiritually destitute coral reef”, and the mockery of the voice which contends that it’s all down to Jo’s lack of knowledge of this organisation that makes him poor, when of course it’s a lack of money and local charity that makes him poor. Jo’s ignorance is blind to the cost of establishing their morally righteous global networks. Levine misses this because she wants to conjure a *form* with the qualities of complexity, density, linkage, multiplicity and interconnection, a form with a redemptive quality (it redeems alienation), and for Dickens to be part of this.

In the conclusion to the chapter Levine romanticises the way in which identity in general is networked: “all of us are located at the crossings of multiple unfolding networks... linking bodies, ideas, and things through numerous channels at different rates” (Levine, 2015, pp. 130-131). But are we? Are we all, equally, in this stimulating MLA conference vision of an interconnected hotel lobby of a world? Or is this world, for the likes of Jo at least, less intellectual funfair and more bleakly unfair? Does Levine project outwards a quite specific position as a general truth, a reflection of her own situation, her textual and professional condition, a successful academic? This vision of the world may be a projection also from the form of a certain kind of complex novel, a novel much loved by academics. But what if we imagine the networks projected from different literary visions: of Racine, Kafka, or Beckett, where the networks, such as they are, are small, disconnected, mutually untrusting, uncomprehending, inward looking. And what of the world of the lyric which may disavow connection to a wider world, and where the sublime is produced through a private intimacy?

Let sea discoverers to new worlds have gone;

Let maps to others. Worlds on worlds have shown.

Each hath one and is one. (Donne, 2012)

Networks, we're told, overlap and have elements in common to form broader networks. But often they don't. Levine and others romanticise connection, and see it even when it isn't there, even when the fact of disconnection is what is being emphasised, as at this point in *Bleak House*. Narratives of connection or of overlapping systems which criticism may adulate and encourage, may actually conceal or overlay narratives of disconnection. In such criticism, there is a disconnection from disconnection. The significance and power of retreat or withdrawal, of enclosure, escape, interiority, intimacy, privacy, are excluded, given short shrift. I do not stress this as a nostalgic lament for some sad withdrawal from the possibility of withdrawal, a loss of the possibility of escape, but rather as a reminder of couple of things.

First is the always surprising – perhaps *sublime* - range of our imaginary relations with the world. This means that we do not have to imagine that we are always only at the meeting point of multiple diverse forces that are, Levine suggests, organising us. There are still still points in the turning world. Networks are not everywhere, as has been said (Newman et al. 2006). Levine says that two children holding tins cans joined by a string constitute a network. But isn't two nodes insufficient for a network? Moreover, some relations or experiences are outside any network. We can choose to go off grid.

Secondly, a perhaps always belated reminder, is the underestimated potency of disconnection, and of the un-networked society. It was myths of connectivity which prevented a clear vision of the facts of social disconnection in the year of 2016. If Levine had written her book *since* 2016, she might have conceived of the forms of social networks and our connectedness differently. While being critical of her vision, this critique is written with the benefit of hindsight. This hindsight will affect the way I present the formation and destruction of cultural networks in 1939. The attempt to fill the gap in my cultural history of a single day has brought distance between that history and any sublime sense of social and discursive interconnectedness. Disconnection, it turns out, is as powerful as connection in the formation of cultural value. Moreover, exploring the nature of networks enables a sense of the ways that analyses of them doesn't fall into a pattern easily. The gap that was originally going to be filled by a theory of how networks could be mapped, will now have to feature as a void, as between buildings, though there will be props in the remaining space, a structure that explains why the gap is there.

### References

- Charleton, W. (1659). *Natural history of nutrition, life, and voluntary motion*. London.
- Derrida, J. (1980). *La Carte Postale*. Paris, France: Flammarion.
- Donne, J. (2012). *Songs and Sonnets*, edited by Helen Gardner. Oxford, UK: Oxford Scholarly Editions Online. doi: 10.1093/acrade/9780198118350.book.
- Fordham, F. (2018). The Anatomy of Moments. *Modernist Cultures*, 13(2), 165-186.  
doi: 10.3366/mod.2018.0204
- Fordham, F. (2020 expected). The Reception of *Finnegans Wake* in 1939. *New Studies in James Joyce*. Cambridge, UK: Cambridge University Press.
- Foucault, M. (2002). *Archaeology of Knowledge*, (A.M. Sheridan Trans.) Smith London: Routledge.
- Foucault, M. (1983). "Why Study Power" in *Beyond Structuralism and Hermeneutics*, ed. by H. Dreyfus and P. Rabinow. Chicago, IL: The University of Chicago Press.

- 
- Smith, B. H. (2012). Dolls, Demons and DNA, review of Bruno Latour, *On the Modern Cult of the Factish Gods*. *London Review of Books*, 34(5), 25-26.
- Harary, F. (1979). *Topics in Graph Theory*. New York: New York Academy of Sciences.
- Joyce, J. (2000). *A Portrait of the Artist as a Young Man*. Oxford, UK: Oxford World Classics.
- Latour, B. (1993). *We Have Never Been Modern*, trans. Catherine Porter. Cambridge, Mass.: Harvard University Press.
- Latour, B. (2005). *Reassembling the Social: introducing Actor-Network-Theory*. Oxford, UK: Oxford University Press.
- Levine, C. (2017). *Forms: whole, rhythm, hierarchy, network*. Princeton: Princeton University Press.
- McGann, J. (1987). An Interview with Jerome McGann on Textual Scholarship as Literary History and Ideology Critique in *Social Epistemology*, 1 (2), 163-173.  
doi: 10.1080/02691728708578428
- Meaney, G. et al. (2015). <http://www.nggprojectucd.ie/a-portrait-of-the-artist-as-a-young-man/>
- Moore, S. (2015). <http://digitalcavendish.org/original-research/cavendish-network/>
- Newman, M., Duncan J. W., & Albert-László B. (2006). *The Structure and Dynamics of Networks*. Princeton University Press, 2006.
- “Network”. (2010). *Oxford English Dictionary*. Oxford, UK: Oxford University Press.
- Pentland, A. (2014) *Social Physics: how good ideas spread – the lessons from the new science*. New York: Penguin Press
- Scott, B.K. (ed.) (1990). *The Gender of Modernism: a Critical Anthology*. Bloomington, Ind: Indian University Press.
-