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Worlds, Fields and Networks:

Becker, Bourdieu and the Structures of Social Relations

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Abstract

This paper reflects upon Bourdieu's concept of cultural fields, Becker's concept of 'art worlds' and the concept of networks as developed in social network analysis. We challenge the distinction that Bourdieu makes between the objective 'relations' and 'positions' constitutive of 'social space' and visible social relationships. In contrast we maintain that interaction is generative of social spaces and positions and should be integral to any account of them. Becker's position is better from this perspective, but whilst Becker refers repeatedly to social networks he fails to develop the concept or exploit its potential as a means of exploring social structures. Both Becker and Bourdieu have an underdeveloped conception of social connection which weakens their respective conceptions of the space of cultural production. Our proposed remedy is to use social network analysis to derive 'positions' and 'relations' between 'positions', as prioritised by Bourdieu, from data on concrete interactions and relations. This allows 'world' analysis to speak to the issues of field analysis without sacrificing its strengths. We illustrate our case by way of an analysis of two UK music scenes from the late 1970s.

Keywords: Art worlds, cultural fields, social networks, cultural production, Becker, Bourdieu, social interaction

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Introduction

Pierre Bourdieu's (1993) concept of artistic fields and Howard Becker's (1982) concept of art worlds are often portrayed as having complimentary strengths and weaknesses. Bourdieu's emphasis on objective relations is said to neglect the subjective point of view, which Becker attends to, whilst Becker is criticised for insufficiently locating subjective experience within objective relations, which Bourdieu does (e.g. Fowler, 1997: 100, 95). In this paper, by contrast, we focus upon what we take to be a common weakness of both: an insufficiently worked out conception of social ties and the networks they form.

Bourdieu explicitly rejects the emphasis, found in both symbolic interactionism and social network analysis (SNA), on 'empirical' ties, focussing instead on the underlying 'objective relations' which, he claims, structure them. We contend that this unduly abstracts from the substance of concrete interactions and relations within fields. Furthermore, Bourdieu's framework relies implicitly upon network interconnections, rendering his critique of network approaches inconsistent.

Becker, by contrast, prioritises concrete ties and the networks they form. In this respect his approach is more promising than Bourdieu's. But Becker's treatment of networks is impressionistic and fails to fully appreciate that networks are social 'structures' which generate both opportunities and constraints for their members. It lacks a systematic examination of positional relationships and fails to fully specify network properties. A greater focus on networks within 'world analysis', we contend, would allow it to incorporate the strengths of 'field analysis' whilst remaining more sensitive to the importance of concrete ties and interaction.

To illustrate and support our argument we discuss the findings of a network analysis of punk and post-punk music scenes in London and Manchester respectively (Crossley 2008, 2009). This illustration is narrowly focused upon networks and their properties and, as such, only covers one aspect of what would be involved in a comprehensive investigation. Following Becker we believe that art worlds must be analysed in terms of both conventions and resources, as well as networks. As our focus here is specifically upon the significance of networks, however, this narrowness is justified.

The paper begins with a section on Bourdieu's conception of fields, followed by a section on what we take to be the largely unacknowledged and underdeveloped role of networks therein. We then repeat this format in relation to Becker's concept of worlds. The final section of the paper elaborates

upon the argument regarding networks that runs through these earlier sections, illustrating key points by reference to the post/punk material.

Fields

Bourdieu makes a fundamental distinction in his work between *structure* and *interaction*, explicitly focusing his sociology on the former (Bourdieu and Wacquant, 1992:113). His mapping of cultural fields refers to concrete, named individuals but draws back from analysing their relationships to one another, instead positioning them as ‘epistemic’ individuals within a field of differentiation (Bourdieu, 1996b: 3, 22-3). A field is a ‘space of objective relations between positions defined by their rank in the distribution of competing powers or species of capital’ (Bourdieu and Wacquant, 1992:113), he argues, and any cultural arena is a field of *forces*, where underlying objective relations structure manifest social relationships. Cultural activity is structured by the distribution of positions within the field which ‘as a field of possible forces, presents itself to each agent as a *space of possibles*’ (Bourdieu, 1993: 64). One must locate ‘each agent or each institution in its relationships with all the others’, locating each as a ‘position-taking’ framed against all other ‘position-takings’ (1993: 181, 64).

This approach distinguishes a *field*, as a theoretical space of ‘objective relations’, from a *social network* comprising actual, concrete relationships. Initially, it is not clear why Bourdieu insists on this; if field relations *manifest* themselves in networks, as he suggests, then such interconnections can *identify* field relations (de Nooy, 2003). Technical similarities between SNA and the multiple correspondence analysis (MCA) that Bourdieu favours mean those properties which can be analysed in MCA can also be treated as relations in network analysis. Network analysis of the symbolic, cultural and social capital in artistic arenas yields sociograms with a strong resemblance to relational field diagrams (de Nooy 2003: 319, 313; Gerhards and Anheier 1989) and have even been used to produce a network topography of Bourdieu’s field theory (Anheier et al. 1995). And many network analysts make strong structural claims akin to those of Bourdieu, often inviting the same critiques (White 1992, Wellman and Berkowitz 1997). But Bourdieu rejects network analysis and symbolic interactionism because, he claims, they do not distinguish *objective relations* from *social relationships* and mistake effects for causes, neglecting the underlying forces (objective relations) which generate empirical social relationships. The structure of a field, he maintains, ‘is different

from the more or less lasting networks through which it manifests itself' (Bourdieu and Wacquant, 1992:113-4).

If individuals occupy the same 'social space', for Bourdieu, this is not in virtue of their *social relationships with* each other but because they share similar *structural relations to* economic and cultural resources. Thus he maps associations between indicators of taste and cultural and economic power to generate a 'theoretical space' in which both these indicators and his survey respondents have a 'position'. 'Relation' in this context does not refer to a tie or anything that passes between positions. It refers to similarities/differences in position. One's 'objective relation' to another is one's proximity to them in social space, as Bourdieu defines that space.

It is not clear, in our view, that a model of social space centred upon juxtaposed 'positions' is either incompatible with or superior to a network model focused upon social interaction, as Bourdieu suggests. More importantly, we contend that his account operates at a level of abstraction that often makes it hard to discern the *mechanisms* by which 'objective relations' to capital generate the effects that he attributes to them. From where and by what means, for example, do occupants of a given region of social space acquire the taste for certain forms of music if not from one another in relations of mutual influence? Without an account of relationships and networks, actors in Bourdieu's model are atomised and he lacks an account of the mechanisms which generate similarities in their habitus.

More significantly, looking more closely at Bourdieu's account, we see that his empirical and particularly his historical reflections do indeed make reference to empirical relationships and networks, using them to explain convergences in style and habitus, but in a very under-theorised and largely tacit way, and in direct contradiction with his explicit theoretical position. This point needs to be unpacked.

Networks in Fields

In his work on cultural production Bourdieu makes reference to various milieux (e.g. cafes, ateliers, salons etc.) in which artists forge enduring connections, share resources, influence one another and more generally experiment together (1993, 1996a). He concedes that such 'empirical' contact is important in the formation of artistic conventions. Bourdieu only makes the point in passing, however, failing to draw it out and into his more abstract and theoretical formulations. He fails to

fully recognise the generative role of such interactions and bonds in the *constitution* of field relations¹. Whilst such interactions are part of the position-takings adopted in the field, Bourdieu moves very quickly from concrete interaction to a more abstract discussion of ‘objective relations’, drawing back from examining the substance of social relationships in any detail and minimising their theoretical significance.

Even as he operates at this abstract level, however, he relies tacitly upon assumptions regarding more concrete interaction processes and networks. In particular his perspective upon class and field specific habitus presupposes a process of *differential association* in which actors are more likely to form and sustain social contacts with those socially similar to themselves (Bottero, 2009). Actors who are close in social space, as he defines it, have more similar habitus, he maintains, and their similarity in habitus draws them together to form concrete relations: ‘the proximity of conditions, and therefore of dispositions, tends to be translated into durable linkages and groupings’ (Bourdieu, 1985:730). Concrete relationships are a function of habitus, on this account, with habitus a function of position within a field. The mechanism by which social position shapes habitus is never elucidated, however, and we believe that Bourdieu is tacitly relying upon an understanding of differential association for the intelligibility of his account: actors who are proximate in social space have (more) similar habitus because they are more likely to be interacting with one another, mutually influencing one another and therefore mutually shaping their respective habitus. Shibutani (1955) makes this point from an interactionist perspective:

Variations in outlook arise through differential contact and association; the maintenance of social distance – through segregation, conflict or simply the reading of different literature – leads to the formation of distinct cultures. Thus people in different classes develop different modes of life and outlook, not because of anything inherent in economic position, but because similarity of occupation and limitations set by income level dispose them to certain restricted communication channels’ (Shibutani 1955: 565-6).

On this account habitus is shaped by concrete interactions and relationships. We do not want simply to reverse the order of Bourdieu’s model, however. He is right to insist that habitus informs interaction and relationship formation. Rather, our argument is that concrete relations and interactions both shape and are shaped by habitus. Furthermore, habitus take on whatever distinctive group characteristics they do, in our model, because interaction is shaped by a process of differential association.

In addition, differential association facilitates reproduction of the unequal distribution of opportunities and resources within social space, circulating them within networked clusters of actors and maintaining their uneven connectedness. Mixing in certain social circles affords access to particular resources and other advantages. And differential association carves out distinctive milieux (social worlds or fields) within social space. In this respect differential association, which is shaped by the unequal distribution of resources in social space also shapes that distribution and shapes that space.

We are challenging Bourdieu on two fronts here. Firstly, we are suggesting that he needs, and we believe tacitly presupposes, interaction and concrete relationships, in the form of differential association, in order to make his account work. Shared habitus can only be explained by reference to interacting agents who become alike by means of a process of mutual influence and therefore interaction. Secondly, we are challenging the linearity often evident in Bourdieu's model, in which structural position in social space shapes habitus, which shape concrete relations. This line of influence can be observed but we believe that concrete relations and interactions, in the form of differential association, form both habitus and the abstract social space of positions mapped by Bourdieu. In other words, we cannot readily distinguish 'objective relations' from 'habitus', 'interaction' or 'differential association'.

Bourdieu's distinction between objective relations and social relationships is related to his insistence that it is homologies between sets of practices in different fields which explain those practices (de Nooy, 2003: 317-8). This notion rests on the idea that the distribution of different kinds of capital defines the dimensions of all fields, so agents in one field feel 'elective affinities' to people or practices in the same *relative* position in other fields. Such 'homologies' express systematic objective oppositions within and across fields, irrespective of content, and regardless of whether such agents are socially connected (1984:175, 1987). Homological affinities cannot be easily divorced from interpersonal interaction, however, because interaction is an important mechanism generating them (see also De Nooy, 2003: 232). Through interaction, via processes of mutual adjustment and the sharing of information, networks of agents actively converge on lifestyles, transforming prior aspects of their lifestyles to unify practices (Bottero, 2010). The patterned and uneven nature of such interaction (i.e. differential association) is a key mechanism by which field relations take their force. Actors in a similar position to one another are more likely, as a consequence, to interact and therefore to influence one another, such that they develop similar habitus. If they do not interact and do not belong to a common network then there is no good reason to suppose that they will share

similar tastes, even if they do possess the same resources. Interactions are more likely between those with similar profiles of capital because they have more in common but the impact of such shared relations to capital can only operate through patterns of concrete social connection, distance and propinquity, and, we argue, are indivisible from such patterns.

This is the basis of the ‘art worlds’ approach, with Becker suspicious of any notion of ‘objective forces’ conceived as distinct from interpersonal connections:

... the metaphor of world—which does not seem to be at all true of the metaphor of field—contains people, all sorts of people, who are in the middle of doing something which requires them to pay attention to each other, to take account consciously of the existence of others and to shape what they do in the light of what others do. In such a world, people do not respond automatically to mysterious external forces surrounding them. Instead, they develop their lines of activity gradually, seeing how others respond to what they do and adjusting what they do next in a way that meshes with what others have done and will probably do next (Becker, 2006: n.p.).

This, of course, is the approach Bourdieu rejects, insisting that a *field* cannot be mistaken for a ‘universe of personal relations between artists and writers’ (1993: 163); because ‘what is lacking...from this purely descriptive and enumerative evocation are the *objective relations* which are constitutive of the structure of the field and which orient the struggles aiming to conserve or transform it’ (1993:35; 1996a:205). Bourdieu’s framework is influential partly because of this claim to identify the underlying relations generating practices. Yet Becker’s empirical ‘enumeration’ of art world interactions draws similar conclusions to a field analysis without need of this theoretical apparatus and with the added advantage that his focus on interpersonal interaction has rather more to say about the *mechanisms* by which artistic practices emerge. Furthermore, as we argue in the latter part of this paper, systematic analysis of empirical relations and interactions by means of SNA allows us to derive a sense of social space and positions which, though different to Bourdieu’s, nevertheless, as noted above, does the same job and no less effectively. Becker does not take this step but we will argue below that doing so would allow us to integrate what is most useful and distinctive from Bourdieu’s field model within his ‘worlds’ approach.

Worlds

Becker’s approach gives pride of place to interpersonal ties and ‘visible relationships’ with an art *world* : ‘the network of people whose cooperative activity, organised by their joint knowledge of

conventional means of doing things, produces the kind of art works that art world is noted for' (Becker,1982: x). Deceptively simple, the three interlocking elements to Becker's analysis - networks, conventions and resources – provide a nuanced account of art world activities. Conventions - 'earlier agreements now become customary' (1982: 29) - allow the members of worlds to coordinate their lines of action; networks (of interaction) both result from and facilitate the collective action involved in artistic production, and also facilitate the emergence and diffusion of conventions, whilst being bounded by them (i.e. the art world's network ends where adhere to its conventions ends); and resources, which also circulate through networks and define their boundaries (networks end where the exchange of relevant resources ends), are drawn upon and exchanged in the process of artistic (inter)activity.

Conventions are devoted particular attention in Becker's account. The routinisation of cooperation, he argues, allows conventions to emerge, which serve as a reference for future activity (see also Gilmore, 1990: 151). Conventions become 'deeply engrained', 'semi-automatic', so 'the easiest thing...is for everyone to do what everyone knows is the way everyone already knows' (Becker, 1982: 204, 56). These interlocking elements reproduce the world, channelling practices, often conservatively, because of the additional costs (in time, energy and resources) to innovation (1982: 28). Moreover, conventional practices cluster 'in neatly meshed packages of mutually adjusted activities, materials, and places' (1982:134) 'all of which must be changed if any one component is' (1982: 32). So unconventional work is possible but 'more costly and difficult' (1982: 34-5), and works sit in tension between 'conventional ease and success and unconventional trouble and lack of recognition' (1982:34).

Bourdieu and Becker indicate their analytical distance from each other (Becker, 2006; 2009; Bourdieu, 1993: 35; 1996a:205), but Becker's 'art worlds' have significant parallels to Bourdieu's 'artistic fields'. The reproduction of art world practices occurs through the embodiment of conventions in resources, matériel and 'engrained' habits, in a manner reminiscent of habitus as a practical 'sense' of the field. Like 'field', the art world concept emphasises the fluidity of social organisation and collective practices, with conventions taking on the character of strategies rather than inviolate rules (1982: 31). And like Bourdieu's discussion of heterodoxy and orthodoxy, Becker's account identifies groups ('integrated professionals, mavericks, folk artists, and naive artists') defined relationally to the art world as a whole, by their degree of incorporation into networks of cooperative activity and clusters of conventions and resources. Artists' work varies with their participation in the world: the work of 'mavericks' is oriented against canonical art, breaking

some of its conventions but ‘more or less unwittingly’ accepting the rest (1982: 244); ‘naive’ art is made in isolation, without reference to the cooperative constraints of (art world) convention.

Moreover, art worlds are subject to ‘position-taking’ and struggles over legitimacy, with splits and competitions over conventions (and resources). Conventions are a ‘system of stratification’ (1982: 305), embedded in distributed resources, and drawing upon existing networks, ‘which reward those who manipulate the existing conventions appropriately in light of the associated aesthetic’ (1982: 306). Such splits have their limits, with ‘revolutions’ retaining key elements of the convention-mediated cooperative activity (1982: 307) of the world, for ‘only changes that succeed in capturing existing cooperative networks or developing new ones survive’ (1982: 301) but they are endemic all the same. The constraining (and enabling) ‘space of possibles’ which Bourdieu identifies in objective field relations is, for Becker, provided in the clustering of conventions, resources and cooperative networks which channel practices.

However, there are important differences between ‘fields’ and ‘worlds’. Becker contrasts world analysis - ‘who is doing what with who that affects the resulting work of art?’ - with field analysis - ‘who dominates who, using what strategies and resources, with what results?’ (Becker, 2006: n.p.). He rejects any emphasis on social structure ‘without reference to the actions of people doing things together which create those structures’ (1974: 767): focusing on ‘real people who are trying to get things done, largely by getting other people to do things that will assist them in their project’ (Becker, 2006, n.p.). The conventional critique (of Becker, and interactionism more generally) suggests that this focus neglects structural questions of power and resources. However, the issue is more complex. Resource and power inequalities are crucial to Becker’s account, but he draws back from a ‘structural’ analysis of them, preferring instead a looser focus on how social networks distribute such resources in social worlds. In defining art worlds as ‘networks of people acting together’, Becker puts sets of social connection at the heart of his analysis: to investigate a world is to look at the ‘entire cooperating network’ (1974: 775; 1982: 35). In arguing this, Becker’s approach is interactional in its broadest sense: the social worlds approach focuses not just on face-to-face or direct contacts, but on webs or systems of direct and indirect links.

Networks in Worlds

Developed as a ‘macro-level interactionist conception of society’, (Gilmore, 1990: 149), the ‘social worlds’ approach relies on network concepts to examine ‘the process of diffusion throughout a large

social system' (Fine, 1983: 106). However, whilst networks, and their varying interactional properties recur in Becker's account (in his discussion of reputation, the diffusion of innovation, segmentation, and the formation of new and sub-worlds) his treatment of them is limited. Specifically he does not employ the formal tools of SNA to analyse them.

This reticence reflects Becker's suspicion of the concept of social structure: 'such terms as *social organisation* or *social structure* [are] a metaphorical way of referring to...recurring networks and their activities...we should not forget that they are metaphors' (1982: 370). However, examining the formal properties of networks allows us to explore the diffusion of practices and the distribution of conventions and resources systematically: as *sets* of social relationships. It foregrounds issues of power and resources through an examination of social ties in which social networks are *both* interpersonal connections *and* positional relations, of opportunity, inequality and constraint. Becker's account of art worlds could do more to examine social relationships as social positions. *This is not because he places too much emphasis on interpersonal interaction at the expense of objective relations, however, but because he does not focus on interpersonal interaction sufficiently systematically.*

It is surprising that Becker does not explore network properties in greater detail because his description of art worlds frequently emphasises questions which loom large in SNA: questions of network centrality; density and closure; segregation and brokerage. It is the uneven *distribution* of conventions (and associated resources and matériel) within networks of cooperative activity, for Becker, which constrains or enables routine practices and innovations. Network heterogeneity and degrees of interconnection affect how conventions are negotiated and operationalised. Moreover, the formation and diffusion of new art worlds is said to depend upon networks (1982: 311).

Experimenting groups produce variant local versions of artistic activity, clustering locally because 'they communicate largely face-to-face, hearing or seeing each other's work', which encourages innovation but 'restricts collegueship to the immediate vicinity' (1982: 320). The work of such experimenters is often too 'provincial' for external artists and audiences, so a broader network of cooperation and communication is necessary to make the work 'exportable', with 'everyone using conventions developed in many different local segments but now known and understood nationally or even internationally' (1982: 321-322).

Becker wants to avoid imbuing networks with a misplaced solidity but the *extent* and *stability* of network interconnections are partly an empirical matter and one which SNA can address. Whatever

our view of the ‘structural’, specifying the formal properties of networks allows us to examine the constraints and opportunities afforded by social connection in greater detail.

Networks

We contend that both Bourdieu and Becker give insufficient attention to networks and to the potential of social network analysis as a means of mapping the space of cultural production. In what follows we embellish this argument with an illustrative analysis of two music scenes. We aim to show how network analysis allows us to extract ‘structures’, ‘positions’ and ‘relations’ between ‘positions’, of the sort prioritised by Bourdieu, from data on empirical connections of the sort prioritised by Becker. Properly incorporated into an account of conventions and resources (which is not attempted here), this would allow ‘world’ analysis to address the issues of field analysis, without sacrificing its strengths or succumbing to the problems of field analysis.

Our analysis draws upon previously published research on the British post/punk scene (Crossley, 2008a, 2009). Drawing upon secondary and archival sources, this research identified protagonists and ties between them in (1) the London punk scene in early 1976 and (2) the Manchester post/punk scene between mid 1976 and early 1980. Protagonists were deemed tied if they enjoyed some form of professional relationship (e.g. band mates) or a close friendship during the period studied. The pattern of ties is visualised and analysed using Ucinet network analysis software (Borgatti, Everett and Freeman 2002).

For all that it challenged existing conventions punk established its own conventions in both music and fashion. This could and should be analysed. Moreover, it would not be difficult to show that its emergence and survival were dependent upon the mobilisation of diverse resources. Our focus here, however, is upon the network structures of two of its earliest manifestations. Specifically we explore: (1) core and periphery divisions, (2) block structure, (3) centrality and (4) basic structural parameters. Our aim is to show how measurable conceptions of ‘structure’ and ‘position’ can be derived from network data in a way which furthers our understanding of the artistic (sub-)‘worlds’ involved.

Core and Periphery

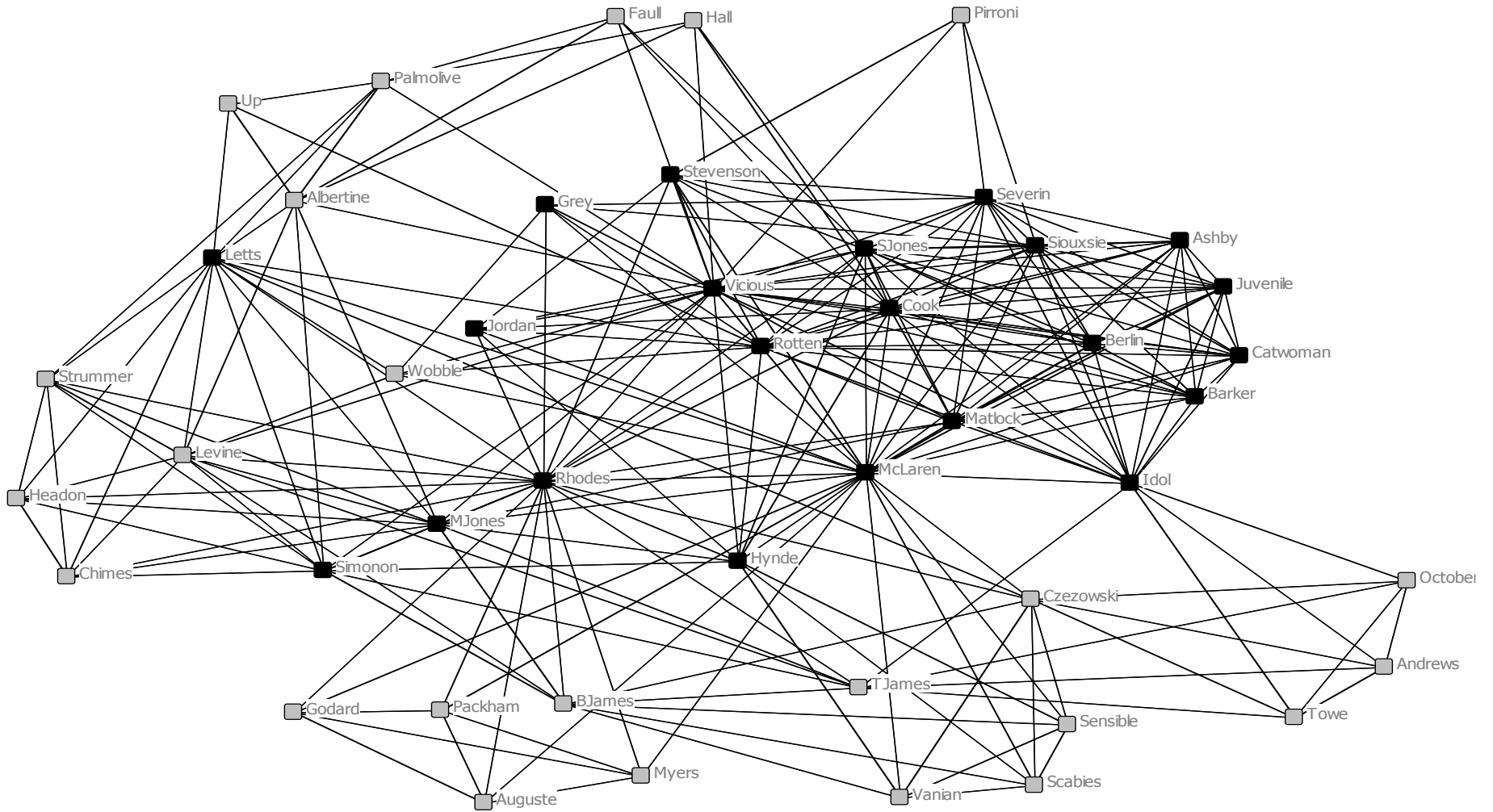
Figure One visualises the London network as it was in mid 1976. Each actor is represented by a square or 'vertex' (ignore vertex colour for the moment) with ties between actors represented by connecting lines or 'edges'. The network as a whole has a density, defined as the number of edges divided by the number that are possible, given the number of vertices: a figure ranging between 0 (no ties at all) and 1 (every possible tie present). In this case density is 0.2415, indicating that around 24% of all possible relations are present.

It is difficult to assess whether this score is high or not as density values vary according to the size of a network and the nature of the relation measured. Given that we are focusing upon relatively strong ties, however, we believe that this density is quite high and that the network is therefore relatively cohesive. Its cohesiveness is further indicated by the fact that each actor has, on average, 11 ties, with none having less than 4 ties. Furthermore, whilst 24% of actors have a direct tie to one another, a further 61% are linked by only one intermediary, with the remaining 15% being linked by two intermediaries. 'Path distances' and the overall diameter of the network, in other words, are short, again suggesting cohesion and also indicating that resources might be easily identified within and moved around the network.

Density is significant because research on both the domestic division of labour and linguistic usage suggests that cultural 'deviance' is more likely to survive in dense networks (Bott, 1957, Milroy 1987). Density tends to encourage trust and mutual support (Burt 2005, Coleman 1988, 1990), making collective cultural experimentation or deviance easier, and mutual influence is more likely to generate stable cultural patterns because different actors are engaging with the same alters, and their alters are interacting with one another. Our data support this – punk as a 'deviant' cultural form emerged within a relatively cohesive network- and the more general point bears directly upon our understanding of art world conventions: they are more likely to crystallise within cohesive networks.

Figure 1 around here

Figure One: the Early London Punk Network (with core-periphery partition)



The basic density score applies to the network as a whole, however, and can disguise the fact that ties are sometimes concentrated within a smaller cluster of actors who form a core within the network. SNA allows us to explore this, and both of our networks show strong evidence of a core. In each case there is a cluster of vertices (a core) whose internal density is much higher than either the density of their ties to those outside of the cluster (the periphery), or the density of ties between members of the periphery. In London, 60% of all possible ties are realised within a core of 22 actors, compared to 16% within the remaining 24 and 13% between the core and this periphery. Core/periphery membership is indicated in Figure One by way of a colour code; core members are black and peripheral members grey.

This gives us the first of several senses of ‘position’ in networks. Actors can occupy a position in either the core of the network or its periphery. This is significant on various levels. For present purposes note that members of a higher density core could expect to be advantaged by higher levels of trust, solidarity and mutual support, with the opportunities this affords, but also more constrained by a social pressure to prove trustworthy, offer support etc. (Coleman 1988, 1990, Burt 1992, 2005). Moreover, to flag a point we return to, insofar as resources are concentrated amongst members of the core, other core members have greater (indirect) access to those resources than members of the periphery. Conversely, the lower density periphery may be constrained by a less supportive structure but freed up because subject to fewer demands for support and conformity. Actors in the core and periphery are subject to different sets of opportunities and constraints.

Furthermore, insofar as divisions such as core and periphery are experienced and reflected upon by members, this may lead to both a sense of alienation amongst members of the periphery and conflict between core and periphery. It is noteworthy, for example, that *the Damned* (whose members are included in the network) occasionally referred to themselves as outsiders to the punk movement and complained about in-crowds. By many standards *the Damned* were part of the in-crowd of punk, as was everybody included in *Figure One*, but our analysis does place them within the periphery of this in-crowd and their sense of grievance is arguably a reflection upon this. In addition to cohesiveness, therefore, network analysis can identify ‘fault lines’ which might occasion conflict.

Blocks

The core-periphery distinction is relatively crude. It can prove useful for just that reason but we can push the analysis further by seeking out ‘equivalence classes’ and constructing a ‘blockmodel’ of the network (Wasserman and Faust 1994, Scott 2000). A blockmodel breaks a network down into

multiple clusters (blocks), defined by the positional equivalence of their members, noting connections both within and between these blocks (in virtue of the connections between their members). A network involving 100 vertices might be reduced down to a network of 7 blocks, for example, some of which are internally connected (others not) and some of which are connected to others.

There are different ways of defining positional equivalence but we focus upon 'structural equivalence'. In its pure form 'structural equivalence' entails that two or more vertices have exactly the same pattern of ties to exactly the same alters. This seldom arises in practice, however, and blocks tend to be assembled on the basis of *similarities* of profiles as identified by a clustering algorithm. Having positioned actors within blocks, blockmodelling then explores density levels both within and between blocks, similar to the core-periphery procedure.

To illustrate we blockmodelled the London punk network. We began with an exploratory analysis, drawing both upon our qualitative-historical knowledge of the network and a hierarchical clustering procedure, then determined our blocks by way of an optimising algorithm within Ucinet. Our six block solution and its density matrix are represented in *Figure Two*. Most blocks centre upon bands and their wider entourage. Briefly, block one involves members of the *Flowers of Romance* (two of whom went on to *the Slits*); block two centres on *the Clash*; three on *the Damned*; five on *Chelsea*; and six on the *Sex Pistols* and *Bromley Contingent* (including Siouxsie and Severin of the *Banshees*). Block four involves an assortment of less well known players and includes members of *Subway Sect*. In the graph blocks are deemed connected if >10% of the possible ties between them are realised; the density matrix gives the percentages. We will limit ourselves here to three observations on this model.

Firstly, we note the apparent centrality (on centrality see below) of *The Clash's* block (block two). *The Sex Pistols* and their entourage are often deemed to have been the centre of punk. Our analysis offers some support to this. Their block is the largest, is internally highly dense and enjoys ties to three other blocks. However, block two (*the Clash*) is better connected to others at our >10% threshold, is also fairly large and enjoys a 100% internal density. At the very least this demonstrates the significance and centrality of *the Clash* and their entourage, and suggests a need for further reflection on their role in the rise of punk.

Secondly, block four is interesting. At our threshold of connection all blocks are internally connected, as indicated by the reflexive loops around each vertex in the graph. However block four's internal density is only 0.19. Members of this block aren't very densely connected to one another and we might therefore deem them a particularly marginal group. Or rather, they are not a social group at all; they are a set of actors who occupy a similarly marginal position within the network.

Finally, continuing our earlier reflection upon *the Damned* (block 3), note that they are indeed relatively marginal, being both small as a block and linked to only two other blocks at the >10% threshold. Again, the apparent resentment of members of *the Damned* towards the wider punk world can be read against this identification of their relatively marginal position within it. If *the Damned* felt themselves outsiders to punk and inclined to rebel against it, that is because they were relative outsiders, at least to the network structure; connected enough to know what was going on but not close enough to be at its centre.

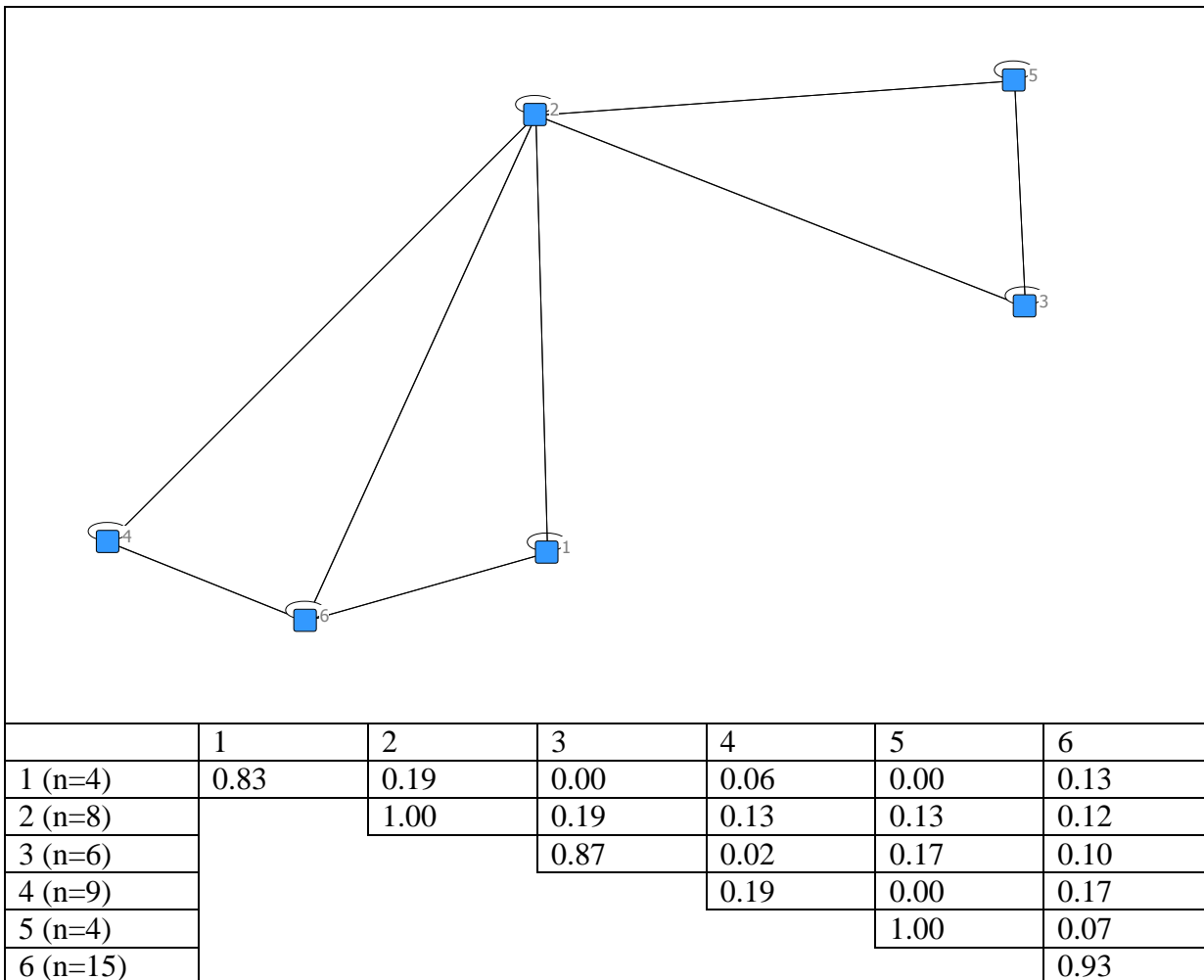
It will be apparent from this, we hope, that blockmodelling facilitates a further, deeper level of structural analysis of a network and, in particular, identifies positions (of block membership) within the network which can be interpreted in terms of dominance, marginality etc. It is one of the tools within SNA which achieves what Bourdieu hopes to achieve by way of MCA but which achieves it through a focus upon concrete relations.

Figure 2 around here

Centrality

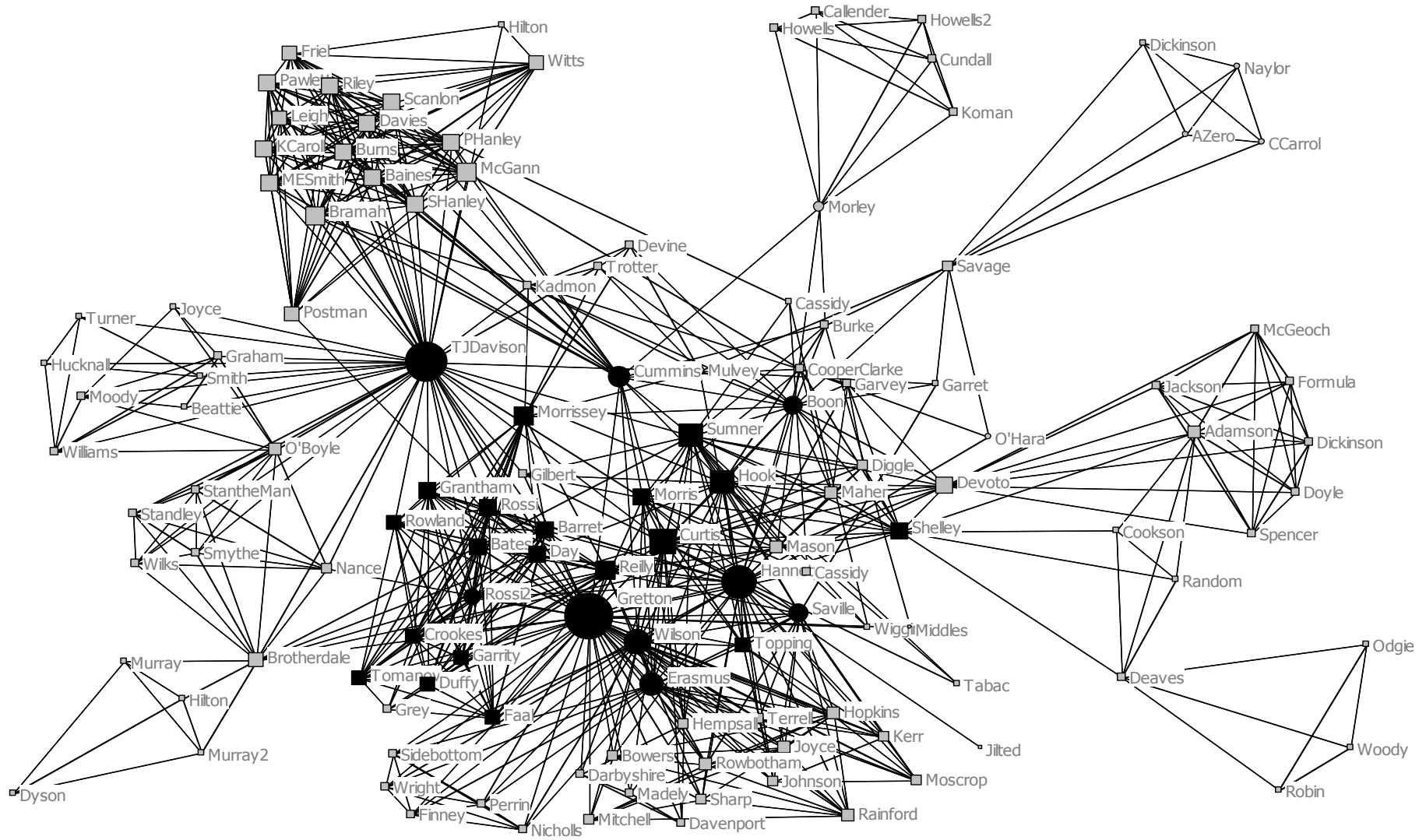
The concept of position can be used in a more individual fashion within SNA too. Numerous measures of vertex 'centrality' facilitate individualised comparisons of actors' positions within the network. The main ones are: *degree centrality* (how many connections does each vertex have?), *closeness centrality* (how many intermediary relations does each vertex have to go through to contact every alter in the network?), and *betweenness centrality* (how often does each vertex lie in the shortest path connecting each pair of alters in the network?).

Figure Two: A Blockmodel of the London Punk Network (with density matrix)



Each measure is important because each entails different opportunities and constraints. Those with a high degree centrality have many contacts upon whom they may call for help or support. This is an advantage. However, they may find that they are subject to more and perhaps competing demands from others in the network in comparison to less (degree) central others. This is a constraint. Those with high closeness centrality are in a good position to organise the network because they have ‘less distance to travel’ to communicate with everybody in it, again an opportunity; but they are perhaps at risk of information overload, which can be constraining. High betweenness centrality is often associated with the role of broker, as actors high in betweenness are in a good position to mediate between otherwise unconnected parts of the network, leading to many advantages for them (Burt 1992, 2005). However, when brokering between warring ‘tribes’ the position can be very difficult and constraining (Crossley: 2008b, 2010a).

Figure Three: the Manchester Post/Punk Network



These measures of centrality vary independently of one another, but in our networks those who are high ranked for one are high ranked for the others. In the London network, the same three actors come in the top three for each measure. More significantly, however, there is a tendency in each network for non-musical actors (actors with other resources than musical skill - e.g. money, management skills, rehearsal rooms etc.) to score highly. *Figure Three*, which maps the Manchester network, illustrates this. Non-musicians are represented as circles (rather than squares), core/periphery membership is represented by colour (black='core') and vertices are sized proportionately to their degree centrality. The big black circles which are very striking on the graph, therefore, represent very well-connected non-musicians within the network. The three biggest are Rob Gretton, who managed a number of bands, including *Joy Division*; T. J Davison, who owned rehearsal rooms (immortalised in the video to *Joy Division*'s 'Love Will Tear Us Apart') used by most of the key bands at some time; and Martin Hannett, who produced most of the main bands and was regarded by many as integral to the Manchester and, more especially the *Factory*² sound.

Figure Three around here

Combining this finding with a qualitative reading of the history of the scene permits the inference that possession of scarce resources makes actors attractive which, in turn, tends to increase their network centrality (though actors can be central for other reasons too). One type of resource helps to generate another. It also supports our earlier contention that core membership is advantageous because well-resourced actors are often found within the core, where other core members will enjoy direct contact with them or a greater volume of indirect ties. Being in the core puts actors in contact with the 'movers and shakers' of a scene.

More generally, this analysis begins to demonstrate how inequalities, both network based and those rooted in possession of external resources, can be analysed by means of SNA. We could push this analysis and application much further, and would need to do so in a more comprehensive analysis informed by the analytic concerns of either Becker or Bourdieu, but we have hopefully said enough to make the point for the purposes of our argument.

Comparing Structural Parameters

In addition to comparing positions within a given network, SNA measures can make comparisons across networks too. We can compare numbers of vertices, for example, densities, averages for centrality scores, dispersal of these scores (which is broadly covered under the rubric of

‘centralisation’³) and so on. This must be done cautiously because many measures are sensitive to the order of the network (number of nodes) and to the types of tie examined. Nevertheless, it can be instructive. In relation to the punk data, for example, it was possible to argue that a key factor explaining why a punk scene emerged first in London, rather than Manchester, in spite of the fact that many of the factors commonly cited to explain the emergence of punk were equally present in both cities in late 1975, is that the London protagonists already formed a relatively cohesive network at this time (which continued to evolve through 1976), whereas the Manchester protagonists did not (Crossley, 2008a). The Manchester network only began to form as a result of punk’s emergence in London.

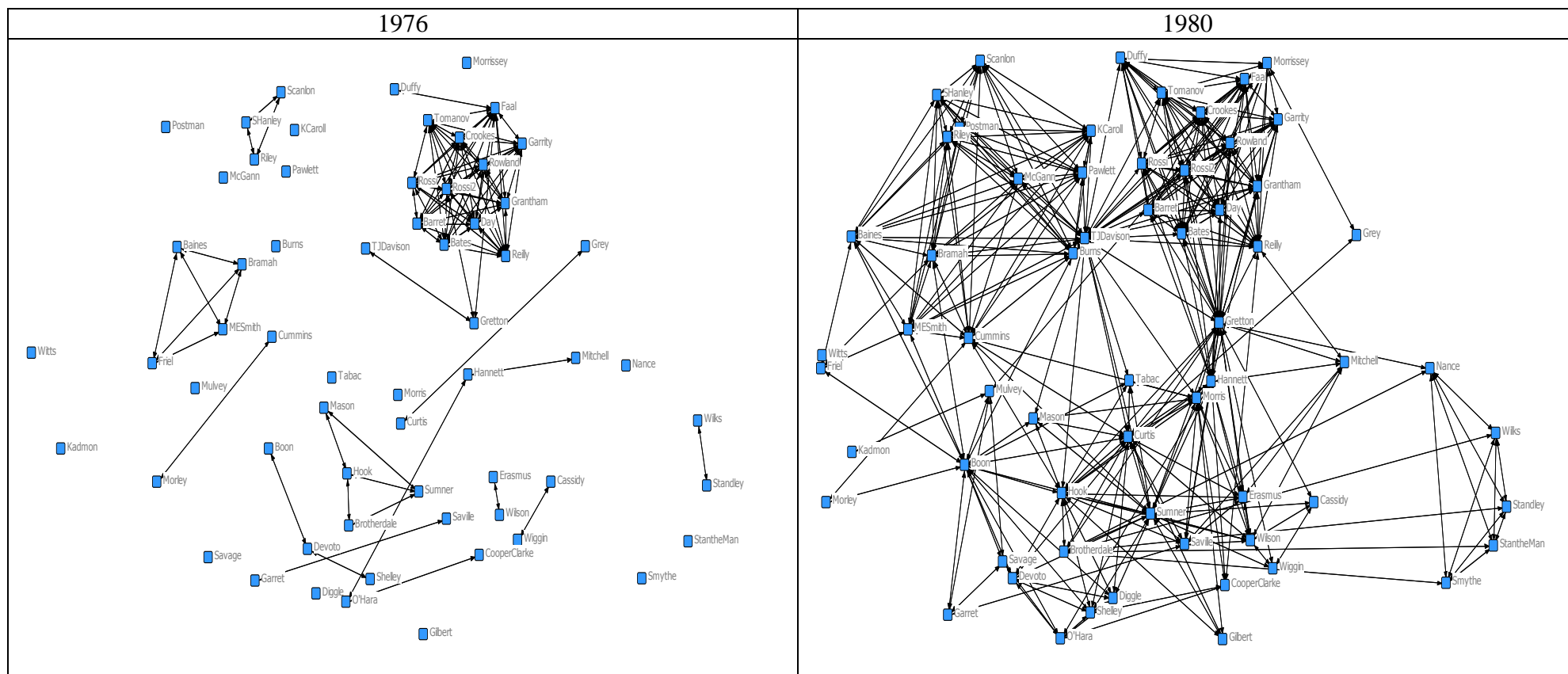
Furthermore, it was possible to trace and explore the emergence and evolution of (a reduced version of) the Manchester network, identifying the mechanisms involved, by way of SNA (Crossley, 2009). In this respect SNA provides tools for reflecting upon the dynamics and evolution of art worlds (or fields).

Figure 4 around here

The ‘before and after’ snapshots of the (reduced) Manchester network are represented in Figure Four. This is not the place to compare the graphs but the most obvious difference is in level of connection and cohesiveness. Whilst both graphs have the same (and thus same number of) vertices, the 1976 graph entails only 96 edges, giving a density of 0.049, where the 1980 graph has 344 edges and a density of 0.177. Likewise, there are 17 ‘isolates’ in the 1976 graph and it comprises 28 unconnected parts (components), compared to no isolates and one single component in 1980. At the very least this demonstrates that the growth of Manchester’s post/punk music world was coterminous with a process of network formation; an observation which supports our and Becker’s emphases upon concrete ties and networks.

Restrictions of space mean that we have offered a relatively superficial network analysis of these post/punk worlds. We believe that we have done enough, however, to demonstrate that SNA identifies important structural properties and positions in networks, in a manner which overcomes Bourdieu’s key objections to an analysis focused upon ‘empirical relations’ between concrete actors whilst simultaneously maintaining that focus and therefore overcoming the no less serious problems of not focusing upon them. SNA gives us structure by way of interaction.

Figure Four: the Emergence and Evolution of the Manchester Network (reduced version)



Conclusion

We have argued for an approach to exploring positional relations in the space of artistic production which is rooted in patterns of concrete connection between actors. In doing so, we advocate the study of interactional ‘worlds’ over the study of underlying ‘fields’. Bourdieu famously deems his account of the social world ‘relationalist’ but maintains that this is quite different to what is meant by ‘relations’ in the social network and interactionist literature. He is not concerned with concrete relations between empirical actors but rather with relations between ‘positions’. However, the concept of ‘positions’ is by no means alien to the SNA literature, or to Becker’s model of ‘worlds’. One of Becker’s key arguments is that artistic production requires a division of labour in which specific roles and positions ‘feed’ one another with the necessarily materials that each needs, and SNA has numerous routines for identifying both structure and positions in networks. Bourdieu’s notion of position is admittedly different but we reject his claim that a model of social space centred upon juxtaposed ‘positions’ defined by volume and composition of economic and cultural capital is incompatible with or superior to a network model focused upon interactions and ties. Actors can simultaneously possess resources and interact and form relations with one another. There is no conflict or contradiction between these two claims.

Indeed, the concept of ‘capital’ entails ‘exchange value’, which necessarily presupposes ‘exchange’ - a form of interaction. There is no capital without exchange relations, and without capital there is no Bourdieusean social space and thus no positions in space as Bourdieu defines them. One of Bourdieu’s key concepts (capital) presupposes interaction, therefore, and his dismissal of interaction as trivial is self-undermining. Furthermore, we note that the conflicts and struggles that Bourdieu deems constitutive of fields are in themselves ‘positive’ ties between those occupants or positions. Conflict is, as Simmel (1955) argued, a relationship.

Because he fails to account for ties and interactions between individuals in his model of social space, Bourdieu tends to suggest, by default, that social order, change and dynamics are all mere aggregate effects of the actions of individuals. We doubt that he really believes that. Even methodological individualists, such as Coleman (1990), are clear to distance themselves from such an implausible position. Nevertheless, in the absence of a consideration of concrete ties and interactions that is the implication of his position. Of course one can operate at a high level of abstraction, where interactions and relations of exchange cease to be visible, but that does not mean that they cease to be relevant or effective. It means only that one ceases to see them. And that divorces one’s

representation of social structure from a proper grasp of the dynamics and mechanisms which shape and move it. This is one reason, in our view, why Bourdieu sometimes grasps at rather clunky metaphors in his account of fields, in which social activity is deemed to be moved by ‘magnetic fields’ or a mysterious ‘action at a distance’. Such metaphors do not clarify the workings of the social world. Bourdieu has little alternative open to him, however, if he defines social space in the way that he does and chooses to operate at such a high level of abstraction. ‘Everything happens as if ...’, he is fond of saying, as he marvels at the way in which the social world appears to assemble itself. We suggest that how things appear to us depend upon the level of abstraction that we adopt, and that a somewhat lower level of abstraction, a level where concrete interactions, ties and networks remain central, is more conducive to blowing away ‘just so’ stories and exploring the mechanisms and dynamics that give the social world its character. Or rather, it is necessary to move up and down the scale of abstraction if we are to get a proper grasp on the social world, whilst always maintaining concrete interaction, where ‘it all happens’, as an anchor and final point of reference.

SNA allows us to do this. Moreover, SNA allows us to build upon the notion of networks that is rather loosely developed within the social world literature, pointing to various ways in which networks create opportunities and constraints for (inter)actors which affect their (inter)actions. Of course, SNA itself has been subject to the same charges - of excessive formalism and abstraction - that we have levied at Bourdieu. However, SNA’s focus is more directly on social relationships which, when allied to a social world analysis, can easily be reconnected to the content of social interaction. As Fine and Kleinman (1983) suggest, the techniques and concepts of SNA, particularly as developed in its anthropological current, are not in any way incompatible with the claims of interactionist theory (see also de Nooy, 2009; Crossley, 2010b).

These authors do point to weaknesses in the SNA approach, however, which they believe can be remedied by recourse to the central ideas of interactionism. We share this view and believe that the ‘social worlds’ concept draws our attention to important social dynamics not directly or necessarily identified in SNA and not necessarily implicated in the concept of ‘networks’ (Crossley, 2010b). The notions of both ‘resources’ and ‘conventions’, which Becker adds to ‘networks’ in his analysis of ‘worlds’, are obvious and important omissions. In addition, the interactionist emphasis upon meanings (e.g. of relationships or specific interactions), upon the process and details of interaction and relations, and upon situational definition (and definitions of a network, both shared and individual) are all important, especially when we are interested in the production and consumption of culture. Culture may be, as Shibutani (1955) claims, coterminous with channels of communication,

and those channels, qua network structures, shape the process of cultural emergence, but beyond channels and their structure, culture entails what happens in communication and interactionism is sensitive to those processes in a way that SNA is not.

Whilst we argue that the interactionist conception of ‘social worlds’ can be advanced through an incorporation of the techniques and ideas of SNA, therefore, we insist that this only serves to develop one dimension of the social worlds idea and that the other dimensions remain important. We cannot replace interactionism with SNA, nor social worlds with networks. We must use each to enhance the other.

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¹ Bourdieu acknowledges that salons created 'enduring connections, founded on affinities of lifestyles and values' which 'helped structure the literary field and ensure exchange between those in power and the most conformist or the most prestigious writers' (1993:194). Similarly, Manet's artistic revolution is linked to morphological change disrupting fields relations, with the artistic milieu creating a 'social laboratory' for 'aesthetic subversion' (1993: 238, 252). The low institutionalization and relative autonomy of artistic activity creates fields in which peer recognition (and so network heterogeneity and interaction) is particularly consequential. However, Bourdieu sees such conditions as exceptional and perhaps fleeting, as he indicates the increasing 'heteronomy' of the artistic fields, as they become more subject to market forces (1996a).

² Factory was one of Manchester's key independent record labels and associated with a particular camp within the Manchester scene.

³ 'Centralisation' measures how centralised a network is by way of an analysis of the dispersal of the centrality scores. Every set of centrality scores (e.g. degree, closeness, betweenness etc.) generates a corresponding centralisation score.

