

Clarke N (2009) 'Networks, urban', in Kitchen, R and Thrift N (eds) International Encyclopedia of Human Geography (Oxford, Elsevier) pp414-418 [final author version post peer reviewing]

Keywords

Actor network, community, global city, globalization, infrastructure, network, social capital, social network, suburbanization, urbanization, world city network.

Glossary Entries

Homophilic network – A spatial arrangement comprising nodes characterized by their similarity to one another. Opposed to heterophilic network: a spatial arrangement comprising nodes characterized by their difference from one another. See also social capital and weak tie below.

Network – A spatial arrangement comprising nodes connected by routes. Such nodes are usually arranged without linear direction (so as to distinguish networks from chains). They are sometimes arranged without one obvious centre (so as to distinguish networks from webs).

Primary contact – A relationship between individuals (or the individuals themselves) exhibiting relative permanence, often founded in kinship, and usually broadly supportive.

Opposed to secondary contact: a relationship between individuals (or the individuals themselves) usually providing specialized support, and often mediated by money, calculation, and/or legislation. See also weak tie below.

Social capital – The value of social relations, evident in how they bond individuals together into communities of common interest (bonding social capital), and how they bond communities of common interest together into societies (bridging social capital).

Social network – A spatial arrangement comprising individuals connected by contacts, relationships, or ties, along which tend to flow resources and opportunities, and also norms, claims, demands, and expectations.

Weak tie – A relationship between individuals (or the individuals themselves) characterized by relative informality, and usually characterized by little overlap between the social networks of each individual, so that new information and opportunities often flow through the relationship. Opposed to strong tie: a relationship between individuals (or the individuals themselves) characterized by relative formality, and usually characterized by much overlap between the social networks of each individual. See also primary contact above.

Synopsis

For much of the twentieth century, urban networks was a term used by sociologists and others to describe social networks, their importance for bonding within communities and bridging between communities, and their relationship to the geographical mobility implied by late nineteenth- and early twentieth-century urbanization, mid-twentieth-century suburbanization, and late twentieth-century globalization. This relationship is often assumed to be one in which social networks are threatened by geographical mobility. From sometime in the 1980s, in a context of globalization, network became a metaphor used across the social sciences to describe how people, ideas, and objects flow between nodes in a globalizing world, and urban networks became a term used by geographers and others to describe at least four more or less connected things: 1) archipelagos of world or global cities, in which centrality depends on networks of producer services and information and communications technology infrastructure; 2) this information and communications technology infrastructure, among other networked infrastructure, which has become unbundled in recent years, leading to fragmented or splintered cities; 3) other smaller networks of humans and non-humans – actor networks – that help to maintain urban life; and 4) twenty-first-century social networks, characterized by their transnational geographies and relatively high levels of institutionalization and self-consciousness.

Article

For much of the twentieth century, urban networks was a term used by urban sociologists and others to describe the networks of social support carried and translated into urban environments by rural-urban migrants, and constructed anew by metropolitans. These urban networks provide the former section of this entry. From sometime in the 1980s, urban networks became a term used by urban geographers and others to describe a number of more or less connected things, from archipelagos of world or global cities, through assemblages of social and technical actors that give urban life its apparent order/disorder, to new forms of social support arising in the first few years of the twenty-first century. These urban networks provide the latter section of this entry.

Urban Social Networks

From the very beginning, one of the central claims of Sociology has been that social networks are important. Among other places, this claim was originally substantiated in Emile Durkheim's renowned study of suicide, completed in the last few years of the nineteenth century. Durkheim analyzed suicide rates in relation to various measures of alienation, race, heredity, climate, and imitation – the usual suspects of the time – but found little correlation. Where he did find correlation, however, was between suicide rates and various measures of social integration. He found that suicide rates were lower among Catholics, because Catholicism emphasized ties between the individual and the group (in a way that Protestantism did not). They were lower at times of crisis, because

individuals pulled together at such times. And they were lower among men, because women lacked the opportunities for collective existence afforded to men.

More recently, the claim that social networks are important has been substantiated by sociologists working predominantly in North America in the field of social capital (a term used to describe the value of social relations). For these analysts, social networks represent bonding social capital, since they bond individuals together into communities of interest. And they represent bridging social capital, since they bond communities of interest together into societies. In this literature, social networks, and the social capital they represent, explain variations in educational attainment and child welfare, because social networks are supportive of children, not least because they deliver financial and other resources. They explain variations in neighborhood safety and productivity, because they enable positive enforcement of standards among residents, and offer younger residents access to mentors and employment contacts. They explain variations in economic prosperity, because advice, information, techniques, recommendations, and the kind of generalized trust that leads to reduced transaction costs all circulate through social networks. Finally, in this literature, and also in broader public debate, social networks explain variations in democratic health: because they enable individuals to express their interests to, and to protect themselves from abuses by, governments; because individuals learn the practical skills necessary for public life through their involvement in social networks; and because social networks serve as forums for deliberation over public issues.

The claim, then, is that social networks are important for individuals, communities, and societies. In addition to this, however, the claim has also been that social networks are important for sociologists, anthropologists, psychologists, and others, in that social networks allow such analysts to move between the micro level (of individuals, small groups, and interaction) and the macro level (of organizations, structures, and patterns). We can identify such a role for social networks in Alfred Radcliffe-Brown's classical notion of social structure, which used the metaphors of fabric and web to describe social life. We can identify such a role in Jacob Moreno's influential methodology of sociometry, which constructed and represented the opportunities for, and constraints upon, personal psychological development, and their delivery through group relations. And we can identify such a role for social networks in Clyde Mitchell's seminal theory of group organization – his concepts of personal order (the links an individual has with a set of people, and the links these people have among themselves), total network (the links among members of a community or organization, and also the links that cut across the boundaries of such a community or organization), and partial network (the links centered on an individual – as in the personal order – or the links centered on a particular social activity, such as kinship). On the back of these notions, methodologies, theories, and concepts, mostly formulated around the middle of the twentieth century, numerous studies from the last 60 or so years have taken social networks as their starting point and unit of analysis. These include: studies of disease transmission by general systems theorists; studies of group structure, solidarity, and norms by factory and community analysts; and studies of both African tribal societies and British small towns and villages by social anthropologists.

In this social network tradition, a prominent point of focus has been the relationship between urbanization and social networks. As early as 1887, Ferdinand Tönnies expressed his concern that rural social networks – founded in permanency of abode, characterized by sympathetic relationships between kinsfolk and old acquaintances – were threatened by urbanization, associated geographical mobility, and associated relationships mediated by money, calculation, and legislation. Similar concerns were common among urban sociologists of the early twentieth century, and especially Georg Simmel and Louis Wirth. Cities were defined by their size, heterogeneity, density, and consequent intense stimulation of the nervous system. Metropolitans were defined by their social technologies: clocks and watches, by which meetings took place; money and calculation, by which exchange took place. They were defined by their blasé attitudes and spatial segregation – both attempts to avoid internal atomization, given the overwhelming number and diversity of potential relationships, and associated claims and expectations, brought forth by the city. Most importantly, for the present entry, they were defined by their poverty of primary contacts, and their abundance of secondary contacts. Though such a portfolio of contacts could be experienced as liberating by some people – liberating of individuality, for example – more often than not, it was assumed by urban sociologists to be debilitating for both persons and their communities.

We return to secondary contacts and liberating experiences below. Before that, we turn to the concerns of mid-twentieth-century urban sociologists, as they focused on the relationship between urbanization and social networks. More specifically, we consider

two renowned studies of post-war slum clearance and urban renewal, both of which raised questions about the position of Tonnies and others with regard to urbanization and social network dissolution/survival. In the late 1940s and early 1950s, Michael Young and Peter Willmott studied kinship networks in the London Borough of Bethnal Green. They found that such networks were very much alive in East London because, among other things, mothers and daughters continued to live in close proximity to one another, as they continued to share the experiences, interests, and associations of child rearing. Young and Willmott found that such networks had importance – they constituted a social asset – in that young women enjoyed support during childbirth and motherhood, grandparents enjoyed support in old age, relatives functioned as a bridge between the individual and the community, and people tended, therefore, to recognize faces in the crowd, to be recognized themselves, and to enjoy the interdependent senses of familiarity, belonging, and contentment. Finally, and significantly, Young and Willmott found that such networks were under threat from the policy of London Borough Council to move people away from places like Bethnal Green and onto housing estates at, or beyond, the city's boundaries. In short, with the concerns of Tonnies, Simmel, Wirth, and others in mind, Young and Willmott argued that traditional social networks had survived urbanization, at least in East London, but were now threatened by the next wave of geographical mobility: suburbanization.

The second study of post-war slum clearance and urban renewal for consideration is an ethnography of native-born Americans with Italian parentage living among other groups in West End, an inner city Boston neighborhood, undertaken by Herbert Gans between

1953, when the neighborhood was officially labeled a slum, and 1958, when demolition began under the Federal Renewal Program. Among other things, Gans found that West End was neither a slum nor an urban jungle – a low-rent neighborhood that attracts criminals and the mentally ill, and is populated, therefore, by single men, pathological families, people in hiding, and individuals and groups providing services for such people. Rather, it was an urban village – a low-rent neighborhood that attracts immigrants, and in which urban migrants attempt to adapt their nonurban institutions and cultures to the urban milieu. In West End, such attempts led to what Gans identified as the peer group society – a society in which the strongest relationships were between people of the same gender, age, and life-cycle status (e.g. siblings and cousins), in which the rules of selection were based less on kinship ties and more on socio-economic and cultural compatibility, and in which the mainstay was the family circle – a unit between the extended family of hunting or agricultural societies, and the nuclear family of urban societies. While this peer group society discouraged educational and occupational mobility, and discouraged close households, it encouraged sociability and mutual aid; it encouraged the exchange of news and advice, the planning of events, the exchange of memories, and the provision of entertainment and companionship. Most significantly, however, for Gans at least, the peer group society of West End inhibited collective action, since group members were preoccupied with constructing themselves as individuals through competition with each other. As a result of this, and the multiple concerns and actions of politicians and planners, the relatively harmless low-rent district of West End was torn down between 1958 and 1962 and replaced by a luxury apartment complex,

West Enders were dispersed across the metropolitan area, and what Gans viewed as a functioning social system was destroyed.

This study by Gans, and that by Young and Willmott, and those by Tonnies, Simmel, Wirth, and others, can be seen as constituent parts of a tradition of urban sociology that views geographical mobility as threatening to social networks. The descriptor tradition is useful because it describes a conversation in which participants agree upon the topic of conversation, and this topic remains constant over time and space, while the positions of participants may differ in relation to place, time, and topic. Many commentators predicted the decline of traditional social networks with the rise of urbanization at the end of the nineteenth century. Around the middle of the twentieth century, some commentators found that traditional social networks in places like Bethnal Green had survived. Around the same time, other commentators found the adaptation of traditional social networks into new, but nevertheless functioning, social systems in places like West End. Many of these commentators predicted the decline of traditional or adapted social networks with the rise of suburbanization. One way to get beyond these different positions is to supplement ethnographic studies of particular neighborhoods with something like Robert Putnam's macro-level study of trends in social capital across the United States of America during the twentieth century. Using available survey data, Putnam examined trends in: political participation; civic participation; religious participation; connections in the workplace; informal social connections; altruism, volunteering, and philanthropy; and reciprocity, honesty, and trust. He found that levels rose for all of these variables between the beginning of the century and 1960, at which

point they leveled off, before declining towards the end of the century. In other words, he found that levels of social capital rose during the first half of the century, a period of urbanization. And he found that levels of social capital stagnated, and then declined, during the second half of the century, a period of suburbanization. Having said that, it is worth noting that, for Putnam, while suburbanization is a minor culprit in this stagnation and decline, along with new time and money pressures, the major culprits are technology and mass media, and generational replacement (of the Second World War generation by the baby boomer generation and Generation X).

It is also worth noting that Putnam found two or three exceptions to this general trend of stagnation and decline. He found that participation in small groups and membership of social movement organizations had both grown since 1960. And he glimpsed in the Internet the potential to enhance communication, to include otherwise peripheral participants, to flatten hierarchies, and to enhance democracy; though he also glimpsed an emerging digital divide, and emerging cyberbalkanisation – the confinement of communication to groups whose members share similar interests, leading to bonding within these groups, but not to bridging between such groups. These exceptions, identified by Putnam, point to some concluding comments about urban social networks.

The conversation about urban social networks among sociologists and others did not stop with studies of slum clearance and urban renewal in the mid-twentieth century. Since the 1960s, a group of social network analysts – first at Harvard under the leadership of Harrison White, then through the Toronto-based International Network for Social

Network Analysis, under the leadership of two former students of White, Barry Wellman and Steve Berkowitz – have turned their focus from the survival of traditional social networks in cities to the emergence of non-traditional social networks in contemporary society. Among other things, these analysts have focused on weak ties, directed by Mark Granovetter, who studied how people find work, and found that people acquire information about job opportunities through their informal social contacts. So, weak ties are more than sources of alienation – the position of Louis Wirth and others in the early twentieth century. They help to diffuse information, to increase opportunities, and to bridge social distance between cliques, leading to social cohesion, and even the kind of collective action Herbert Gans found missing from inner-city Boston. More broadly, these analysts have focused on multiple ties, their multiple geographies, and the multiple kinds of social support provided through these ties and geographies. The work of Barry Wellman has been particularly influential in this regard. In Wellman’s work, the oft-conflated categories of primary ties, solidarity (shared sentiments), and locality are held apart. This enabled Wellman to observe social networks of the 1970s – a period of residential mobility, kinship dispersal, and urban diversity – while others were blind to them, having taken the traditional neighborhood as their primary object of analysis. Wellman’s observations led him to conclude that social networks neither died with nor survived the geographical mobility described by urbanization and later suburbanization. Rather, for Wellman, social networks were liberated by this geographical mobility – liberated from their local roots. So, primary ties have multiple bases, including kinship and friendship, and multiple geographies, including the neighborhood and the metropolitan area. They provide multiple kinds of social support, from emotional aid,

through small and large services, to financial aid and beyond. And networks have multiple segments, one of which may contain immediate kin, whose relations are ascribed, stable, and broadly supportive, while another may contain workmates, for example, whose relations are achieved, adaptive, and specialized in support.

This multiplicity, identified by Wellman, leads to the second part of this entry. As we have seen, for much of the twentieth century, urban networks was a term used by sociologists and others to describe social networks, their importance for bonding within communities and bridging between communities, and their relationship to the geographical mobility implied by urbanization and suburbanization. From sometime in the 1980s, however, usage of the term urban networks both multiplied and diversified across the social sciences in general, and particularly within Geography. This was not least because urban geographers and others required a productive way out of the structure versus agency debates of the late 1970s and early 1980s, and networks had been helping sociologists and others to move between the micro and macro levels since at least the 1960s. It was also because, while the relationship between geographical mobility and networks had been viewed as one of tension for much of the twentieth century, in the work of Wellman and others, during the 1970s, networks had become liberated from locality and looked more and more like appropriate units of analysis for an increasingly mobile and interconnected world.

Proliferating networks

Across the social sciences, since the technological revolution of the 1970s and the liberalization of international trade and investment, the network has become a popular metaphor – has become popularized by scholars like Manuel Castells and John Urry as a metaphor – to describe how people, ideas, and objects flow between nodes in a globalizing world. Within this broader context, the term urban networks has come to describe at least four things. First, it has come to describe archipelagos of world or global cities. Claims of the world or global cities literature include: that global production provides a new role for certain cities as command centers; and that such cities, with their management, finance, corporate service, and media jobs, and their catering, cleaning, and security jobs, are characterized by social polarization. An important claim, for the present entry, is that centrality within the world city network – the network of cities with functions in the global economy – depends on the presence of other urban networks. These include networks of producer services, that produce in certain cities a capability for global control. Saskia Sassen has written most extensively about these networks of producer services, and has noted that, whereas such networks were concentrated in the centre of cities during the 1980s, they are increasingly found stretched across suburban office complexes and edge cities – across anywhere rich in cyber-routes, digital highways, and advanced telematics.

Indeed, if networks of producer services constitute one further network on which centrality within the world city network depends, then another is constituted by networks

of infrastructure, including telecommunications – most importantly – but also transport, energy, water, streets, and so on. These networks – a second subject of the term urban networks in contemporary Geography and the broader social sciences – appear most notably in the work of Steven Graham and Simon Marvin. They appear as something that integrated urban space between 1850 and 1960, during which time piecemeal provision became replaced by centralized and standardized systems, fragmented islands of infrastructure became integrated and consolidated, and services became more predictable and dependable across urban space. But, after 1960, these networks entered a period of crisis, in a context of fiscal problems that forced many nation-states to explore transferring their infrastructure operations to private operators (for the one-off spoils of privatization), in a context of collapsed support for comprehensive urban planning among business leaders, feminists, environmentalists, and others, and in a context of continued urban sprawl. In the contemporary period, networked infrastructure has become unbundled or splintered into a myriad of individually financed and managed projects, since bankers have been reluctant to fund large-scale and high-risk developments. Infrastructure has enjoyed investment in prosperous or otherwise central areas, and suffered disinvestment in poor or otherwise marginal areas. Favored users and places have become increasingly connected by premium networks, while less favored users and places have become increasingly bypassed. And cities have become increasingly fragmented or splintered as a result.

Such a focus on networks of infrastructure – or networks of social support, or networks of service production for that matter – encourages an imagination of cities as cross-cut by

various networks that interweave and collide, that combine humans and non-humans, and that help to construct a sense of contemporary cities as, on the one hand, open and porous places of connections, juxta-positions, and encounters, and, on the other hand, ordered and regulated places of institutions, conventions, and technologies. Among others, Ash Amin and Nigel Thrift imagine cities in this way. Like Barry Wellman, they resist mourning the loss of traditional ties within coherent, stable, and proximate communities (while wondering if such communities ever existed anyway), just as they resist yearning for utopias, in the tradition of much writing about cities and their problems. Instead, they seek to acknowledge, surveil, and selectively support the small networks that do exist in the present and contribute to the maintenance of contemporary urban life; the urban actor networks, that describe friendship networks but also the technological unconscious of cities, by which is meant the clocks and watches that interested Georg Simmel at the beginning of the twentieth century, as much as the postcodes and software that interest urbanists at the beginning of the twenty-first century.

So, at the beginning of the twenty-first century, the term urban networks describes networks of cities with functions in the global economy, networks of infrastructure that have become unbundled in recent years, and networks of humans and non-humans that help to maintain urban life. The fourth subject of the term urban networks in contemporary Geography and related disciplines takes the present entry full circle and back to urban social networks. Analysts have continued to study these networks as they have changed over the last three decades – decades characterized by high levels of migration and new communications technologies. They have found that social networks

are increasingly transnational, in that people, ideas, and objects move back and forth as a matter of routine, within migrant networks (both corporate and diasporic), and across the borders of cities and nation-states. And they have found that social networks are increasingly institutionalized and self-conscious. This is necessary given the instability and incoherence of contemporary cities. So, the word network has become a verb in recent times, the Internet contains social networking sites, and networking events take place, where people meet for short and intense exchanges of information, ordered in part by technologies of networking, such as business cards and databases. These urban networks are emerging at the present time. They are expected to attract much attention from geographers and others in the future.

Further Reading

Amin, A. and Thrift, N. (2002). *Cities: Reimagining the urban*. Cambridge: Polity Press.

Castells, M. (1996). *The rise of the network society*. Oxford: Blackwell.

Durkheim, E. (1897/2002). *Suicide: A study in Sociology*. London: Routledge.

Gans, H. (1962). *The urban villagers: Group and class in the life of Italian Americans*. New York: Free Press.

Graham, S. and Marvin, S. (2001). *Splintering urbanism: Networked infrastructures, technological mobilities and the urban condition*. London: Routledge.

Granovetter, M. (1974). The strength of weak ties. *American Journal of Sociology* **78**, 1360-1380.

Putnam, R. (2000). *Bowling alone: The collapse and revival of American community*. New York: Simon and Schuster.

Sassen, S. (1991). *The global city: New York, London, Tokyo*. Princeton: Princeton University Press.

Scott, J. (1991). *Social network analysis: A handbook*. London: Sage.

Simmel, G. (1903/1950). The metropolis and mental life. In Wolff, K. (ed.) *The Sociology of Georg Simmel*, pp409-424. New York: Free Press.

Smith, M. (2001). *Transnational urbanism*. Oxford: Blackwell.

Taylor, P. (2004). *World city network: A global urban analysis*. London: Routledge.

Tonnies, F. (1887/1955). *Community and association*. London: Routledge and Kegan Paul.

Urry, J. (2000). *Sociology beyond societies: Mobilities for the twenty-first century*. London: Routledge.

Wellman, B. (1979). The community question: The intimate networks of East New Yorkers. *American Journal of Sociology* **84**, 1201-1231.

Wirth, L. (1938). Urbanism as a way of life. *American Journal of Sociology* **46**, 1-24.

Young, M. and Willmott, P. (1957). *Family and kinship in East London*. New York: Free Press.

Relevant Websites

www.insna.org/, the official site of the Toronto-based International Network for Social Network Analysis.

www.lboro.ac.uk/gawc/, the official site of the Globalization and World Cities Study Group and Network, hosted by the University of Loughborough.