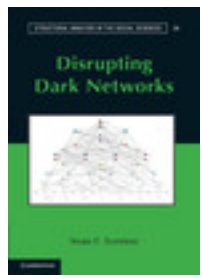

Disrupting Dark Networks

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12

The Promise and Limits of Social Network Analysis

12.1 Introduction

We have come a very long way in a relatively short time. Chapter 1 introduced social network analysis's (SNA) basic terms, concepts, and assumptions of social network theories and methods, and Chapter 2 offered a strategic framework into which social network analysis can be embedded for the disruption of dark networks. Chapters 3 and 4 introduced UCINET, NetDraw, Pajek, and ORA and covered the basic skills needed for the collection, manipulation, and visualization of social network data. Chapters 5 through 11 examined some of the more common social network metrics for measuring network topography, detecting cohesive subgroups, finding central and peripheral actors, pinpointing brokers and bridges, locating structurally equivalent actors, analyzing longitudinal and geospatial network data, and disentangling genuine effects from spurious effects.

This final chapter considers the promises and limitations of social network analysis. SNA is not a silver bullet in the fight against terrorist and criminal networks but rather one tool that can be used in conjunction with other tools in the crafting of potential strategies. Moreover, there is also the concern that the theories and methods outlined in this book will be used for ill rather than good. This concern is not limited to SNA but is one that arises whenever knowledge is disseminated in classrooms, through journals, by the creation of software, and so on. Nevertheless, general guidelines do exist as to how such knowledge should be used, which is why this chapter explores the ethics of using SNA for the disruption of dark networks. It considers a variety of ethical traditions before arguing that the just war tradition, which is rooted in the Aristotelian idea that ethics should be guided by the goal of encouraging those practices that allow human beings to flourish, provides helpful guidelines for the proper (and improper) use of social network analysis.

12.2 The Promise and Limits of Social Network Analysis

It is hard to argue with the observation that in recent years SNA has enhanced our understanding of how dark networks are structured and has offered potential strategies for their disruption. We have learned, for example, that the September 11, 2001, terrorist network was relatively decentralized in that its members had few ties to members of other cells (Krebs 2001). Apparently, some did not even know some of the others who were on the same flight as themselves. Despite the network's lack of connectedness, however, a handful of those involved (e.g., Mohamed Atta and Nawaf al-Hazmi) possessed key ties to others that allowed them to control, broker, and facilitate the flow of information and other resources through and across the network (Krebs 2001). The terrorist network that carried out the March 11, 2004, Madrid train bombings displayed similar dynamics (Rodriguez 2005). It was characterized by weak ties (Granovetter 1973) that enabled its cells to maintain operative ties with the larger network while remaining relatively isolated from and unknown to one another. This probably helped the network remain relatively invisible to counterterrorism efforts and provided it with a degree of stability if (and when) group members were captured, as most possessed little or no knowledge of the network's overall structure.

The social network analysis of dark networks took a giant leap forward with Sageman's (2003, 2004) analysis of the global Salafi jihad (GSJ). Not only did it challenge stereotypes that many hold regarding terrorists, but it also found that the GSJ exhibits network dynamics that researchers have discovered about other groups (religious and otherwise). For example, like most social movements (Lofland and Stark 1965; McAdam 1986; Snow, Zurcher, and Ekland-Olson 1980; Stark and Bainbridge 1980), it recruits primarily through social ties – in particular, through kinship and friendship ties (Sageman 2004) – and, as we briefly mentioned in Chapter 1, it displays the characteristics of scale-free networks (Barabási 2002; Barabási and Bonabeau 2003). This led Sageman to argue that the United States should focus its efforts on taking out hubs rather than randomly stopping terrorists at our borders.

Until recently, social network analyses of dark networks has tended to focus on individual-level social networks, in particular, key actors who score high in terms of centrality or whose structural location allows them to broker information and/or resources within the network. However, as we noted in Chapter 2 and elsewhere, while focusing on key individuals may be intuitively appealing and might provide short-term satisfaction, such a focus may at times be misplaced and, in fact, could make disrupting dark networks more difficult than it already is. Indeed, this book's running analysis of the Noordin Top Terrorist network using a range of

metrics and focusing on multiple levels has demonstrated that analysts can use SNA to craft a wide variety of strategies for the disruption of dark networks. Most of these strategies are captured in Table 12.1, which not only illustrates the combination of metrics and strategies that have been covered in the previous chapters but also points to numerous combinations that were not explored. In other words, the blank cells in the table should not be interpreted to mean that those particular combinations of metrics and strategies do not exist. Indeed, they almost certainly do. It is just that we did not consider them here. Moreover, one could imagine a three-dimensional version of this table that maps the application of metric and strategic combinations at different levels (i.e., individual, subgroup, institutional), suggesting more than 160 different strategic options for using SNA to disrupt dark networks.

That said, we must keep in mind that SNA is not a silver bullet in the fight against dark networks. To reiterate what we noted in Chapter 2, the generation of strategic options should not be confused with decision making which depends on an array of issues (e.g., knowledge of local context and culture; the assessment of risks, costs, and potential for unintended consequences). SNA can inform decision making, but it should not determine it. A helpful analogy comes from George Crile's book *Charlie Wilson's War* (Crile 2003), which tells the true story of U.S. Congressman Charlie Wilson who, along with CIA operative Gust Avrakotos, helped organize and support the Afghan mujahideen in their fight against the Soviet occupation of Afghanistan. In the book, Crile notes that although Wilson saw supplying the mujahideen with stinger missiles as the key (or silver bullet) for driving out the Soviets, Michael Vickers, a Special Forces and CIA paramilitary operations officer whom Wilson and Avrakotos hired to help oversee the operation, argued that in irregular warfare there is no such thing as a silver bullet. Instead, what matters is getting the mix of weapons right. While supplying the mujahideen with stinger missiles was certainly an important factor in helping them in their struggle against the Soviets, he contended that it was only one tool in the toolbox. Other weapons were needed. Similarly, SNA should be seen as one tool in the toolbox in the fight against dark networks. It must always be used in conjunction with others if the fight is to be successful.

12.3 Disrupting Dark Networks Justly

A review of a few of the social science textbooks sitting on my shelves (e.g, Babbie 1986; Frankfort-Nachmias and Nachmias 1996; Giddens, Duneier, and Appelbaum 2006; Henslin 2007; Israel and Hay 2006; McIntyre 2002; Neuman 1997) found that their discussions of ethics tend to focus on two main areas of interest. The first, the area that

Table 12.1. *Summary of strategies identified for disrupting Noordin's network*

		Nonkinetic				
	Kinetic (Targeting)	Institution-building	PsyOp	Information operations	Rehabilitate, reintegrate	Track, monitor
Topography	Close jihadist schools	Build alternative schools				
Clustering & Cohesion	Remove brokers		Create distrust between subgroups		Rehabilitate noncore members	
Centrality & Power	Remove central members		Deception campaign aimed at central actors	Disrupt communication network	Rehabilitate peripheral members	Monitor central members
Brokers & Bridges	Remove brokers		Discredit brokers; dissolve bridges	Disrupt communication bridges		
Roles & Positions	Remove Noordin		Discredit or isolate block in brokerage position		Target Non-Noordin blocks for ideological reorientation	Monitor actors structurally equivalent to Noordin
Longitudinal Analysis	Remove key actors once network is centralized		Create distrust so that leaders centralize power			
Change Detection	Seize explosives & weapons					Track networks for change
Geospatial & Relational Analysis	Isolate geospatially peripheral members		Isolate geospatially peripheral members			Identify emerging leaders
Multivariate Regression	Disrupt communication network	Build alternative schools		Disrupt communication network	Build alternative schools	

probably attracts the most reflection, is human subjects research, which concerns itself with the need to protect the privacy and rights of the individuals being studied (i.e., the subjects). In this area social scientists appear to exhibit a high degree of consensus about what constitutes the ethical and unethical treatment of individuals, and studies such as Milgram's (1974) Obedience to Authority experiments, Humphreys's (1975) Tearoom Trade study, and Zimbardo's Stanford Prison experiment (Zimbardo 1972, 1973; Zimbardo, Maslasch, and Haney 2000) are held up as examples of research that went awry and violated the rights and dignity of individuals. In terms of human subjects research, SNA raises its own set of issues, such as the impossibility of keeping the identities of subjects confidential when asking questions such as, Whom do you consider a friend? and To whom do you go to for advice? This has been a topic that social network analysts have recently taken up in earnest (see, e.g., Borgatti and Molina 2005; Breiger 2005; Kadushin 2005; Klovdahl 2005; Prell 2011).

A second area, what we might call "professional ethics," focuses on the responsibilities that social scientists have to their colleagues when conducting research (see, e.g., Abbott 1983; Babbie 1986; Neuman 1997). This area concerns itself with the importance of carrying out research as objectively as possible and duly sharing the results of research in a timely manner at professional meetings and in professional journals. Here again, a relatively high degree of consensus appears to exist although perhaps not as high as in the first. Social scientists often disagree about the degree to which research can and should be value free. Nevertheless, most affirm the importance of interpreting data as objectively as possible, although acknowledging that our values and interests may influence the topics we choose to study may lead us to recuse ourselves from considering certain subjects because of an inability to distance ourselves from the topic.

A third area that receives less attention and exhibits far less consensus is what might be called, for lack of a better term, "consumption ethics." This area concerns itself with how the tools, techniques, and theories disseminated in classrooms, at professional meetings, online, and in various publications are consumed and used by others, in particular, whether they are used in ways that prove harmful to innocent individuals.[1] The often unspoken answer is that because we cannot control research once it leaves our hands, we can only hope it will be used for good rather than for ill (Cordoba 2006). To a certain extent this is true. We have little

[1] One could argue that this area could be considered an aspect of human subjects research in that both are concerned with preventing harm to innocent individuals. However, this strikes me as a separate area in that although human subjects research is typically concerned with research's direct effects, this area is more concerned with its indirect effects.

control over how technology and power are used. We cannot prevent terrorists or drug cartels (e.g., Al Qaeda, Los Zetas, the FARC), rogue governments (e.g., Nazi Germany, Pinochet's Chile), or even rogue forces within otherwise benign governments from using SNA tools and knowledge to thwart the efforts of authorities that are seeking to disrupt them or to carry out deleterious operations more effectively. As the sociologist (and philosopher) Christian Smith has noted, the technology and power available in the modern world has been and will continue to be used for both good and evil.

> Modernity, it turns out, has multiple faces. On the positive side, the material prosperity of modernity has brought unprecedented capacities for expanding human health, longevity, education, vocational specialization, travel, scientific understanding, and artistic expression . . . The spread of universal education and global travel has radically expanded the horizons and prospects of the minds and spirits of billions of people . . . Modern technology greatly reduces multiple forms of drudgery and danger previously required simply to survive . . . Yet the story is more complicated than that, for modernity also bears its own barbarisms and horrors . . . What we have learned from these moral extremes is that the astounding increases in human control over the natural world afforded by modern, advanced technologies and organizational systems have amplified not only the potential for moral good but also for shocking evil. (Smith 2010:428, 429, 430)

In spite of the lack of control on how their research is appropriated by the wider world, my sense is that most social scientists consciously or unconsciously set limits as to how far they are willing to let their research be consumed. To take an admittedly farfetched example, I suspect that most, if not all, INSNA (International Network for Social Network Analysis) members would refuse requests from Al Qaeda, Boko Haram (Nossiter 2011), or a local gang to offer classes in SNA so that they can more effectively target key institutions and individuals.[2] A less extreme example are social network analysts who refuse to work in the defense industry or will not accept funding from defense-related agencies because they believe there is no guarantee that any social network data that is collected will be maintained and used in ways that will not harm individuals.

[2] Of course, this would not prevent members of such groups from covertly attending social network analysis workshops that are offered internationally on a regular basis. Nevertheless, I think most would agree that there is a difference between knowingly and unknowingly assisting a terrorist network.

> Organization research that I have personally conducted has always been as a consultant; this status has granted me access, under varying conditions. But there are conditions upon which I will not compromise: the data are always under my direct control, must be collected under guidelines that I describe, must reside on my computers, as do the names associated with the data. Confidentiality is always guaranteed. The data are never the property of the firm for whom I am a consultant. Names are never associated with network graphs or with network indices and are never revealed to either management or employees. Rather, general patterns are described and used to suggest the way things currently flow and how matters might be changed . . . Typically, these conditions cannot be met by classified or military research and so I do not do this kind of work. (Kadushin 2005:146)

I am certain Kadushin is not alone in feeling this way. Thus, while some social scientists may give lip service to the "we can only hope that our research will be used for good rather than ill" sentiment, most draw a line between the acceptable and unacceptable dissemination of their research and knowledge. The problem, of course, is that there is little agreement as to where that line should be drawn.

A lack of agreement within the SNA community over where it should be drawn became apparent in 2009 after an advertisement for a postdoctoral position with the Common Operational Research Environment (CORE) Lab at the Naval Postgraduate School was posted on the INSNA listserve (SOCNET). To say that a few members of the SNA community considered the posting inappropriate would be an understatement. One equated it with the "solicitation for people to abet in the murder of innocent civilians" and argued that serious ethical questions are raised "when any *group of killers* seeks to recruit through this listserve for people to help them *target others using SNA techniques*" (emphasis added). Although not everyone shared this gentleman's opinion, it did touch a nerve with many in the SNA community who disapprove of working or consulting for defense-related institutions or conducting research and/or writing software programs using defense-related dollars. Of course, the fact that some social network analysts do accept defense-related dollars indicates that not all social network analysts share this perspective. Indeed, in the debate that followed the initial post, opinions were divided among those who opposed the use of SNA for defense-related purposes, those who supported it, and those who took a more neutral position (Eyre, Johnson, and McCulloh 2010).

While it might surprise some, I am relatively sympathetic to the concerns raised in the debate, not because I necessarily agree with all of the positions argued on behalf of (that would be impossible) or condone the

shrillness of some of the posts, but because the debate reflected an intuition among social network analysts that remaining morally neutral as to how SNA theories, tools, and techniques are disseminated and subsequently used by others is neither desirable nor possible. And although it is true that we cannot completely control how SNA (or any form of technology or knowledge) is used by others, we can take some steps that raise the probability that SNA is used justly.

In particular, in what follows, I argue that in the fight against dark networks, SNA should only be used if it helps promote those practices and institutions that increase the likelihood that individuals will be free to live flourishing and dignified lives.[3] In making this argument I briefly consider four ethical traditions that dominate contemporary moral discourse – utilitarianism, Kantian liberalism, libertarianism, and Aristotelianism (i.e., virtue-based, or teleological, ethics) – and conclude that only the last of these offers the resources from which we can derive a sense of what a morally just use of SNA should look like. An obvious objection is that although it is all well and good to talk about notions of "justice" and the promotion of "human dignity," in practice it is much harder to agree as to what such things mean. To a certain extent this is true (see e.g., Sandel 2009), but it is also true that although many of us are loath to admit it, we operate with an intuitive sense of what "the good" consists of and the practices and institutions that promote it.

> So why is murder morally wrong? Because it is the destruction of the personhood of the murdered and the desecration of that of the murderer. Why is stealing morally wrong? Because stealing violates the personhood of the victim as well as that of the thief. Why is lying normally morally wrong? Because it denies what is reality, destroys the trust needed for relations in which persons flourish, and so diminishes the personhood of the lied to and the liar. The same operation can be performed on the many moral goods and bads to which we subscribe. Why are love, justice, kindness, peacefulness, understanding, patience, forgiveness, generosity, equity, faithfulness, and the like moral goods? Because they nurture and protect human personhood. Why are selfishness, injustice, meanness, exploitation, revenge, oppression, hate, exclusion, indifference, and such ills moral bads?

[3] I am aware that one person's dark network is often another's light network, but here I have in mind dark networks, such as Al Qaeda, the FARC, the Los Zetas drug cartel, Boko Haram, etc. – groups that most would agree seek to harm innocent men, women, and children or create levels of societal disruption that prevent ordinary citizens from living lives free of fear. In other words, groups such as these promote practices that do not increase the likelihood that individuals will be free to live flourishing and dignified lives.

> Because they frustrate and damage human personhood. (Smith 2010:418–419)

After my review of these four moral traditions, I turn to a brief examination of the just war tradition, which is teleological in its logic, in order to consider how SNA can be used justly in the fight against dark networks. Here I focus on issues such as what constitutes a just war, how it applies to irregular warfare, the judicious use of SNA, noncombatant immunity, and high-value targeting. Along the way I also call on social network analysts to engage in reasoned debate about the ends and purposes of social network analysis, a debate where everyone is welcome at the table and no one is turned away.

Contemporary Moral Discourse

While the four ethical traditions discussed in the following sections do not exhaust all that philosophers have to say about moral reasoning, together they present a useful framework in which to consider ethical disagreements because, as we shall see, they inform many contemporary debates. The following summaries do not attempt to tease out all of the nuances of these respective traditions. Instead, the goal is far more modest. It merely hopes to provide a flavor of these various perspectives and how they inform contemporary moral discourse.

Utilitarian Ethics. Utilitarian ethics, which is associated with philosophers such as Jeremy Bentham (1996 [1789]) and John Stuart Mill (2010 [1863]), argues that when deciding what the right thing to do is, we need to weigh the costs and benefits of various actions, ultimately choosing what is best for the common (i.e., greater) good. The right thing to do, in other words, is to select the option that provides the greatest utility or pleasure for the greatest number of people. While some moral philosophers no longer take this tradition seriously (Wolterstorff 2010:25), it is still a common form of ethical reasoning (Rachels 1999) and regularly makes an appearance in the public square. For example, in the debate over the two-blocks-from-Ground-Zero Islamic Community Center/Mosque, utilitarianism was, for most, the ethical tradition of choice (see, e.g., Friedman 2010; Temple-Raston 2010). And when attempting to dissuade a Florida pastor from burning Qur'ans, General David Petraeus drew on it as well (Nakamura and Hamdard 2010).

More relevant to this book's concern is that the utilitarian calculus often shows up in arguments concerning how wars should be prosecuted. During World War II, for instance, many justified the use of obliteration bombing in utilitarian terms (Allman and Winright 2010:46), and utilitarian reasoning has crept into some versions of just war theorizing.

For example, the U.S. Catholic bishops (National Council of Bishops 1983) argued in their 1983 pastoral letter, *The Challenge of Peace: God's Promise and Our Response*, that in order for a war to be considered just (and thus worth pursuing), the benefits that are expected to accrue must outweigh the costs (i.e., the inherent misery caused by war). Although this approach is intuitively appealing, estimating such a ratio is virtually impossible (Walzer 2004:90) and highlights one of utilitarianism's inherent weakness: namely, the impracticality of translating all moral goods into a common currency such that different choices can be weighed and compared (Sandel 2009).

Of even greater concern to most moral philosophers is how the utilitarian approach does not respect individual rights and liberties. "By caring only about the sum of satisfactions, [utilitarianism] can run roughshod over individual people" (Sandel 2009:37). Two traditions that offer a corrective to utilitarianism's disregard for individual liberty is Kantian liberalism and libertarianism. Both argue that notions of justice should respect individual rights. However, while the latter focuses on the actual choices that people make in a free market, the former focuses on the choices people would make in an original position of (hypothetical) equality (Wolterstorff 2010:25). We consider Kantian liberalism first.

Kantian Liberalism. This ethical tradition, which has its roots in Immanuel Kant (1997 [1785]) and its most influential modern proponent in John Rawls (1971), argues that people possess certain inalienable rights (hence, the greater good does not always trump the interests of individuals). This tradition seeks to locate principles of justice independent of all interest-based perspectives.[4] That is, it seeks to derive principles that rational individuals would arrive at if they set aside their personal moral and religious convictions. Kant, for example, argued on behalf of a universal law, what he called "the categorical imperative," which he believed could bind rational individuals together regardless of their particular ends. Rawls, building on Kant's assumption that universal principles of justice can be arrived at by reason alone, contended that universal principles of justice are those that all individuals would choose if they made their choice from an original position of equality. Thus, for both Kant and Rawls, principles about what is right and just can (and should) be derived independently of (i.e., prior to) particular conceptions of the good.

[4] One could subdivide Kantian liberalism into Kantian deontologicalism and Rawlsian social contractarianism (Miller 2011). I choose not to because there is an element of social contractarianism in Kant (1991; Sandel 2009:139), and both authors hold that rational individuals can derive universal principles of justice by reason alone.

Critiques of Kant and Rawls are many and varied, but the one that has probably gained the most purchase is that we are not "free and independent selves, unbound by antecedent moral ties, capable of choosing our ends for ourselves" (Sandel 2005:214); instead, we are moral agents who are constrained and influenced by the communities in which we live and move and have our being (Acts 17:28). Consequently, when it comes to questions of ethics, setting aside one's moral and religious convictions (i.e., particular conceptions of the good) is not always possible, nor is it necessarily desirable (Sandel 1982, 1996, 2009; Smith 2010; Walzer 1983, 2009). Indeed, while the quest for an ethic derived solely through reason alone is a noble goal, it is almost certainly a quixotic one.

> It is tempting to seek a principle or procedure that could justify, once and for all, whatever distribution of income or power or opportunity resulted from it. Such a principle, if we could find it, would enable us to avoid the tumult and contention that arguments about the good life invariably arouse. (Sandel 2009:261)

Thus, to reason about what the right thing to do is, whether as social network analysts or citizens of the various societies of which we a part, we need to recognize the claims that these various communities have upon our moral reasoning. Before turning to how I believe this can be done, however, we need to first consider the libertarian tradition.

Libertarian Ethics. Libertarianism is associated with philosophers such as John Stuart Mill (1989 [1859]),[5] Robert Nozick (1977), Friedrich Hayek (1994 [1944]), and Milton Friedman (1962). It is rooted in the belief of self-possession, and as such argues that each of us has a fundamental right to do whatever we want with the things we own as long as we respect the rights of others to do exactly the same thing. This is why libertarians tend to favor minimal government intervention in the economic and social spheres (Sandel 2009). It is also not unusual for libertarians to embrace an instrumentalist (i.e., rational choice) view of the human person (Becker 1976, 1996; Friedman 1962; Friedman and Friedman 1980), and they often smuggle the utilitarian calculus in through the back door (1989 [1859]), arguing that freedom, especially economic freedom, will, in the long run, benefit society as a whole (Friedman and Friedman 1980:5). Applied to the dissemination of academic research, most libertarians would probably argue that although knowledge can be used in deleterious ways, formally regulating its diffusion is not the

[5] Mill's emphasis on individual freedom makes him a favorite among many libertarians as well. How does Mill reconcile the two? He contends that if societies respect the freedom of individuals to do whatever they want, as long as we respect the rights of others to do exactly the same thing, then society as a whole will benefit.

answer. Instead, market forces will help ensure that in the long run the good derived from research will outweigh the bad.

However, available evidence suggests that unfettered markets, whether economic, religious, or academic, do not always benefit the greater good (Titmuss 1971; Zelizer 1978). Moreover, many of the choices we make do not necessarily reflect our preferences as much as they do our needs (Sandel 2005:211) or the constraints placed on us by the networks in which we are embedded (Azarian 2005; Granovetter 1985; Wasserman and Faust 1994).[6]

> Foucault was only the latest in a long line of thinkers – Augustine, Hobbes, and Marx are his most notable predecessors – to remind us that institutionalized networks of giving and receiving are also always structures of unequal distributions of power, structures well-designed both to mask and protect those same distributions. So there are always possibilities and often actualities of victimization and exploitation bound up with participation in such networks. If we are not adequately aware of this, our practical judgments and reasoning will go badly astray. (MacIntyre 1999:101)

Thus, while some may find the libertarian option attractive because of its logical consistency and celebration of individual freedom, it fails to recognize the claims that the communities in which we are embedded influence and constrain the choices we make. Moreover, it naively assumes that unrestrained freedom always leads to a greater good. The ethical tradition we consider next, Aristotelian ethics, does not make such assumptions. It differs from libertarianism in that it openly acknowledges that freedom by itself does not guarantee the creation of the good, whatever that might be. And over against Kantian liberalism, it argues that notions of what is right and just (e.g., When is unfettered freedom appropriate and when is it inappropriate?) cannot be separated from prior notions of what is good. It is to that tradition we now turn.

Aristotelian (Teleological) Ethics. A number of contemporary moral philosophers have criticized freedom-based conceptions of justice, such as libertarianism and Kantian liberalism, for ignoring the claims that communities have on the ethical reasoning of their members (MacIntyre 1984, 1988, 1990; Sandel 1982, 1996; Smith 2010; Taylor 1989; Walzer 1983). This is why some argue for an Aristotelian (i.e., teleological) approach that seeks to link principles of justice with "the moral worth or intrinsic good of the ends they serve" (Sandel 1998:xi). This approach to moral

[6] Think of how much more "free" those of us are who have already been granted tenure compared to those of us who have not.

reasoning contends that we need to first consider what we (and others) believe to be the ends and purposes of what we are seeking prior to deriving principles of justice. While this focus on the end, the purpose, or the *telos* as a basis for moral reflection has its roots in the ethics of Aristotle, it includes several modern proponents, such as Alasdair MacIntyre (1984, 1988, 1990, 1999), Michael Sandel (1982, 1996, 2005, 2009), sociologist Christian Smith (2003, 2010), Charles Taylor (1989), and Michael Walzer (1983, 2009), to name a few. These scholars recognize that we cannot know what is right apart from a prior conception of what is good, and that theories of justice that claim otherwise are mistaken.[7]

Many of these scholars also believe that when communities of practice engage in reasoned debates about what is good and just, they are often able to gain insight into the goals and purposes of their communities (Sandel 2009; Taylor 1998). If they are correct, then social network analysts need to attend to the various conceptions of what the purposes and ends of SNA are, if they are to engage in a reasoned debate about acceptable and unacceptable practices. Does this mean that through deliberating about the ends we serve we can resolve all issues that will come before us? Of course not, but as Sandel notes

> A just society can't be achieved simply by maximizing utility or by securing freedom of choice. To achieve a just society we have to reason together about the meaning of the good life, and to create a public culture hospitable to the disagreements that will inevitably arise. (Sandel 2009:261)

Similarly, if social network analysts hope to be a community of practice that responsibly addresses the ethical dilemmas that come before us, at a minimum we need to create and maintain an environment of hospitality where reasoned debate is the norm and not the exception, and where minority and unpopular opinions can be expressed without fear of retribution (e.g., not publishing a particular individual's research simply because of the position he or she takes on various issues).

Returning to the issue at hand, that is, the ethical use of SNA for the disruption of dark networks, we now consider how the just war tradition, which is teleological at its root, can inform the practices of social network analysts involved in the fight against dark networks. As will hopefully become clear, I believe that this fight should only be carried out justly, which raises unique issues for those of us who are attempting to do so.

[7] Teleological ethics contains elements of a utilitarian calculus in that as it seeks to identify those practices that promote human flourishing. "It remains distinct from most forms of [utilitarian] ethics, however, insofar as the focus of outcomes is not on events or conditions but rather on the flourishing character of the personhood of personal actors" (Smith 2010:400).

The Just War Tradition

While early formations of the just war tradition predate the Christian Church, it was Christian theologians such as St. Augustine and St. Thomas Aquinas who ultimately provided much of its content. In its infancy, the Christian Church was predominantly pacifist (Yoder 1977, 2009), but as it transformed from a minority religion to the official religion of the land (Stark 1996a), it became impractical for it to remain pacifist. The just war criteria arose, in part, because of this transformation, but the tradition not only sets itself over against pacifism but over against more brutal forms of war as well:

> From the beginning the theory had a critical edge: soldiers (or, at least, their officers) were supposed to refuse to fight in wars of conquest and to oppose or abstain from the standard military practices of rape and pillage after the battle was won. (Walzer 2004:3)

Not much has changed over the centuries. Today, just war theorists still find themselves standing between two sets of theorists: pacifists on the one side, for whom all war is a crime, and realists on the other, "for whom 'all's fair in love and war': *inter arma silent leges* (in time of war, the laws are silent)" (Walzer 2004:ix).

The just war tradition is driven by the vision or goal of a just peace, which is the belief that at war's end, the social, political, economic, and ecological conditions of the offending country should be restored so that its citizens and institutions are able to flourish (*eudaimonia*). That is, they should have the opportunity to live lives that are meaningful and dignified (Allman and Winright 2010). The three sets of criteria of the just war tradition reflect this goal of a just peace (see Appendix 4).[8] The first set (*jus ad bellum* – justice for going to war) places restrictions on the moral ability of authorities to wage war because the horrors that war can unleash are often difficult for a country (and its people) to recover from. The second (*jus in bello* – justice during war) places restraints on how wars can be fought in order to minimize the damage that is done, again reflecting the tradition's concern with war's aftermath. For instance, the criterion of proportionality seeks to ensure that no unnecessary destruction takes place, while the criterion of noncombatant immunity (i.e., civilians can't be deliberatively targeted or killed), recognizes that a country's citizens need to be spared as much as possible from the ravages of war if they are to thrive when hostilities cease. Finally, the third (*jus post bellum* – justice

[8] For some years, the tradition identified only two sets of criteria. However, in recent years some theorists (see, e.g., Allman and Winright 2010; Walzer 2004) have begun to argue that there should also be a set of post-war criteria that provide guidelines on what to do after the fighting has stopped.

after war) explicitly concerns itself with the restoration of the country to wholeness, so that its citizens are in a position to live lives that are worth living.

Because the just war tradition developed with conventional warfare in mind, it is legitimate to ask how (and if) it can be applied to the fight against dark networks, a fight that is often fought using unconventional or irregular means. The answer to this concern, I believe, is that it can because the goal of a just peace is one worth fighting for, but only if it is fought for justly. Whether all of the criteria as they now stand (see Appendix 4) can be directly applied to the war against terror is less important than keeping in mind the ultimate goal of the just war tradition – that at war's end, individuals and institutions should be free to thrive.

Fighting Justly with Social Network Analysis

A major focus of those who work with analysts who intend to use SNA to disrupt dark networks should be on lowering the probability that they will use SNA inappropriately and cause innocent civilians to be harmed.[9] The inappropriate use of SNA can be either intentional or unintentional. Some may only see SNA as a tool for the lethal targeting of high value individuals and are little concerned with whether a lack of attention to detail (e.g., the completeness of data, the use of appropriate metrics, the vetting of results with other information) will occasionally lead innocent individuals to get caught in the cross fire. These individuals need to be educated in how such an approach can sometimes cause more harm than good (Roberts and Everton 2011). Others, such as Kadushin, note that because data on dark networks are difficult to collect, they are often incomplete and may inadvertently generate inaccurate findings that lead to the targeting of innocent civilians:

> When the data are used to analyze cut-points in a network such that eliminating a node may break the network apart, inaccuracies can literally be fatal to an "innocent" person. This is not the forum to debate the ethics of counter-terror activities, but few are comfortable with non-judicial killing of people who are not combatants or key terrorists. (Kadushin 2005:148)

Kadushin is almost certainly correct, but as we have repeatedly noted in this book, SNA should inform decision making, not determine it. Moreover, if we push his remarks to their logical conclusion, we might be tempted to argue that police departments around the world should be disbanded because their operations sometimes lead to the death or injury of "noncombatants." I suspect, however, that few (if any) social networks

[9] Indeed, that is a major motivation behind writing this book.

analysts would advocate the closing of, say, the New York or Los Angeles police departments[10] because such a move would almost certainly lead to an increase, not a decrease, in the harm incurred by innocent civilians. Rather, my sense is that most social scientists expect police women and men to be cautious in their interpretation of information and judicious in their use of force.

The same logic can be applied to the use of SNA in the fight against dark networks. One could credibly argue that by not using SNA in our attempts to disrupt groups such as Los Zetas, the FARC, Jemaah Islamiyah, and Al Qaeda, we actually increase the likelihood that innocent men, women, and children will suffer an injury of some kind. And, of course, we can demand that those who use SNA to disrupt dark networks be held to the same standard as are police forces. Interestingly, in the same paragraph, Kadushin approvingly quotes a post to SOCNET by Elin Waring (2002), who uses social network analysis to study criminal and terrorist networks, suggesting that perhaps he believes that the cautious use of SNA is both possible and desirable:

> I personally think that networks are the way to look at the organization of crime, and many SNA tools are helpful for this, but I would be very, very cautious. (quoted in Kadushin 2005:148)

In short, then, while we must be cautious in our use of SNA to disrupt dark networks, we should not refrain from doing so because the potential for creating environments where individual lives can flourish outweighs the possibility of creating situations where they cannot. Of course, determining whether a particular strategy will help people live dignified and fulfilling lives is, of course, easier said than done. That does not mean, however, that we should not try.

Another issue, one that Kadushin raises in his quote, is the practice of targeted killing, a practice that the Israelis made famous (Walzer 2009:274) and American presidents apparently have no qualms using (Perez 2010). A common objection to this practice is that it is no different from assassination and thus prohibited by the just war tradition. However, while the tradition prohibits the killing of political leaders, it does not rule out the killing of military personnel or enemy combatants, which terrorists are clearly doing (Walzer 2009:274–275). Moreover, because by definition, targeted killing seeks to avoid the killing of noncombatants, it is almost certainly permitted by the just war tradition. Even pacifists, such as Jim Wallis, leader of the Sojourners' community in

[10] Some readers may point to the fact that the majority of police officers in the United Kingdom (UK) do not carry firearms, and this is a primary reason why innocent civilians are less likely to be harmed by gunfire. While it is true that most UK police officers do not carry firearms, some do, and all unarmed officers can call on specialized units that are armed.

Washington, D.C., appear to find this approach more appealing than all-out war. In reflecting upon the killing of Osama bin Laden he remarked

> Indeed, the problem of war is how indiscriminate it is. And it is worth noting that the special forces action that resulted in the death of bin Laden was a very focused effort to bring one perpetrator to justice, rather than just another act of war. We didn't get bin Laden as a casualty of bombing raids or drone attacks on the city that harbored him; instead, this was the result of careful intelligence and a laser-like focus on the man most responsible for 9/11. Some of us believe that should have been the U.S. strategy from the beginning. (Wallis 2011)

It cannot be stressed enough that analysts need to take extra care in making targeting decisions (Walzer 2009:275). This, of course, can be quite difficult, as terrorists often seek to blend in with the crowd, making detection more difficult and the loss of innocent life more likely, which is why just war theorists, such as Michael Walzer, argue that the fight against dark networks should take its lessons from how police forces attempt to avoid the loss of innocent life:

> Here I think we have to adopt standards that are closer to Philadelphia than Afghanistan. In a war zone, collateral damage cannot be avoided; it can only be minimized. The hard question in war is what degree of risk we are willing to accept for our own soldiers in order to reduce the risks we impose on enemy civilians. But when the police are chasing criminals in a zone of peace, we rightly give them no latitude for collateral damage. In the strongest sense, they must intend not to injure civilians – even if that makes their operation more difficult . . . That seems to me roughly the right rule for people planning targeted killings . . . They can't avoid imposing some degree of risk on innocent people, and the risks will certainly be greater than those imposed by police in a city at peace, but we must insist on a strenuous effort to minimize the risks. (Walzer 2009:276)

Although it might come as a surprise to some, the U.S. military has adopted counterinsurgency (COIN) standards that are closer to Philadelphia than to Afghanistan.[11] Such standards were highlighted in a National

[11] The 2007 counterinsurgency manual (U.S. Army 2007:161) states that "combat, including counterinsurgency and other forms of unconventional warfare, often obligates Soldiers and Marines to accept some risk to minimize harm to noncombatants . . . In conventional conflicts, balancing competing responsibilities of mission accomplishment with protection of noncombatants is difficult enough. Complex COIN operations place the toughest ethical demands on Soldiers, Marines, and their leaders." Also see Appendix D: Legal Considerations (Section: "The Law of War") of the counterinsurgency manual

Public Radio story (Gjelten 2010) about how SNA has been successfully used by the U.S. military to target and disrupt IED (i.e., improvised explosive devices) networks in Iraq. The story noted that military lawyers have to approve all targeting operations before they can be carried out, and SNA's mathematical precision provides them greater confidence in making such decisions when compared to relying solely on hunches and intuition. As Major Eugene Vindman, a judge advocate general (JAG) officer, who took an SNA course, noted:

> [We could] maybe do a little bit of analysis on [our] own or ask some intelligent questions of the targeteers to make sure that the target they've identified is not a guy that might have made a wrong phone call to a bad guy but actually has enough links to that bad guy through other activities to actually be a bad guy and therefore be a legal military target. (Gjelten 2010)

Moreover, as we have repeatedly stressed in this book, the lethal targeting of individuals is not the only strategic option and may not be the most desirable one (Schmitt and Perlez 2009). As we have seen, terrorist networks can be remarkably resilient and often recover quite rapidly after a key leader has been eliminated (Bakker, Raab, and Milward 2011; Carley, Lee, and Krackhardt 2002; Carley, Reminga, and Kamneva 2003; Milward and Raab 2006).

Add to this the fact that dark networks often suffer more damage when their members are captured or defect (Popkin 2007, cited in Berman 2009:29) and policies aimed at eliminating the structural conditions that help give rise to and help sustain terrorist groups in the first place (e.g., building alternative schools, improving economic conditions, eliminating ungoverned spaces) can reduce the prevalence of bad dark networks (Borer, Everton, and Nayve 2009; Mortenson and Bryan 2009; Mortenson and Relin 2006; Roberts and Everton 2011), operators should seriously consider the noncoercive strategies outlined in Chapter 2, which, if successful, are highly likely to produce a just peace.

Summary

In this section I have not attempted to elaborate a comprehensive account of what role SNA should play in the just fight against dark networks. Rather, I have attempted to sketch a framework that can serve as a baseline for further moral inquiry into this topic. It is certainly not meant to be seen as the end of the conversation but rather as a beginning. As I

(U.S. Army 2007:229). Of course, just because these standards have been adopted does not guarantee that they will be followed. However, the reverse is also true: Just because a soldier does not follow these standards, does not mean that the Army has not adopted them or is not attempting to enforce them.

noted above, it is incumbent upon all social network analysts – those in academia and those who apply to "real world" problems, for example, dark networks, deliberate questions such as, What are the ends and goals of SNA? What are our ends and goals as social network analysts? and What excellences do we honor within our community?

Does this mean that through deliberation we will resolve all issues that come before us? Of course not. Nevertheless, my sense is that we can reach a rough consensus on a number of issues while hopefully developing a respect for those with whom we disagree about the role that SNA should play in the just fight against dark networks.

12.4 Summary and Conclusion

In this chapter we have considered both the promises and limits of the use of SNA to disrupt dark networks. After summarizing the various combinations of social network metrics and strategic options illustrated in Chapters 5 through 11, I noted that it is better to see SNA as one tool among many that can be used when crafting potential strategies. I then argued, using the just war tradition as an example, that a just peace should be the ultimate goal in any and all attempts to disrupt dark networks, which means that the use of SNA for the crafting of strategies should be guided by a moral framework that seeks to create and sustain societies wherein individuals are free to live flourishing lives. We should settle for nothing less.