Nm3 - Report

Aus VroniPlag Wiki

This report is based on the findings of an ongoing plagiarism analysis (date: 30-01-2014). It is therefore no conclusive report and it is recommended to visit the page http://de.vroniplag.wikia.com/wiki/Nm3 for newer findings and further information.

A critical discussion of the publication by Nasrullah Memon and Henrik Legind Larsen: *Structural Analysis and Mathematical Methods for Destabilizing Terrorist Networks Using Investigative Data Mining*

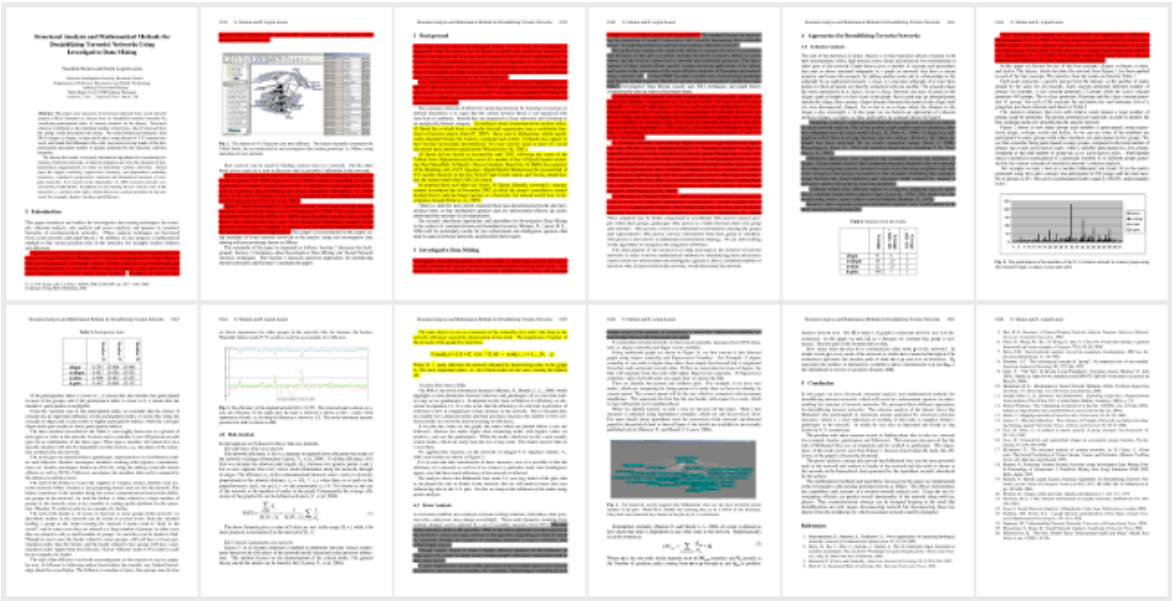
Second International Conference, ADMA 2006, Xi'an, China, August 14-16, 2006 Proceedings

in X. Li, O.R. Zaiane, and Z. Li (Eds.): ADMA 2006, LNAI 4093, pp. 1037 – 1048, 2006. Springer Berlin Heidelberg →ISBN 978-3-540-37025-3 →Download (http://link.springer.com/chapter/10.1007%2F11811305_113)

Overview

The following chart illustrates the amount and the distribution of the findings of text parallels. The colours show the type of plagiarism diagnosed:

- grau="Komplettplagiat": the source of the text parallel is not given, the copy is verbatim.
- rot="Verschleierung": the source of the text parallel is not given, the copied text will be somewhat modified.
- gelb="Bauernopfer": the source of the text parallel is mentioned, but the extent and/or closeness of the copying is not made clear by the reference.



Prominent findings of plagiarism

- Fragment 1040 13: About half a page has been copied verbatim from a source that is nowhere mentioned in the paper.
- Fragment 1039 02: Not only are two paragraphs copied verbatim from an unnamed source, but the authors also quote one of their own papers for it. There the text cannot be found, however.

- Fragment 1038 01: Two paragraphs are taken verbatim from an unnamed source, also all six references to the literature are taken from there.

Statistics

- Currently there are 12 reviewed fragments documented, that are considered to be plagiarism. For 10 of them there is no reference given to the source used („Verschleierungen“ and „Komplettplagiate“). For 2 fragments the source is given, but the extent of the used text is not made clear („Bauernopfer“).
- The publication has 11 pages that have been analyzed. On a total of 8 of these pages plagiarism has been documented. This represents a percentage of **72.7%**. The 11 analyzed pages break down with respect to the amount of plagiarism encountered as follows:

Percentage plagiarism	Number of pages
No plagiarism documented	3
0%-50% Plagiarism	4
50%-75% Plagiarism	3
75%-100% Plagiarism	1

  From these statistics an extrapolation of the amount of text of the publication under investigation that has been documented as plagiarism can be estimated (conservatively) as **about 28%** of the main part of the publication.

- In all, text was taken from 7 sources.

Duplication

Findings

Some of the text of the paper has been presented by the authors previously:

- A part of the abstract as well as large parts of section 4.2 and 4.3 (p. 1037: abstract; p.1044: 3-22; p.1045: 1-22, 30-42; p.1046: 1-2, 21-26; p.1047: 1-8) can also be found in Memon & Larsen (2006b) (May 2006)
- A part of the section 4.3 as well the last part of the conclusion (p.1045: 33-44; p.1046: 1-2, 21-26; p.1047: 1-9, 28-33) can also be found in Memon & Larsen (2006c) (retracted) (April 2006)
- Significant parts of the introduction, section 4 and the conclusion (p.1037:8-12; p.1038: 1-16; p.1041: all; p.1042: 1-6; p.1044: 3-22; p.1045: 1-22, 30-42; p.1046: 1-2, 21-26; p.1047: 1-8, 28-33) can also be found in Memon & Larsen (2006d) (June 2006)

Some of the text of the paper has been recycled by the authors afterwards:

- Text from all parts of the paper (p.1038: 11-18; p.1039: 41-43; p.1040: 1-11; p.1044: 5-14; p.1045: 8-18; p.1047: 1-4, 28-33) can also be found in Memon & Larsen (2007a).
- A part of section 3 (p.1039: 41-43; p.1040: 1-11) can also be found in Memon et al. (2007b), Memon et al. (2007c) and Memon et al. (2008d) as well as in several subsequent publications in a slightly adapted form.
- A part of the introduction and the entire section 4.1 (p.1037: 8-12; p 1038: 1-2, 5-18; pp.1041-1043: all; p,1044: 1-2) can also be found in Memon et al. (2007d) (retracted)
- Most of section 2 and some other text (p.1039: 9-35; p.1045: 11-18) can also be found in Memon et al. (2007e) (retracted). Similarily in Memon et al. (2008a)

References

Memon, Larsen (2006b) (http://dl.acm.org/citation.cfm?id=2107000) : *Practical Algorithms for Destabilizing Terrorist Networks* in : S. Mehrotra et al. (Eds.): ISI 2006, LNCS 3975, pp. 389 – 400, 2006. Springer-Verlag Berlin Heidelberg 2006

Memon & Larsen (2006c) (http://ieeexplore.ieee.org/xpl/login.jsp?tp=&arnumber=1625404&url=http%3A%2F%2Fieeexplore.ieee.org%2Fiel5%2F10823%2F34117%2F01625404.pdf%3Farnumber%3D1625404) : *Practical*

Approaches for Analysis, Visualization and Destabilizing Terrorist Networks Proceedings of the First International Conference on Availability, Reliability and Security (ARES'06) 0-7695-2567-9/06 IEEE (retracted)

Memon & Larsen (2006d) (http://www.google.de/url?sa=t&rct=j&q=structural%20analysis%20and%20destabilizing%20terrorist%20networks&source=web&cd=1&ved=0CF8QFjAA&url=http%3A%2F%2Fciteseerx.ist.psu.edu%2Fviewdoc%2Fdownload%3Fdoi%3D10.1.1.85.3524%26rep%3Drep1%26type%3Dpdf&ei=1jO3T4GxGKW10QW92rWfCA&usg=AFQjCNHpcXb0wuPo-CL7MSNjKhowXPDSyw) : *Structural Analysis and Destabilizing Terrorist Networks* in The 2006 International Conference on Data Mining (DMIN 2006), 296-302, CSREA Press (2006), 1-60132-004-3

Memon, Larsen (2007a) (http://ftp.rta.nato.int/public//PubFullText/RTO/MP/RTO-MP-IST-063///MP-IST-063-14.pdf) : Investigative Data Mining Toolkit: A Software Prototype for Visualizing, Analyzing and Destabilizing Terrorist Networks. Post-Workshop proc. NATO workshop on Information Visualization

Memon, Hicks, Larsen (2007b) (http://www.springerlink.com/content/p6w523g8481n2427/) : *How Investigative Data Mining Can Help Intelligence Agencies to Discover Dependence of Nodes in Terrorist Networks* in: R. Alhajj et al. (Eds.): ADMA 2007, LNAI 4632, pp. 430–441, 2007. Springer Berlin Heidelberg

Memon, Hicks, Larsen (2007c) (http://ieeexplore.ieee.org/xpl/login.jsp?tp=&arnumber=4272050&url=http%3A%2F%2Fieeexplore.ieee.org%2Fxpls%2Fabs_all.jsp%3Farnumber%3D4272050) : Harvesting Terrorists Information from Web 11th International Conference Information Visualization (IV'07), 0-7695-2900-3/07 2007 IEEE (retracted)

Memon, Kristoffersen, Hicks, Larsen (2007d) (http://ieeexplore.ieee.org/xpl/login.jsp?tp=&arnumber=4159885&url=http%3A%2F%2Fieeexplore.ieee.org%2Fiel5%2F4159773%2F4159774%2F04159885.pdf%3Farnumber%3D4159885) : *Detecting Critical Regions in Covert Networks: A Case Study of 9/11 Terrorists Network* in Second International Conference on Availability, Reliability and Security (ARES'07) 0-7695-2775-2/07, IEEE Computer Society (retracted)

Memon, Hicks, Hussain, Larsen (2007e) (http://ieeexplore.ieee.org/xpl/login.jsp?tp=&arnumber=4455057&url=http%3A%2F%2Fieeexplore.ieee.org%2Fiel5%2F4454732%2F4454733%2F04455057.pdf) : Practical Algorithms and Mathematical models for destabilizing terrorist networks in Military Communications Conference, 1-7. MILCOM 2007. IEEE (retracted)

Memon. Larsen, Hicks, Harkiolakis (2008a) (http://link.springer.com/chapter/10.1007%2F978-3-540-69304-8_50?LI=true) : Detecting Hidden Hierarchy in Terrorist Networks: Some Case Studies, in C.C. Yang et al. (Eds.): ISI 2008 Workshops, LNCS 5075, pp. 477–489, 2008. Springer Berlin Heidelberg

Memon, Hicks, Harkiolakis (2008d) (http://proceedings.spiedigitallibrary.org/proceeding.aspx?articleid=837145) : A Data Mining Approach to Intelligence Operations In: Data Mining, Intrusion Detection, Information Assurance, and Data Networks Security 2008, edited by Belur V. Dasarathy, Proc. of SPIE Vol. 6973, 697309, (2008), 0277-786X/08, doi: 10.1117/12.780835

Appendix 1: Fragments

Remark on the colouring

The colouring is automatically generated and shows text parallels. Its purpose is to facilitate the orientation of the reader, it does not, however, automatically diagnose plagiarism of any kind. In order to form a judgement about a certain text parallel one should consult the text itself.

Remark on the line numbering

When identifying a fragment with line numbers everything that contains text (except for the page header and/or footer) is counted, including headings. Usually charts, tables etc. including their captions are not counted, however.

12 gesichtete, geschützte Fragmente

[1.] Nm3/Fragment 1037 35

Verschleierung

Farbig

Untersuchte Arbeit: **Seite: 1037, Zeilen: 35-39**	**Quelle: Balasundaram et al 2006** **Seite(n): 2, Zeilen: 4ff**
Cohesion analysis (also called structural cohesion) is often used to explain and develop sociological theories. Members of a cohesive subgroup tend to share information, have homogeneity of thought, identity, beliefs, behavior, even food habits and illnesses (Wasserman, S., Faust, K, 1994). Cohesion analysis is also believed to influence emergence of consensus among group members.	*Social cohesion* is often used to explain and develop sociological theories. Members of a cohesive subgroup tend to share information, have homogeneity of thought, identity, beliefs, behavior, even food habits and illnesses [52]. Social cohesion is also believed to influence emergence of consensus among group members.
25. Wasserman, S., Faust, K.: Social Network Analysis. *Cambridge University Press*.1994.	52. Wasserman, S., Faust, K.: Social Network Analysis. Cambridge University Press (1994)

Anmerkungen

The source is not mentioned. To be continued on the next page.

[2.] Nm3/Fragment 1038 01

Verschleierung

Farbig

Untersuchte Arbeit:
Seite: 1038, Zeilen: 1-2, 5-16

[Examples of cohesive sub-] groups include religious cults, terrorist cells, criminal gangs, military platoons, tribal groups and work groups etc.

[...]

Some direct application areas of social networks include studying terrorist networks (Sageman, M., 2004, Berry, N. et al., 2004), which is essentially an [sic] special application of criminal network analysis that is intended to study organized crimes such as terrorism, drug trafficking and money laundering (McAndrew, D., 1999, Davis, R. H., 1981). Concepts of social network analysis provide suitable data mining tools for this purpose (Chen, H., et al., 2004).

Figure 1 shows an example of a terrorist network, which maps the links between terrorists involved in the tragic events of September 11, 2001. This graph was constructed by Valdis Krebs (Krebs, V., 2002) using the public data that were available before, but collected after the event. Even though the information mapped in this network is by no means complete, its analysis may still provide valuable insights into the structure of a terrorist organization.

Quelle: Balasundaram et al 2006
Seite(n): 2, Zeilen: 9ff

Examples of cohesive subgroups include religious cults, terrorist cells, criminal gangs, military platoons, sports teams and conferences, work groups etc. [...]

[...]

Some direct application areas of social networks include studying terrorist networks [43,9], which is essentially a special application of criminal network analysis that is intended to study organized crimes such as terrorism, drug trafficking and money laundering [36,21]. Concepts of social network analysis provide suitable data mining tools for this purpose [17]. Figure 1 shows an example of a terrorist network, which maps the links between terrorists involved in the tragic events of September 11, 2001. This graph was constructed in [32] using the public data that were available before, but collected after the event. Even though the information mapped in this network is by no means complete, its analysis may still provide valuable insights into the structure of a terrorist organization.

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9. Berry, N., Ko, T., Moy, T., Smrcka, J., Turnley, J., Wu, B.: Emergent clique formation in terrorist recruitment. The AAAI-04 Workshop on Agent Organizations: Theory and Practice, July 25, 2004, San Jose, California (2004). Http://www.cs.uu.nl/ virginia/aotp/papers.htm [sic]

17. Chen, H., Chung, W., Xu, J.J., Wang, G., Qin, Y., Chau, M.: Crime data mining: A general framework and some examples. Computer 37(4), 50–56 (2004)

21. Davis, R.H.: Social network analysis: An aid in conspiracy investigations. FBI Law Enforcement Bulletin pp. 11–19 (1981)

32. Krebs, V.: Mapping networks of terrorist cells. Connections 24, 45–52 (2002)

36. McAndrew, D.: The structural analysis of criminal networks. In: D. Canter, L. Alison (eds.) The Social Psychology of Crime: Groups, Teams, and Networks, Offender Profiling Series, III. Aldershot, Dartmouth (1999)

43. Sageman, M.: Understanding Terrorist Networks. University of Pennsylvania Press (2004)

Anmerkungen

The source is not given. The copied text starts on the previous page: Nm3/Fragment_1037_35. Figure 1 is different in each text.

[3.] Nm3/Fragment 1039 02

Verschleierung

Farbig

Untersuchte Arbeit: Seite: 1039, Zeilen: 2-13	**Quelle: Penzar_Srbljinovic_2005 Seite(n): 28, Zeilen: 2ff**
After tragic terrorist attacks by kidnapped airlines on New York and Washington in September 2001 the interest for Al Qaeda in public and media rose immediately. Experts and analysts all over the world started to offer various explanations of Al Qaeda's origins, membership recruitment, modes of operation, as well as of possible ways of its disruption. Journalists in search of hot topics took over and publicized most of the publicly available materials, often revising them further and making them even more exciting and attractive for wide audiences.	After catastrophic terrorist attacks by kidnapped airlines on New York and Washington in September 2001 the interest for al-Qaeda terrorist organisation in public and media rose immediately. Experts and analysts all over the world started to offer various explanations of al-Qaeda's origins, membership recruitment, modes of operation, as well as of possible ways of its disruption. Journalists in search of hot topics took over and publicized most of the publicly available materials, often revising them further and making them even more intriguing and attractive for wide audiences.
One could thus read or hear that Al Qaeda is "a net that contains independent intelligence", that it "functions as a swarm", that it "gathers from nowhere and disappears after action", that it is "an ad hoc network", "an atypical organization" (Memon N., H. L. Larsen, 2006), extremely hard to destroy, especially by traditional anti-terrorist / counterterrorist methods.	One could thus read or hear that al-Qaeda is "a net that contains independent intelligence", that it "functions as a swarm", that it "gathers from nowhere and disappears after action", that it is "an *ad hoc* network", "an atypical organisation", extremely hard to destroy, especially by traditional anti-terrorist methods.

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19. Memon, N. Henrik Legind Larsen [sic], Practical Algorithms for Destabilizing Terrorist Networks, *Lecture Notes in Computer Science (LNCS)* 3975, ISI 2006, Eds. S. Mehrotra et al. pp. 389-400, 2006.

Anmerkungen

The source is not given anywhere in the paper.

The authors refer here to themselves, although this text cannot be found in the given source, not even the term "atypical organization".

[4.] Nm3/Fragment 1039 17

BauernOpfer

Untersuchte Arbeit: Seite: 1039, Zeilen: 17-32	**Quelle: Combating_Terrorism_Center_2006 Seite(n): 8,9, Zeilen: 8:14-18; 9:16ff** Farbig
According to many counterterrorism analysts today, Al Qaeda has evolved from a centrally directed organization into a worldwide franchiser of terrorist attacks (Grier P., 2005). Since war in Afghanistan, which significantly degraded Osama bin Laden's command and control, Al Qaeda does appear to have become increasingly decentralized. It is now seen by many as more of a social movement than coherent organization (Wikotorowicz Q., 2001). Al Qaeda did not decide to decentralize until 2002, following the ouster of the Taliban from Afghanistan and the arrest of a number of key Al Qaeda leaders including Abu Zubaydhah, Al Qaeda's Dean of students, Ramzi bin Al Shibh, the organizer of the Hamburg cell of 9/11 hijackers, Khalid Sheikh Mohammed, the mastermind of 9/11 and the financier of the first World Trade Center attack, and Tawfiq Attash Kallad, the master mind of the USS Cole attack. In response these and other key losses, Al Qaeda allegedly convened a strategic summit in northern Iran in November 2002, at which the group's consultative council decided that it could no longer operate as a hierarchy, but instead would have to decentralize (Joseph Felter et. al., 2005).	[page 8] According to most counterterrorism analysts today, al-Qa'ida has evolved from a centrally directed organization into a worldwide franchiser of terrorist attacks.[7] Indeed, since the war in Afghanistan, which significantly degraded bin Laden's command and control, al-Qa'ida has become increasingly decentralized, and is seen by some as more of a "movement" than any other form of organization. [page 9] In 2001, following the ouster of the Taliban from Afghanistan, a number of al-Qa'ida leaders suddenly found themselves in detention centers facing long months of interrogation. Abu Zubaydah, al-Qa'ida's "dean of students," who directed training and placement for the group, was captured in Faisalabad, Pakistan, in February 2002. Ramzi Bin al Shibh, the organizer of the Hamburg, Germany cell that formed the core of the 9/11 hijackers, was captured in Karachi, Pakistan, on the first anniversary of the attacks. These and other counterterrorism successes ultimately led to the capture of Khalid Sheik Mohammed, the mastermind of 9/11 and the financier of the first World Trade Center attack, in Rawalpindi, Pakistan, in March 2003. And a month later, Tawfiq Attash Kallad, the mastermind of the USS Cole attack, was apprehended in Karachi. In response to the loss of key leaders, al-Qa'ida allegedly convened a strategic summit in northern Iran in November 2002, at which the group's consultative council came to recognize that it could no longer exist as a hierarchy, but instead would have to become a decentralized network and move its operations out over the entire world.[10]
9. Grier, P. "The New Al Qa'ida: Local Franchiser," Christian Science Monitor (11 July 2005). Online at: http://www.csmonitor.com/2005/0711/p01s01-woeu.html (Accessed on May 26, 2006). 11. Joseph Felter et. al., Harmony and Disharmony: Exploiting al-Qa'ida's Organizational Vulnerabilities (West Point, N.Y.: United States Military Academy, 2006), p. 7-9. 26. Wiktorowicz, Q. "The New Global Threat: Transnational Salafis and Jihad," Middle East Policy 8, no. 4 (2001: 18-38)	[7] Peter Grier, "The New Al Qa'ida: Local Franchiser," Christian Science Monitor (11 July 2005). Online at: http://www.csmonitor.com/2005/0711/p01s01-woeu.html. [10] Robert Windrem, 2005.

Anmerkungen

Even though the source is given, citations are not marked as such and the extent of the usage of the source is not clear to the reader.

[5.] Nm3/Fragment 1039 31

Verschleierung

Farbig

Untersuchte Arbeit: Seite: 1039, Zeilen: 41-43	Quelle: Koschade 2005 Seite(n): 2, 3, Zeilen: 2: 6-8; 3: 31-33
Investigative Data Mining (IDM) offers the ability to firstly map a covert cell, and to secondly measure the specific structural and interactional criteria of such a cell. This framework aims to connect the dots between individuals and “map and measure [complex, covert, human groups and organisations”.]	Social network analysis offers the ability to firstly map a covert cell, and to secondly measure the specific structural and interactional criteria of such a cell. [page 3] This framework aims to connect the dots between individuals and “map and measure complex, sometimes covert, human groups and organisations”.[8]

8 Krebs, V. (2002) “Mapping Networks of Terrorist Cells”, *Connections*, Vol. 24, 3, pp. 43-52.

Anmerkungen

To be continued on the next page: Nm3/Fragment_1040_01

The reference to Krebs (2002) has been removed.

[6.] Nm3/Fragment 1040 01

KomplettPlagiat

Untersuchte Arbeit: **Seite: 1040, Zeilen: 1-11**	**Quelle: Koschade 2005** **Seite(n): 2, 3, Zeilen: 2: 8ff; 3: 33-35.38-40** Farbig
The method focuses on uncovering the patterning of people's interaction, and correctly interpreting these networks assists "in predicting behaviour and decision-making within the network". The method also endows the analyst the ability to measure the level of covertness and efficiency of the cell as a whole, and also the level of activity, ability to access others, and the level of control over a network each individual possesses. The measurement of these criteria allows specific counter-terrorism applications to be drawn, and assists in the assessment of the most effective methods of disrupting and neutralising a terrorist cell. In short IDM "provides a useful way of structuring knowledge and framing further research. Ideally it can also enhance an analyst's predictive capability".	[page 2] The method also endows the analyst the ability to measure the level of covertness and efficiency of the cell as a whole, and also the level of activity, ability to access others, and the level of control over a network each individual possesses. The measurement of these criteria allows specific counter-terrorism applications to be drawn, and assists in the assessment of the most effective methods of disrupting and neutralising a terrorist cell. [page 3] The method focuses on uncovering the patterning of people's interaction,[9] and correctly interpreting these networks assists "in predicting behaviour and decision-making within the network".[10] [...] In short, social network analysis "provides a useful way of structuring knowledge and framing further research. Ideally it can also enhance an analyst's predictive capability".[12]

9 Freeman, L. (nd) 'The Study of Social Networks', *The International Network for Social Network Analysis*, Retrieved May 17, 2004, from http://www.sfu.ca/~insna/INSNA/na_inf.html.

10 Renfro, R. & Deckro, R. (2001). "A Social Network Analysis of the Iranian Government", paper presented at *69th MORS Symposium*, 12-14 June, 2001, p. 4.

12 Aftergood, S. (2004) 'Secrecy News: Social Network Analysis and Intelligence' [online], *Federation of American Scientists Project on Government Secrecy*, Vol. 2004, 15. Retrieved May 17, 2004, from http://www.fas.org/sgp/ news/secrecy/2004/02/020904.html.

Anmerkungen

The source is not given.

Several references have been removed, although the quotation marks indicate that two passages come from other (unnamed) authors.

[7.] Nm3/Fragment 1040 13

Verschleierung

Farbig

Untersuchte Arbeit: Seite: 1040, Zeilen: 13-35	**Quelle: Mukherjee Holder 2004 Seite(n): 48, 49, Zeilen: 48: l.col: 47ff - r.col: 1-5.14ff; 49: l.col: 14ff**
Covert networks like terrorist networks remain mingled with socially oriented networks (like families, organizations etc.) in the real world. The buzz word for covert networks is “secrecy” and hence to discover such networks (technically, to discern distinctive patterns in the activities and communications of such dark networks) can be very tricky and often misleading due to unavailability of authentic data or in some cases availability of “doctored” data. This issue has especially blown up in the recent past and after the September 11, 2001 tragedy, it has been in the limelight so much so that it is worthwhile to take a close look at the distinguishing properties of such networks. For Example:	Covert networks remain mingled with socially-oriented networks (like families, organizations etc.) in the real world. The buzz word for covert networks is “secrecy” and hence to discover such networks (technically, to discern distinctive patterns in the activities and communications of such illegitimate groups) can be very tricky and often misleading due to unavailability of authentic data or in some cases availability of “doctored” data. This issue has especially blown up in the recent past and after the September 11, 2001 tragedy, it has been in the limelight so much so that it is worthwhile to take a close look at the distinguishing properties of such networks.
(1) In bright networks, actors who are highly central are typically the most important ones. On the contrary, peripheral players (or “boundary spanners” as they are typically called) may be huge resources to a terrorist group although they receive very low network centrality scores. This is because they are well positioned to be innovators, since they have access to ideas and information flowing in other clusters. Similarly, in an organization, these peripheral employees are in a position to combine different ideas and knowledge into new products and services. They may be contractors or vendors who have their own network outside of the company, making them very important resources for fresh information not available inside the company (Krebs V., 2002, Hanneman, R., 2000).	[...]
(2) The role of a “broker” (Krebs V., 2002) is a very powerful role in a social network as it ties two hitherto unconnected constituencies / groups together but of course, it is a single-point of failure. These broker type roles are often seen in terrorist networks. Such nodes are also referred to as “cutpoints” (Hanneman, R., 2000).	(3) In legitimate networks, actors who are highly central are typically the most important ones. On the contrary, peripheral players (or “boundary spanners” as they are typically called) may be huge resources to a terrorist group although they receive very low network centrality scores. This is because they are well-positioned to be innovators, since they have access to ideas and information flowing in other clusters. Similarly, in an organization, these peripheral employees are in a position to combine different ideas and knowledge into new products and services. They may be contractors or vendors who have their own network outside of the company, making them very important resources for fresh information not available inside the company [5, 8].
	[page 49]
	(9) The role of a “broker” [8] is a very powerful role in a social network as it ties two hitherto unconnected constituencies/groups together but of course, it is a single-point of failure. These broker-type roles are often seen in terrorist networks. Such nodes are also referred to as “cutpoints” [5].
10. Hanneman, R. E., Introduction to Social Network Methods. *Online Textbook Supporting* Sociology 175. Riverside, CA: University of California*, 2000.*	[5] Robert Hanneman: Introduction to Social Network Methods, Department of Sociology, University of California, Riverside. (URL: http://faculty.ucr.edu/~hanneman /SOC157/Software/NETTEXT.PDF).
13. Krebs, V.: Mapping networks of terrorist cells. *Connections* 24, 45–52, 2002.	[8] Valdis E. Krebs: Uncloaking Terrorist Networks (URL: http://www.firstmonday.dk/ issues/issue7_4/krebs). First Monday, volume 7, number 4, April 2002.

Anmerkungen

The source is not given.

Indeed, the number of Hanneman's undergraduate sociology course was 157 and not 175, as Nm3 claims.

[8.] Nm3/Fragment 1041 16

KomplettPlagiat

Untersuchte Arbeit: **Seite: 1041, Zeilen: 16-33**	**Quelle: Balasundaram et al 2006** **Seite(n): 2, Zeilen: 11ff** Farbig
Modeling a cohesive subgroup mathematically has long been a subject of interest in social network analysis. One of the earliest graph models used for studying cohesive subgroups was the *clique* model (Luce, R., Perry A., 1949). A clique is a subgraph in which there is an edge between any two vertices. However, the clique approach has been criticized for its overly restrictive nature (Scott, J, 2000), Wasserman, S., Faust, K., 1994) and modeling disadvantages (Siedman [sic], S. B., Freeman, L. C., 1992).	Modeling a cohesive subgroup mathematically has long been a subject of interest in social network analysis. One of the earliest graph models used for studying cohesive subgroups was the *clique* model [35]. A clique is a subgraph in which there is an edge between any two vertices. However, the clique approach has been criticized for its overly restrictive nature [2,52] and modeling disadvantages [47,25].
Alternative approaches were suggested that essentially relaxed the definition of cliques. Clique models idealize three important structural properties that are expected of a cohesive subgroup, namely, *familiarity* (each vertex has many neighbors and only a few strangers in the group), *reachability* (a low diameter, facilitating fast communication between the group members) and *robustness* (high connectivity, making it difficult to destroy the group by removing members).	Alternative approaches were suggested that essentially relaxed the definition of cliques. Clique models idealize three important structural properties that are expected of a cohesive subgroup, namely, *familiarity* (each vertex has many neighbors and only a few strangers in the group), *reachability* (a low diameter, facilitating fast communication between the group members) and *robustness* (high connectivity, making it difficult to destroy the group by removing members). Different models relax different aspects of a cohesive subgroup. [34] introduced a distance based model called *k-clique* and [2] introduced a diameter based model called *k-club*. These models were also studied along with a variant called k-clan by Mokken [38]. However, their originally proposed definitions required some modifications to be more meaningful mathematically.
Different models relax different aspects of a cohesive subgroup. Luce R. introduced a distance based model called *n-clique* (Luce, R., 1950). This model was also studied along with a variant called *n-clan* by Mokken (Mokken, R., 1979).	
However, their originally proposed definitions required some modifications to be more meaningful mathematically.	

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2. Alba, R.: A graph-theoretic definition of a sociometric clique. Journal of Mathematical Sociology 3, 113–126 (1973)

25. Freeman, L.C.: The sociological concept of “group”: An empirical test of two models. American Journal of Sociology 98, 152–166 (1992)

34. Luce, R.: Connectivity and generalized cliques in sociometric group structure. Psychometrika 15, 169–190 (1950)

35. Luce, R., Perry, A.: A method of matrix analysis of group structure. Psychometrika 14, 95–116 (1949)

38. Mokken, R.: Cliques, clubs and clans. Quality and Quantity 13, 161–173 (1979)

47. Seidman, S.B., Foster, B.L.: A graph theoretic generalization of the clique concept. Journal of Mathematical Sociology 6, 139–154 (1978)

52. Wasserman, S., Faust, K.: Social Network Analysis. Cambridge University Press (1994)

Anmerkungen

The source is not given. The text has been copied verbatim and also all references to the literature are identical with the source.

[9.] Nm3/Fragment 1042 01

Verschleierung

Farbig

Untersuchte Arbeit: Seite: 1042, Zeilen: 1-6	**Quelle: Balasundaram et al 2006 Seite(n): 2, Zeilen: 28ff**
These drawbacks are pointed out and the models are appropriately redefined in (Balasundaram, B. et al, 2005). All these models emphasize the need for high reachability inside a cohesive subgroup and have their own merits and demerits as models of cohesiveness. In this paper we also discuss on a degree based model and called *k-plex* (Wasserman, S. et al, 2004). This model relaxes familiarity within a cohesive subgroup and implicitly provides reachability and robustness.	These drawbacks are pointed out and the models are appropriately redefined in [7], as described in Section 2. All these models emphasize the need for high reachability inside a cohesive subgroup and have their own merits and demerits as models of cohesiveness. The focus of this paper is on a degree based model introduced in [47] and called *k-plex*. This model relaxes familiarity within a cohesive subgroup and implicitly provides reachability and robustness.

7. Balasundaram, B., Butenko, S., Trukhanov, S.: Novel approaches for analyzing biological networks. Journal of Combinatorial Optimization 10, 23–39 (2005)

47. Seidman, S.B., Foster, B.L.: A graph theoretic generalization of the clique concept. Journal of Mathematical Sociology 6, 139–154 (1978)

Anmerkungen

The source is not given.

Note the grammatical mistake "we also discuss on a ...", which has its roots in the formulation of the source.

[10.] Nm3/Fragment 1045 01

BauernOpfer

Farbig

Untersuchte Arbeit: Seite: 1045, Zeilen: 1-7	**Quelle: Latora and Marchiori 2004 Seite(n): 71, Zeilen: 4ff**
The main idea is to use as a measure of the centrality of a node i the drop in the network efficiency caused by deactivation of the node. The importance I ($node_i$) of the $_i$th [sic] node of the graph G is therefore:	The main idea is to use as a measure of the centrality of a node *i* the drop in the network efficiency caused by the deactivation of the node. The importance *I*($node_i$) of the *i*th node of the graph **G** is therefore:
$I(node_i) \equiv \Delta E = E(G) - E(G - node_i)$, i = 1,...,N, (2)	$I(node_i) \equiv \Delta E = E(\mathbf{G}) - E(\mathbf{G} - node_i)$, i = 1,...,N (2)
Where $G - node_i$ indicates the network obtained by deactivating $node_i$ in the graph G. The most important nodes, i.e. the critical nodes are the ones causing the highest ΔE.	whereby **G** - $node_i$ we indicate the network obtained by deactivating $node_i$ in the graph **G**. The most important nodes, i.e. the *critical nodes* are the ones causing the highest Δ*E*.

Anmerkungen

The source is given in the previous paragraph in a way that suggests that the here documented paragraph summarizes content from the source. That it is taken verbatim from the source is not made clear, however.

[11.] Nm3/Fragment 1045 33

KomplettPlagiat

Farbig

Untersuchte Arbeit: Seite: 1045, Zeilen: 33-42	Quelle: Newman 2006 Seite(n): 4, Zeilen: 11-14, 18-22
The centrality measures address the question, “Who is the most important or central person in the network?” There are many answers to this question, depending on what we mean by important. Perhaps the simplest of centrality measures is *degree centrality*, also called simply *degree*. Though simple, *degree* is often a highly effective measure of the influence or importance of a node: in many social settings people with more connections tend to have more power. A more sophisticated version of the same idea is the so-called *eigenvector centrality* (which is also known as centrality of a centrality). Where degree centrality gives a [simple count of the number of connections a vertex has, eigenvector centrality acknowledges that not all connections are equal.]	[page 4] Centrality measures address the question, “Who is the most important or central person in this network?” There are many answers to this question, depending on what we mean by important. Perhaps the simplest of centrality measures is *degree centrality*, also called simply *degree*. [...] Though simple, degree is often a highly effective measure of the influence or importance of a node: in many social settings people with more connections tend to have more power. A more sophisticated version of the same idea is the so-called *eigenvector centrality*. Where degree centrality gives a simple count of the number of connections a vertex has, eigenvector centrality acknowledges that not all connections are equal.

Anmerkungen

Not a hint of the original source is given.

[12.] Nm3/Fragment 1046 01

KomplettPlagiat

Farbig

Untersuchte Arbeit: Seite: 1046, Zeilen: 1-2	Quelle: Newman 2006 Seite(n): 4, Zeilen: 20-22
[Where degree centrality gives a] simple count of the number of connections a vertex has, eigenvector centrality acknowledges that not all connections are equal.	Where degree centrality gives a simple count of the number of connections a vertex has, eigenvector centrality acknowledges that not all connections are equal.

Anmerkungen

Source is not given.

Fragment presents the final sentence of the takeover begun in Nm3/Fragment_1045_33.

Appendix 2: Sources

[1.] Quelle:Nm3/Balasundaram et al 2006

Autor	B. Balasundaram, S. Butenko, I. V. Hicks, S. Sachdeva
Titel	Clique Relaxations in Social Network Analysis: The Maximum k-plex Problem
Datum	27. January 2006
Anmerkung	This is a preprint: date according to PDF file properties, confirmed by: [1] (https://web.archive.org/web/20060323154351/http://ie.tamu.edu/people/faculty/butenko/papers/index.htm) , The Memon & Larsen paper was presented in August 2006: [2] (http://www.informatik.uni-trier.de/~ley/db/conf/adma/adma2006.html)
URL	http://www.caam.rice.edu/~ivhicks/kplex.general.pdf
Webcite	http://www.webcitation.org/6MzMGGm2A
Literaturverz.	no
Fußnoten	no

[2.] Quelle:Nm3/Combating Terrorism Center 2006

Titel	Harmony and Disharmony - Exploiting al-Qa'ida's Organizational Vulnerabilities
Herausgeber	Combating Terrorism Center, Department of Social Sciences, United States Military Academy
Ort	West Point, NY, USA
Datum	14. February 2006
Seiten	116
Anmerkung	An alternative source is the publication: "The Terrorist's Challenge: Security, Efficiency, Control" by Jacob N. Shapiro (2007) [3] (http://igcc3.ucsd.edu/pdf/Shapiro.pdf)
URL	http://iis-db.stanford.edu/pubs/21057/Harmony_and_Disharmony-CTC.pdf
Literaturverz.	yes
Fußnoten	yes

[3.] Quelle:Nm3/Koschade 2005

Autor	Stuart A. Koschade
Titel	A Social Network Analysis of Aum Shinrikyo: Understanding Terrorism in Australia
Sammlung	Social Change in the 21st Century Conference, 28 October 2005, Queensland University of Technology
Herausgeber	C. Bailey, Laurie R. Buys
Ort	Brisbane
Datum	28. October 2005
ISBN	1-7410-7108-9
URL	http://eprints.qut.edu.au/3496/
Webcite	http://www.webcitation.org/6MzRJIOHA
Literaturverz.	no
Fußnoten	no

[4.] Quelle:Nm3/Latora and Marchiori 2004

Autor	Vito Latora, Massimo Marchiori
Titel	How the science of complex networks can help developing strategies against terrorism
Zeitschrift	Chaos, Solitons and Fractals
Verlag	Elsevier
Jahr	2004
Nummer	20
Seiten	69-75
DOI	10.1016/S0960-0779(03)00429-6
URL	http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.59.3998&rep=rep1&type=pdf
Literaturverz.	yes
Fußnoten	yes

[5.] Quelle:Nm3/Mukherjee Holder 2004

Autor	Maitrayee Mukherjee, Lawrence B. Holder
Titel	Graph-based Data Mining on Social Networks
Sammlung	Second International Workshop on Link Analysis and Group Detection: Proceedings
Beteiligte	Workshop chairs: Jafar Adibi, Hans Chalupsky, Marko Grobelnik, Natasa Milic-Frayling, Dunja Mladenic
Ort	Seattle
Datum	22. August 2004
Seiten	47-56
Anmerkung	"in conjunction with Tenth ACM SIGKDD International Conference on Knowledge Discovery and Data Mining Seattle, WA, USA"
URL	http://www.cs.uiuc.edu/class/fa05/cs591han/kdd04/docs/linkkdd.pdf
Webcite	http://www.webcitation.org/6MzHgzMjG
Literaturverz.	no
Fußnoten	no

[6.] Quelle:Nm3/Newman 2006

Autor	Mark E. J. Newman
Titel	The mathematics of networks
Jahr	2006
Anmerkung	appears on Newman's list of publications in June 2005 (cp. https://web.archive.org/web/20050627235423/http://www-personal.umich.edu/~mejn/pubs.html)
URL	https://web.archive.org/web/20060511022545/http://www-personal.umich.edu/~mejn/papers/palgrave.pdf
Literaturverz.	no
Fußnoten	no

[7.] Quelle:Nm3/Penzar Srbljinovic 2005

Autor	Dražen Penzar, Armano Srbljinović
Titel	About Modelling of complex networks with applications to terrorist group modelling
Zeitschrift	Interdisciplinary Description of Complex Systems
Jahr	2005
Jahrgang	3
Nummer	1
Seiten	27-43
Anmerkung	"Received: 12 May 2005. Accepted: 30. September 2005"
ISSN	1334-4676
URL	http://www.indecs.eu/2005/indecs2005-pp27-43.pdf
Literaturverz.	no
Fußnoten	no