

Sexual Violence beyond Reasonable Doubt: Using Pattern Evidence and Analysis for International Cases

XABIER AGIRRE ARANBURU*

Abstract

Establishing the pattern of crime is fundamental for the successful investigation of international crimes (genocide, war crimes, and crimes against humanity). A pattern of crime is the aggregate of multiple incidents that share common features related to the victims, the perpetrators, and the modus operandi. Pattern evidence and analysis have been used successfully, mainly in the investigation of large-scale killings, destruction, and displacement; the use for sexual violence charges has been remarkably more limited. There is a need to overcome this gap by setting proper methods of data collection and analysis. At the level of evidence collection, under-reporting should be addressed through victimization surveys or secondary analysis of data available from different sources. At the level of analysis, the available evidence needs to be subject to impartial examination beyond the pre-conceptions of the conflict parties and advocacy groups, in compliance with scientific standards for quantitative, qualitative, and GIS (Geographic Information Systems) methods. Reviewing the different investigative experiences and jurisprudence will help to set the right methodology and contribute most efficiently to putting an end to the impunity regarding sexual crimes.

Key words

crime pattern; criminal investigations; genocide; rape; sexual violence

The organizers of the colloquium on ‘Sexual Violence as International Crime: Interdisciplinary Approaches to Evidence’, held in The Hague on 16–18 June 2009, invited us to propose methods to facilitate more effective investigations of sexual violence in the context of international crimes (genocide, war crimes, and crimes against humanity). This article intends to explore the use of pattern evidence and

* Senior Analyst at the Office of the Prosecutor (OTP) of the International Criminal Court since 2004; previously analyst at the OTP of the United Nations International Criminal Tribunal for the former Yugoslavia (1997–2004). The author has contributed to a number of investigative and training projects on international crimes with the UN Office of the High Commissioner for Human Rights, the International Committee of the Red Cross, and different universities and NGOs. This article is based on a presentation given by the author at the Colloquium on Sexual Violence as International Crime: Interdisciplinary Approaches to Evidence, organized by the Grotius Centre for International Legal Studies, Leiden University, in co-operation with the Center on Law and Globalization of the University of Illinois, College of Law, the American Bar Foundation and Tilburg University, The Hague, 16–18 June 2009. The article will also be published as part of a symposium in (2010) 4 *Law and Social Inquiry*. I am grateful to my colleagues Gloria Atiba-Davis, Eirini Louppi, Laura Pla Aumatell, Gaelle Laroque, Eric Baccard, and Jane O’Toole for their review and contributions, as well as to the American University Washington College of Law which supported me as a visiting professor in 2009. [Xabier.Agirre@icc-cpi.int]

analysis for this purpose, particularly for what concerns investigations of senior leaders, whether under national or international jurisdictions.

International crimes often comprise a large number of incidents that can be characterized as a pattern as long as they show common features on all or most of the following aspects: (i) the profile of the perpetrators; (ii) the profile of the victims; (iii) the geographical and chronological distribution of the crime; and (iv) the modus operandi in the commission of the crime. The aggregation of multiple incidents into a pattern requires a conceptual turn similar in a way to the concept in criminal law of *delito continuado* (*infracción continue*, *Fortsetzungstat*), whereby a series of criminal incidents with an identity of key features are considered jointly as a single crime. The concept of ‘Evidence of Consistent Pattern of Conduct’ was considered in Rule 93 of the Rules of Procedure and Evidence of the International Criminal Tribunal for the former Yugoslavia (ICTY) and the International Criminal Tribunal for Rwanda (ICTR). The Elements of the Crimes of the International Criminal Court (ICC) further refers to the ‘context of a manifest pattern of similar conduct’ in the definition of genocide.

The investigation of international crimes often requires means of evidence and analysis able to show the series of incidents as a whole and to determine whether they have enough in common to be considered as a relevant pattern of crime. Such pattern evidence and analysis, from expert testimony to statistics and crime mapping, have been used successfully mainly for killings, mass destruction, and displacement, but their use for sexual violence charges has been, remarkably, more limited. As Susana SaCouto and Katherine Cleary have observed, ‘Unfortunately, while the ad hoc tribunals have used circumstantial or pattern evidence to establish that an accused ordered certain crimes, a review of sexual violence and gender-based cases before these tribunals indicates that they appear more reluctant to do so in these types of cases.’¹ The following pages propose some direction to fill this gap at different steps of the process, from setting the correct methodology principles in the interpretation of the allegations of sexual violence, to adequate standards for data collection, to the most efficient methods of analysis. Hopefully a commitment to the highest standards of scientific and legal practice will help to present the evidence on large-scale sexual violence in ways that are most truthful and cost-efficient.

I. METHODOLOGY PRINCIPLES

The investigation of sexual violence patterns, like that of any other crime, must be guided by logical reasoning resting on three basic principles: impartiality, legality, and gradually growing standards of evidence.

1.1. Impartiality

The growing demand for justice for victims of sexual violence is very much an achievement of the feminist movement, whose main critique concerning rape since

¹ S. SaCouto and K. Cleary, ‘The Importance of Effective Investigation of Sexual Violence and Gender-Based Crimes at the ICC’, (2009) 17 *American University Journal of Gender, Social Policy and the Law* 338, at 353.

the 1970s has been that the crime had been denied or underestimated under a male-dominated system.² This assessment was essentially correct, and the feminist advocacy efforts in the last four decades have been crucial in addressing it, from the media to national jurisdictions, to international tribunals.³

The feminist critique is still valid and needed today. Consider the following examples. The record of the ICTR has been assessed as ‘shameful’ because ‘crimes of sexual violence have never been *fully and consistently* incorporated into the investigations and strategy of the Prosecutor’s Office’.⁴ Concerning both the ICTR and the ICTY, according to expert assessment there has been a ‘tendency to require that the prosecution meet a higher evidentiary standard in cases of sexual violence and gender based crimes’.⁵ As an experienced practitioner I have seen professionals refusing to deal with allegations of sexual violence, neglecting the relevant evidence, or setting higher standards of evidence on a number of occasions. When drafting an indictment for an international tribunal in the late 1990s my modest attempt to include a reference to sexual violence under the chapeau of ‘persecutions’ (as a crime against humanity) was stopped by two attorneys senior to me because in their view ‘there was not sufficient evidence’. Later I discussed the issue with one of them and was puzzled when he explained that in his country as a prosecutor he always avoided sexual violence because it was ‘very annoying and difficult to prove’. More recently, when lecturing a group of experienced judges and

2 See, among others, the pioneering work by S. Brownmiller, *Against Our Will: Men, Women and Rape* (1975). I am grateful to Patricia Viseur-Sellers for sharing her expertise and first bringing to my attention in 1997 the research of Brownmiller, in the context of our work at the ICTY. For an overview of the progress made, see P. Viseur-Sellers, ‘Gender Strategy Is Not a Luxury for International Courts’, (2009) 17 *American University Journal of Gender, Social Policy and the Law* 301. For related empirical research, see N. H. Rafter and F. Heidensohn (eds.), *International Feminist Perspectives in Criminology* (1995).

3 For an overview of the international jurisprudence see, among others, A. L. M. de Brouwer, *Supranational Criminal Prosecution of Sexual Violence: The ICC and the Practice of the ICTY and the ICTR* (2005); K. D. Askin, *War Crimes against Women: Prosecution in International War Crimes Tribunals* (1997); K. Askin, ‘The Jurisprudence of International War Crimes Tribunals: Securing Gender Justice for Some Survivors’, in H. Durham and T. Gurd (eds.), *Listening to the Silences: Women and War* (2005), 125; X. A. Aranburu, ‘Los Delitos de Agresión Sexual en el Tribunal Penal Internacional de Naciones Unidas para la Antigua Yugoslavia’, in S. D. Luengo, R. A. Stoffels, and S. S. Caballero (eds.), *Violencia Contra las Mujeres en Conflictos Armados* (2003), 39; D. Luping ‘Investigation and Prosecution of Sexual and Gender-Based Crimes before the ICC’, (2009) 17 *American University Journal of Gender, Social Policy and the Law* 433; as well as the periodic reports of the Women’s Initiative for Gender Justice, available at www.iccwomen.org/. Note strong condemnation and measures on sexual violence against women and children (no mention of male adult victims) in UN Security Council resolutions, including UN Doc. S/RES/1325 (2000), UN Doc. S/RES/1820 (2008), UN Doc. S/RES/1888 (2009), and UN. Doc. S/RES/1889 (2009).

4 B. Nowrojee, ‘Lost Opportunity for Justice: Why Did the ICTR Not Prosecute Gender Propaganda?’, in A. Thompon (ed.), *The Media and the Rwanda Genocide* (2007), 370 (emphasis in original). Nowrojee produced in 2004 the report ‘Sexual Violence Crimes during the Rwandan Genocide’ for the ICTR OTP, and gave expert testimony in several ICTR cases, basing her assessment on her direct access to the evidence and from a comprehensive review of the ICTR jurisprudence. See also B. Nowrojee, *Shattered Lives: Sexual Violence during the Rwandan Genocide and Its Aftermath* (1996), and her reports ‘We Can Do Better Investigating and Prosecuting International Crimes of Sexual Violence’ (2004) and ‘Your Justice Is too Slow: Will the ICTR Fail Rwanda’s Rape Victims?’ (2005), available at www.coalitiondroitsdesfemmes.org/site/publications/index_en.php (last visited 1 January 2010). This critical assessment of the ICTR is confirmed by G. Breton-Le Goff, ‘Analysis of Trends in Sexual Violence Prosecutions in Indictments by the International Criminal Tribunal for Rwanda (ICTR) from November 1995 to November 2002’, available at the same site, and B. Van Schaak, ‘Obstacles on the Road to Gender Justice: The International Criminal Tribunal for Rwanda as Object Lesson’, (2009) 17 *American University Journal of Gender, Social Policy and the Law* 362.

5 SaCouto and Cleary, *supra* note 1, at 356.

prosecutors visiting The Hague, references to sexual violence were met with laughter and mocking signs, and I was asked whether international tribunals accepted female investigators, since apparently this was not an option in their country. In 2008 the inquiry into the post-electoral violence in Kenya found an ‘apparent lack of interest of the police in sexual violence’ and many allegations of rape that were overlooked by the national police.⁶ Even today, the most common software for crime analysis used by police forces around the world, the British-made i2 Analyst’s Notebook, does not include rape in the menu of crimes to be analysed.⁷

The reluctance to investigate sexual violence appears to result from two main factors: lack of awareness and sensitivity in teams usually led by senior male officers, and a certain taboo or embarrassment when dealing with intimate aspects of our bodies and minds. Researchers from the field of cognitive psychology and the psychology of law could probably assist in analysing such prejudices and suggesting corrective measures (the most obvious ones being evaluation at the recruitment stage, specific training, clear policies and standards, appointment of designated specialized staff, and gender balance in the teams).

Notwithstanding all the above, allegations of sexual violence, just like any other crime, must be subject to impartial consideration when it comes to judicial investigations. Impartiality is a principle of both scientific and legal methodology. Scientific research must deal with hypotheses that are formulated in an impartial way and, further, subject to neutral testing against the evidence for confirmation, rejection, or reformulation until a valid finding can be established. Impartiality is also a legal duty for the Prosecutor of the ICC, who must ‘[i]n order to establish the truth . . . investigate incriminating and exonerating circumstances equally’ (Art. 54 ICC Statute).

Here, the logic of the investigation may differ from the logic of advocacy of social movements and others that may accompany the allegations. Those focused on affecting public opinion, such as the media or non-governmental organizations (NGOs), need to communicate clearly the gravity of the crime and the urgent need to act. Those focused on establishing the truth in accordance with due process will need a more impartial and rigorous handling of the facts. There are at least four notions of the advocacy literature that criminal investigations need to consider critically: sexual violence is not prevalent in every conflict, it is not necessarily a strategic choice as a ‘weapon of war’, under-reporting is not an axiomatic universal fact, and women are not the only victims.

1. *The alleged prevalence of sexual violence in all armed conflicts.* What empirical research shows is that there are very large variations across conflicts and actors, so that in many conflicts sexual violence is very prevalent and in others much less so.⁸ For example, Susan Brownmiller observed a remarkable absence of sexual violence

6 CIPEV, ‘Report of the Commission of Inquiry into Post-election Violence’, 15 October 2008, available at www.communication.go.ke/documents/CIPEV_FINAL_REPORT.pdf (last visited 23 April 2010), 249.

7 For commercial information see www.i2group.com/template1.asp?id=5 (last visited 23 April 2010). The menu ‘crime’ shows 15 different categories, from ‘broken window’ to ‘assassination’, but no rape.

8 For an overview of research materials on multiple situations, see Alliance for Direct Action against Rape in Conflicts and Crises, ‘Documenting Sexual Violence in Conflict: Data and Methods – An

on the part of the Vietcong forces during the Vietnam War, which in her view was due mainly to strict prohibition enforced from the senior command, as well as to the presence of women in the fighting force.⁹ The comparative research of Elisabeth Wood shows that ‘while sexual violence occurs in all wars, its extent varies dramatically’, so that the conflicts in Bosnia and Herzegovina, Rwanda, Sierra Leone, and Darfur and the Soviet occupation of Germany during the Second World War are among the examples of high prevalence of sexual violence, while Palestine, El Salvador, and Sri Lanka feature in a much lower range.¹⁰ While research associated with advocacy projects typically focuses on the cases of high prevalence, Wood has taken an interest in researching the cases of low sexual violence in order to identify the inhibiting factors and show how such crimes are far from unavoidable in wartime. For example, in her analysis of the Tamil guerrilla in Sri Lanka it appears that minimal sexual violence is the result of a certain puritanical ethos, the strategic need to co-opt the civilian population, and the fact that ‘the organization prohibits sexual violence and effectively enforces that decision through a tightly controlled military hierarchy in which punishment is swift and severe’.¹¹

It is difficult to identify at a general level the factors that affect the level of sexual violence because of the diversity of armed conflicts and the different kinds of sexual violence. The contributing factors that seem most relevant include opportunity for the perpetrator, related to the availability of a vulnerable population in the given territory and timeline; the strategic agenda of the armed groups to punish or, conversely, to co-opt the civilian population; the sexual and ethical culture of the fighting force; prohibition and enforcement from senior command levels; and the presence of women in the fighting force.

2. *The assumption that rape is a ‘weapon of war’ or some strategic design.* This is a popular line, probably useful in stressing the importance and gravity of the crime, but the sad reality is that widespread rape may well occur without much higher design. As Susan Brownmiller had already observed in 1975, ‘After the fact, the rape may be viewed as part of a recognizable pattern of national terror and subjugation. I say “after the fact” because the impulse to rape does not need a sophisticated political motivation beyond a general disregard for the bodily integrity of women.’¹² Brownmiller’s insight remains valid and particularly important for criminal investigations today. On the one hand, assuming that rape must have followed from some higher strategy obscures the graver and truer fact that in a context of disrespect for women (and often also men) rape may easily be committed by anybody at any time. Furthermore, the assumption of higher direction may mislead the investigations in an effort to find orders or directions that were possibly never issued, and it may lead to the case being overstated in ways that will be difficult to substantiate in court.

Annotated Bibliography’, 2006, available at www.alliancedarc.org/downloads/news/Annotated_Bibliography_on_sexual_violence_in_conflict.pdf (last visited 23 April 2010).

9 Brownmiller, *supra* note 2, at 90–1.

10 E. Wood, ‘Sexual violence during War: Toward an Understanding of Variation’, in I. Shapiro, S. Kalyvas, and T. Masoud (eds.), *Order, Conflict and Violence* (2008), 321.

11 E. Wood, ‘Armed Groups and Sexual Violence: When Is Wartime Rape Rare?’ (2009) 37 (1) *Politics and Society* 131, at 152.

12 Brownmiller, *supra* note 2, at 37.

Sexual aggression, like any other form of aggression, may cause long-term damage to the victim and his or her community, which needs to be taken into account in assessing the gravity of the conduct, but this does not necessarily mean that such a consequence was the motive of the aggressor. As in the old military motto ‘beauty and booty’, rape in wartime is often committed as a kind of sexual looting, the main motive of the aggressor being his immediate sexual satisfaction. In the words of Brownmiller, ‘beyond the shiny patina of ideological excuse, it was also rape amid the levity and frivolity of men having a good time’.¹³ Such is the banality of rape, which does not mean that such rape is any less grave, just as ‘the banality of evil’ did not prevent Hannah Arendt from requesting capital punishment for Adolf Eichmann.

There are clearly different scenarios of sexual violence in wartime, from the more ‘opportunistic’ kind to the more ‘strategic’ one and other variants (see typologies in section 3.1 below). Commentators and practitioners with a focus on sexual violence tend to ignore the obvious fact that the rapist usually gets an orgasm as a result of his crime, and they often do not like to hear about ‘opportunism’ because they fear that this may underestimate the gravity of the crimes. The answer to such concerns should be twofold. First, truth should prevail over rhetorical convenience, and if there is truth in the opportunistic bottom-up dimension of the crime, this should not be concealed. Second, opportunistic sexual violence may still imply serious responsibility on the part of higher levels of authority, only under different scenarios of liability, such as (i) deliberate inducement, if the leaders deliberately create the opportunity for rape by giving carte blanche to do so or by setting an example by their own conduct or by notorious and persistent tolerance after the fact; (ii) implicit causation if the crime was a natural and foreseeable result from actions triggered by the leaders; and (iii) command responsibility if the leaders knowingly failed to prevent or repress crimes committed by their subordinates (as per Art. 28 of the ICC Statute).¹⁴

The discussions of ‘opportunistic versus strategic’ in the investigations of sexual violence echo the broader theoretical debate on the aetiology of rape. Authors closer to feminist advocacy have emphasized the aspects of social construction and cultural inducement.¹⁵ Authors from the field of evolutionary biology have argued a deeper biological predisposition of men towards violent sex that would explain the

¹³ Ibid., at 139.

¹⁴ On the investigation of senior leaders, see X. A. Aranburu, ‘Prosecuting the Most Responsible for International Crimes: Dilemmas of Definition and Prosecutorial Discretion’, in J. Gonzalez (ed.), *Protección Internacional de Derechos Humanos y Estado de Derecho* (2009), 381.

¹⁵ For an overview of feminist theories and works on rape, relying mainly on American authors, see the entry ‘Feminist Perspectives on Rape’ in *Stanford Encyclopedia of Philosophy* (2009), available at <http://plato.stanford.edu/entries/feminism-rape/#Oth> (last visited 23 April 2010). For different feminist interpretations of wartime rape, see D. Rejali, ‘After Feminist Analyses of Bosnian Violence’, (1996) 8 (3) *Peace Review: A Journal of Social Justice* 365, full text available at http://academic.reed.edu/poli_sci/faculty/rejali/rejali/articles/bosnia96.html (last visited 23 April 2010). For a focus on gender and genocide, see the Gendercide Watch Project at www.gendercide.org/. For a well-informed network of legal researchers and practitioners, see the blog <http://intlawgrlls.blogspot.com/> (all above links accessed 2 January 2010).

cross-cultural prevalence of rape.¹⁶ These and other theories should not be seen as mutually exclusive, since each of them may carry valuable insight into the different dimensions of the crime. The investigator will be best served by learning about the different theories and keeping an open mind regarding different types and causal hypotheses of the crime.¹⁷

3. *The alleged under-reporting of sexual violence.* This is true, but it is not the whole truth. It is clear that sexual violence goes under-reported for many different reasons that include fear of retaliation; distrust and dysfunction of the criminal justice system; a sense of shame; and fear of rejection by partners, society, and the 'marriage market'. Studies on different situations have indicated reporting rates of between 5 and 18 per cent of the total of rapes or sexual assaults committed: 18 per cent reported by the victims of sexual violence from the Rift Valley of Kenya during the post-election violence of 2007–8;¹⁸ some 15 per cent by the female victims of rape in the United States;¹⁹ and 5 per cent by male victims of prison homosexual rape.²⁰

At the same time, instances of over-reporting and false reporting are also known from historical and forensic evidence. As Susan Brownmiller observed, rape has been widely reported and highlighted for reasons of political expediency or 'atrocities propaganda' in a number of cases, including the following: the prominent reports in Belgian media of the rape of white nuns in the Democratic Republic of the Congo (DRC) at the time of independence; propagandistic reports of the rape of white women by Native Americans in the nineteenth-century wars in the United States; the portrayal of German forces as rapists in war propaganda during the First World War; the false rumours of rape committed by Vietcong spread by US military intelligence in Vietnam; false allegations of the rape of white women used by the Ku Klux Klan and others as a pretext for lynching innocent black males in the United States; the promotion of victims of rape as national heroes in Bangladesh after independence in 1973.²¹

False allegations of sexual violence are a reality, just as with any other crime, because of personal or political motivation. Their extent is difficult to assess, but in all known situations of mass violence they appear to be at a lesser or anecdotal scale vis-à-vis the very large number of truthful allegations. The collector of statistical data should be careful to avoid prompting false allegations from sources who, in certain contexts, may want to please the interviewer or may anticipate some advantage from the claim. As the World Health Organization recommended in 2007, 'Information gatherers need to make sure they are not overly influencing participants with their

16 For this sort of Darwinian–Hobbesian approach to evolutionary biology, see R. Thornhill and C. T. Palmer, *A Natural History of Rape: Biological Bases of Sexual Coercion* (2000). For a thorough critique of this approach see C. B. Travis (ed.), *Evolution, Gender and Rape* (2003).

17 For an overview of the different theories see J. Gottschall, 'Explaining Wartime Rape' (2004) 41 (2) *Journal of Sex Research*, 129.

18 CIPEV, *supra* note 6, at 246.

19 D. Kilpatrick and J. McCauley, 'Understanding National Rape Statistics', National Online Resource Center on Violence against Women, 2009, available at http://new.vawnet.org/Assoc_Files_VAWnet/AR_RapeStatistics.pdf (last visited 3 January 2010).

20 Brownmiller, *supra* note 2, at 265, estimate based on the Philadelphia prison system (1968).

21 *Ibid.*, at 41–4, 78, 87, 132–3, 140–53, 222–4.

authority, attitude, or demeanour . . . Experience shows that respondents may misunderstand the purposes of interviews and/or misunderstand whether interviews will lead directly to an increase in or personal access to services.²²

4. *The reductionist focus on female victims.* The one point where the analysis of Brown-miller and some subsequent feminist advocacy needs to be corrected is that the problem identified by them is not limited to the ‘disregard for the bodily integrity of women’, since the integrity of men is also affected in the many cases of male victims of sexual violence.²³ For example, the field research of Lynn Lawry and her team found a rather extensive pattern of sexual abuse of male soldiers in Liberia by their commanders, fellow fighters, and enemies.²⁴ More recently the Commission of Inquiry on the Post-election Violence (CIPEV) in Kenya found in 2008 a number of sexual crimes against men and yet was unable to interview any victim: ‘The tragic novelty of this experience meant that there were even fewer support groups available to men than to women. That, added to the humiliation of the violations, meant that no male victims came forward to testify to the Commission, something the Commission understood, but nevertheless found regrettable.’²⁵ The problem of under-reporting seems to be particularly acute for male victims since, according to the UN Office for the Co-ordination of Humanitarian Affairs (OCHA), ‘there is an extremely limited awareness of, and knowledge about, sexual violence against men and boys in conflict among the humanitarian and sexual violence research community’.²⁶ In spite of all the available information, male victims are entirely ignored in the key resolutions adopted by the UN Security Council in relation to sexual violence in armed conflicts (resolutions 1325, 1820, 1888, and 1889, adopted between 2000 and 2009).

1.2. Legality

The legal definition of the crimes must guide the criminal investigations and often condition their efficiency: crimes that have a clear definition tend to be easier to investigate and prove successfully in court than those with intricate definitions. Killing is usually considered as a crime with a straightforward definition, the source of most robust data for criminological research and criminal investigation, and statistical methods have been used most often for data on killings and mortality.²⁷ On the other hand, for example, the war crime of ‘disproportionate attack’ has a particularly convoluted definition, requiring some comparative assessment between

22 World Health Organization, ‘WHO Ethical and Safety Recommendations for Researching, Documenting and Monitoring Sexual Violence in Emergencies’ (2007), available at http://whqlibdoc.who.int/publications/2007/9789241595681_eng.pdf (last visited 24 April 2010), at 22.

23 For an overview see S. Sivakumaran, ‘Sexual Violence against Men in Armed Conflict’, (2007) 18(2) *European Journal of International Law* 253.

24 Interview with L. Lawry, ‘Sexual Abuse of Male Soldiers Common in Liberian War’, *New Scientist*, 12 August 2008, available at www.newscientist.com/article/dn14522-sexual-abuse-of-male-soldiers-common-in-liberian-war.html (last visited 23 April 2010).

25 CIPEV, *supra* note 6, at 243.

26 OCHA discussion paper, ‘The Nature, Scope and Motivation for Sexual Violence against Men and Boys in Armed Conflict’, June 2008, available at <http://ochaonline.un.org/OchaLinkClick.aspx?link=ocha&docId=1092305> (last visited 15 January 2010), 2.

27 See different experiences with statistical estimates of mortality in the papers of the conference ‘Documenting Mortality in Conflicts’, organized by the Center for Research on the Epidemiology of Disasters (CRED) in 2008, available at <http://conference.cedat.be/abstracts> (last visited 1 January 2010).

two vaguely defined and antithetical concepts (anticipated military advantage versus resulting damage on civilians) according to the purported perception of the suspect.

The legal definition of rape under international law, as given by both statutory and case law, is particularly robust in that it does not require the civilian condition of the victim (given the contextual elements, rape is always forbidden under one crime or another in international law, whether the victim is civilian or not); it does not admit justifications of 'military necessity', mistake of fact, or mistake of law; and defences of consent are unlikely to carry any weight in a context of mass coercion and violence.²⁸ This legal clarity on rape should be conducive to the collection of robust data and evidence. Other kinds of sexual crime, defined more recently and less informed by jurisprudence, may present greater difficulties in establishing their objective and subjective elements.

Still, some contextual elements of the crime, such as the link to an armed conflict for a war crime or the existence of a higher policy to attack the civilian population for crimes against humanity, may raise particular difficulties. Establishing such elements may be problematic, for sexual crimes as much as for any other crime, if they are frequently committed outside and beyond the context of armed conflict or attack against the civilian population. For example, this might be an issue in a country like Colombia, where serious offences have often ambivalent links to both armed conflict and common criminality.

1.3. Standards of evidence

The processes of investigation and prosecution need to adjust to standards of evidence that gradually rise, from starting with a mere suspicion, to some reasonable belief that will justify a decision to indict by a judge or prosecutor, to the certainty 'beyond reasonable doubt' that judges will require for a finding of individual guilt. For an initial 'reasonable basis' standard some general reports might be enough to establish the pattern as an objective element (*actus reus*) of the crime, as long as they are credible and relevant to the scope of the case. For a higher standard at the trial stage the following aspects need to be taken into account:

- *Disclosure.* The data gathered for the investigation may be subject to disclosure at the trial stage as a requirement of law, or on specific request from the defence or the judges. Such disclosure obligations are regarded as a guarantee for the defendant and his or her right to assess the quality of the sources of evidence relevant to the case. At the stage of collecting the data the following options can be considered: (i) to collect anonymous data valid only for statistical purposes so that the identity of the source would not be subject to disclosure; (ii) to obtain informed consent from the provider for the eventual disclosure of their personal data.²⁹

28 For the definitions of rape and other sexual crimes under the ICC regime see the ICC Elements of Crimes, available at www.icc-cpi.int/NR/rdonlyres/9CAEE830-38CF-41D6-AB0B-68E5F9082543/o/Element_of_Crimes_English.pdf (last visited 15 January 2010).

29 For a detailed protocol on informed consent see Section 6, 'Informed Consent', World Health Organization, *supra* note 22, at 22–3.

- *Credentials.* In case of expert testimony the judges and the defence may well raise questions about the professional credentials and neutrality of the witness. This is a common litigation practice and any expert witness must be prepared to present his or her credentials and answer related critical questions.³⁰ The qualifications of the data collectors might also be subject to scrutiny, for example regarding language skills.³¹
- *Scientific methodology.* Statistical evidence needs to be produced following standard scientific methodology, accepted by the scientific community, subject to peer review, and properly sourced and justified. Issues of data collection and sampling techniques are likely to be subject to discussion. Judges may not have the scientific expertise required to understand the methodology of statistics or other scientific fields, which may result in insufficient appreciation of statistical evidence and may require from the expert witness an effort of pedagogy. Further, judges may want to establish meta-scientific safeguards by appointing an independent expert or requesting the assessment of different experts acting independently (as has been done in some jurisdictions for DNA identification).
- *Defence expertise.* The accused is likely to bring experts to challenge on his or her behalf the evidence presented by the prosecution, whether in the area of statistics, forensics, or even cultural context. For example, the defence has presented expert testimony concerning crime statistics in several ICTY cases (Galić, Milutinović, and others).
- *Cross-examination.* Experts or investigators giving testimony before the chamber are likely to be subject to adversarial cross-examination by the defence, who may want to raise doubts on each and all the above issues.

2. DATA COLLECTION

The following kinds of data should be considered in the investigations of sexual violence patterns:

- *Surveys.* Victimization data may be collected through sampling surveys in just the same way as in other fields of scientific research (criminology, epidemiology, demography, etc.). Such surveys will need to comply with scientific standards regarding the design of the sampling strategy, data collection, and analysis. Examples include surveys conducted using different methods in Sierra Leone and Liberia and among refugees from Darfur in Chad.³² If scientifically sound, data

³⁰ For a comparative analysis of expert evidence across different national systems see L. Meintjes-Van der Walt, *Expert Evidence in the Criminal Justice Process: A Comparative Perspective* (2001).

³¹ On the qualifications of data collectors see Section 7, 'Information Gathering Team', World Health Organization, *supra* note 22, at 24–5. On the experience and skills of investigators and interpreters collecting statements of victims see P. Viseur-Sellers, 'The Other Voices: Interpreters and Investigators of Sexual Violence in International Criminal Prosecutions', in Durham and Gurd, *supra* note 3, 155–64.

³² L. L. Amowitz et al., 'Prevalence of War-Related Sexual Violence and Other Human Rights Abuses among Internally Displaced Persons in Sierra Leone', (2002) 287 (4) *Journal of the American Medical Association* 513; S. Swiss et al., 'Violence against Women during the Liberian Civil Conflict', (1998) 279 *Journal of the American*

from specifically designed surveys could provide the best pattern evidence, the downside possibly being the budget requirements.

- *Medical data.* The data on medical treatment of the victims may constitute important pattern evidence, provided that the victims did seek medical assistance, the providers did adequately record their services, and eventual biases (due to uneven access to medical services, political factors, or other things) can be identified and controlled.³³ The privacy rights of the victims should be respected, by means of informed consent as a precondition for data collection or, alternatively, by inviting the holder of the data (hospitals or other institutions) to produce generic statistics without disclosure of personal data. For example, the data on sexual violence provided by different hospitals in Kenya were used by the inquiry into the post-election violence in 2007–8.³⁴ Another option could be data from clinical examinations conducted by experts specifically for the purpose of the investigation on victims who volunteer their co-operation.
- *Crime reports.* Data collected by law enforcement or human rights agencies based on the allegations presented by victims. For example, the data on rape collected by the UN in the Central African Republic contributed greatly to assessing the pattern related to the armed conflict in this country in 2002–3.³⁵
- *Public reports.* Reports from news agencies and other open sources, provided there are adequate coverage and source reliability, have a great potential in view of the rapid development of electronic media. Examples include the monitoring for crime reports in Darfur and Iraq, as well as the new options explored by the Ushahidi project with Web-based user-generated content since 2008 in Kenya, the DRC, Gaza, and elsewhere.³⁶

Medical Association 625; and Physicians for Human Rights, *War-Related Sexual Violence in Sierra Leone: A Population-Based Assessment* (2002). See also the survey conducted by the Atrocities Documentation Team (ADT) in Darfur, as documented in S. Totten and E. Markusen (eds.), *Genocide in Darfur: Investigating the Atrocities in the Sudan* (2006). See the questionnaire utilized by the ADT, including references to rape, at http://conference.cedat.be/sites/default/files/Pfunderheller_ADT_per_cent20questionnaire.pdf (last visited 3 January 2010).

- 33 S. Swiss and J. E. Giller, 'Rape as a Crime of War: A Medical Perspective', (1993) 270 (5) *Journal of the American Medical Association* 612.
- 34 CIPEV, *supra* note 6, at 247–8. See also Nairobi: The Centre for Rights Education and Awareness, 'Women Paid the Price! Sexual and Gender-Based Violence in the 2007 Post-election Conflict in Kenya', 2008, available at http://creawkenya.org/index.php?option=com_content&view=article&id=100&Itemid=127 (last visited 5 March 2010). For rape as a common crime in Kenya see C. Kisuke, *Rape: A Critical Analysis* (2008).
- 35 International Federation for Human Rights (FIDH), International Investigative Mission, War Crimes in the Central African Republic, Report, 'When the Elephants Fight, the Grass Suffers', 2003, available at www.fidh.org/IMG/pdf/FIDH_Report_WarCrimes_in_CAR_English_Feb2003.pdf (last visited 3 January 2010). For an attempt to estimate the number of victims of rape in Rwanda see C. Bijleveld, A. Morssinkhof, and A. Smeulders, 'Counting the Countless: Rape Victimization during the Rwandan Genocide', (2009) 19 (2) *International Criminal Justice Review* 208.
- 36 For Darfur, with a focus on mortality but also including data on rape, see A. H. Petersen and L. Tullin, 'The Scorched Earth of Darfur: Patterns in Death and Destruction Reported by the People of Darfur: January 2001–September 2005', 2006, available at www.bloodhound.se/06_04_26_DARFUR_report.pdf (last visited 20 April 2010); for Iraq, with a focus on violent deaths, see the Iraq Body Count project, available at www.iraqbodycount.org/ (last visited 20 April 2010); for Ushahidi, see www.ushahidi.com/ (last visited 3 January 2010).

- *Internal records.* In some cases the perpetrators and their systems generate valuable data about their own crimes. The most notorious example is the records produced by the German SS on the Holocaust, which were subject to analysis by the official SS statistician in order to assess the pattern of the extermination.³⁷ Similar data could be available in cases of systematic captivity or sexual enslavement.
- *Perpetrator data.* Data collection should not be exclusively focused on victims, since information on the profile, behaviour, and rules of the perpetrators may be equally relevant to analyse patterns, as proved by the pioneering research by Elisabeth Wood. Such data may refer to the utterances by perpetrators when committing the crime or to the rules adopted formally or informally by the attacking force.
- *Proxy data.* Data related to the consequences of sexual violence may be valuable as leads or circumstantial evidence, including statistical outliers in pregnancy figures, sexually transmitted infections, traumatic symptoms, abortion, and consumption of certain drugs or tests. Such data might be available in different kinds of records and then subject to secondary analysis (analysis of data originally collected for a different purpose), or it may be collected for the primary purpose of the investigation through ad hoc censuses or surveys. For example, in 1993 a UN team found in the former Yugoslavia within a limited sample 119 pregnancies due to rape and, assuming conservatively that 1 per cent of intercourse resulted in pregnancy, they estimated 11,900 rapes related to the sampling frame as an indicator of the large scale of the pattern.³⁸ Mental health indicators have been also explored to analyse sexual violence in the aftermath of Hurricane Katrina.³⁹ Like any other form of circumstantial evidence, proxy data should be considered cautiously, mainly for corroboration purposes.⁴⁰

In criminal investigations information cannot be taken at face value, and the above-mentioned types of data shall be subject to standard methods of source evaluation by criteria of credibility, reliability, and so on. When working with data of limited quality it will be necessary to acknowledge such limitations, operate with ranges and confidence intervals, and present the findings accordingly.

Sampling of data is a common technique for statistics and other methods of investigating crime patterns. At another level, sampling of incidents is a common technique for building the legal case about the crime pattern. Incidents are chosen in a way like ‘case studies’ as representative of the overall pattern. This approach was used, among other examples, in the junta trials in Argentina, by the truth commissions of Guatemala and Peru (‘illustrative cases’ is what they called their samples),

37 S. Challen, *Richard Korherr and His Reports* (1993). Korherr, an actuary by training, was the official statistician of the SS. He was asked by Himmler to produce an assessment on the ‘final solution’. His report was used in the interrogations of Eichmann, and Korherr himself testified subsequently in a number of trials in Germany.

38 Swiss and Giller, *supra* note 33, at 613.

39 L. Lawry, M. P. Anastario, and R. Larrance, ‘Using Mental Health Indicators to Identify Post-disaster Gender-Based Violence among Women Displaced by Hurricane Katrina’, (2008) 17 *Journal of Women's Health* 1437.

40 For an overview of the kind of data on sexual violence that can be found in displaced populations see J. Ward, ‘Addressing Gender-Based Violence in Refugee, Internally Displaced and Post-conflict Settings’, Reproductive Health for Refugees Consortium, 2002, available at www.rhrc.org/resources/gbv/ifnotnow.html (last visited 3 January 2010).

by the commission of enquiry of the Human Rights Commission of Indonesia (they refer to ‘primary cases’) and in a number of leadership cases before the ICTY, the ICTR, and the ICC. To what extent certain incidents are representative of a larger pattern of crime will have to be assessed on a case-by-case basis, taking into account the features of the pattern.

3. ANALYSIS METHODS

The available evidence shall be subject to analysis using different methods that originate from national crime investigations, social sciences, human rights reporting, and the practice of the international tribunals.⁴¹

3.1. Typologies

Some typology is often needed to classify the different kinds of sexual violence and assist pattern analysis. A legal typology may be provided by the relevant provisions of law, such as the six types defined in Articles 7 and 8 of the ICC Statute: ‘Rape, sexual slavery, enforced prostitution, forced pregnancy, enforced sterilization, or any other form of sexual violence of comparable gravity.’ Genital mutilation is not included in this list, and it may be worth including in an analytical typology, in view of the gravity and spread of the conduct.

Factual typologies have been defined, for example, by the final report of the UN Commission of Experts on the Former Yugoslavia (1994), who found the following five types of sexual violence: (i) ‘sexual assault in conjunction with looting and intimidation of the target ethnic group . . . before any widespread or generalized fighting breaks out in the region’; (ii) ‘sexual assaults in conjunction with fighting in an area, often including the rape of women in public’; (iii) sexual assault in detention centres of both women and men; (iv) ‘assaults against women for the purpose of terrorizing and humiliating them, often as part of the policy of “ethnic cleansing”’; and (v) sexual enslavement of women.⁴² This typology gives a useful overview, but it is not entirely coherent in the criteria utilized: type iv is about motive, while other types refer to the chronology or other issues, which could create some overlapping and confusion in the analysis. Alternative motives, other than the ‘strategic’ kind mentioned in type 4, were disregarded by the Commission of Experts.

The CIPEV in Kenya (2008) found, regarding sexual violence, that ‘different perpetrators acted for different reasons’ and identified three main types: (i) as ‘a means used to pressure people to leave their homes, to retaliate against them for having voted for the wrong candidate, tribe, or party and in tandem with that to dominate, humiliate and degrade them and their communities into a pit of powerlessness’; (ii) ‘[i]n other areas, sexual violence was an opportunistic act played out against a

41 For definitions of crime pattern analysis in domestic jurisdictions, see www.crimereduction.gov.uk/toolkits/ui020501.htm; www.macrimeanalysts.com/articles/IdentifyingCrimePatterns.pdf (last visited 3 January 2010), and the EUROPOL *Analytical Guidelines* (The Hague: Europol Analysis Unit, 2000).

42 UN Commission of Experts on the Former Yugoslavia, Final Report, UN Doc. S/1994/674, 27 May 1994, Chapter IV, ‘Substantive Findings’, Section F, ‘Rape and Other Forms of Sexual Assault’, available at www.his.com/~twarrick/commxyu5.htm#IV.F (last visited 19 April 2010).

background of lawlessness and a vacuum of power that created disorder bordering on anarchy'; (iii) abusive sex trade imposed on displaced women.⁴³ This typology seems more coherent in its consideration of different 'reasons' or motives behind the crime, presenting the dichotomy between opportunistic and strategic crimes that is so frequent in scenarios of mass violence.

Factual typologies, while necessarily situation-specific, may be assisted by considering the following very frequent types:

- *Opportunistic*. As discussed above, a type of sexual looting decided by the direct perpetrator, who aims primarily at his own sexual satisfaction, while taking the opportunity offered by the defencelessness of the victim and possibly other factors.
- *Strategic*. When used as a means to terrorize, expel, or subjugate the victim, and possibly her or his community. This may become apparent with conduct that may not give sexual satisfaction to the perpetrator (sterilization, mutilation, or penetration with objects), or when the aggression is publicized with an intent to offend the wider population.
- *Captivity*. Scenarios of sexual violence in conditions of captivity combine opportunistic and strategic aspects, since the aggression may be decided by the direct perpetrator for his own satisfaction, while the opportunity to abuse is systemically constructed by those who established the captivity regime. This type of crime may include scenarios of abduction, sexual slavery, abuse within detention facilities, forced 'marriage', or sexual abuse of child soldiers. Crimes committed in a context of captivity, whether sexual or other, are usually easier to investigate for what concerns leadership responsibility. The landmark cases of sexual violence of the ICTY focused on captivity scenarios (rapes in the Čelebići detention camp, rape and torture by Furundžija, sexual enslavement in Foča, genital mutilation in the Omarska detention camp).

3.2. Databases

The available data will need to be registered in a relational database designed with adequate analytical standards and technical requirements. Databases are virtually indispensable for mastering large series of reports and analysing their common features, and various models have been developed in the last two decades from the fields of police investigations, human rights investigations, and social sciences. In a basic format anybody can develop a database with a simple spreadsheet as long as the categories are correctly defined, the input is consistent, and the sources sufficiently reliable and complete. From the field of human rights investigations very useful database models have been developed and implemented in multiple situations since the 1990s, such as the 'who did what to whom?' model of the American Association for the Advancement of Science (AAAS) and the HURIDOCS model.⁴⁴ The more advanced database models should provide for object-relational applications (links

43 CIPEV, *supra* note 6, at 252–3.

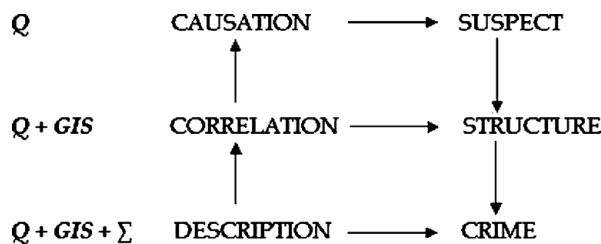
44 P. Ball, 'Who Did What to Whom? Planning and Implementing a Large-Scale Human Rights Data Project', 1996, and 'Making the Case: Investigating Large Scale Human Rights Violations Using Information Systems and Data Analysis', available at <http://shr.aaas.org/mtc> (last visited 3 January 2010); J. Dueck et al., *HURIDOCS*

to the original electronic files containing the information or scanned images of the original paper records), descriptive statistics, graphics, and web-based or remote access. The choice of the most suitable database model will depend on the available human and technical resources.

3.3. Statistics

To the question whether statistics can be used as evidence of sexual violence patterns in leadership cases, the answer is yes, since similar methods have already been used successfully for other offences in international tribunals, and for various other matters in a number of national jurisdictions.⁴⁵ The question is what exactly statistics can prove, and what their evidentiary strength is. The answer is related to the following logical sequence, which should guide pattern analysis for leadership cases: description → correlation → causation.⁴⁶

The conceptual construction of the leadership cases usually comprises three main building blocks: the ‘crime base’, understood as the bottom of a pyramid made of the pattern of multiple incidents; the organizational structures that formed the medium utilized to commit the crime; and the individual suspect allegedly ‘most responsible’ for the crime pattern at the apex of the construction. The logical sequence of the analysis should correspond generally to the three main areas of the case, and different kinds of method tend to be most relevant in the different steps (Q = qualitative, Σ = quantitative, and GIS = geographic information systems):



Description. The first step requires a mere description of the pattern as such, including estimates of the numbers of victims and incidents, their geographic and chronological distribution and the profile of victims and perpetrators. Here qualitative, quantitative, and GIS methods may be utilized and descriptive statistics can make a unique evidentiary contribution to the most accurate and objective assessment of the crime pattern. This has been the experience of the ICTY Prosecutor since 2000 with the use of statistics for the description of crime patterns.⁴⁷ The expertise

Standard Formats: A Tool for Documenting Human Rights Violation (1993); and J. Dueck, A. M. Noval et al., *HURIDOCs Standard Formats: Supporting Documents* (1993).

45 See among others J. L. Gastwirth (ed.), *Statistical Science in the Courtroom* (2000). For epidemiology statistics, see S. Loue, ‘Epidemiological Causation in the Legal Context: Substance and Procedures’, *ibid.*, 263, and the publications of the Centre for Research on the Epidemiology of Disasters, available at www.cred.be/. See also C. Aitken and F. Taroni, *Statistics and the Evaluation of Evidence for Forensic Scientists* (2004), and J. Asher, D. Banks and F. J. Scheuren (eds.), *Statistical Methods for Human Rights* (2008).

46 For an advanced discussion on the logic of investigation and litigation, see M. MacCrimmon and P. Tillers, *The Dynamics of Judicial Proof: Computation, Logic and Common Sense* (2002).

47 For an overview of ICTY statistical evidence as of 2006, see B. Mijatovic, ‘Statistical Evidence for the Investigation of International Crimes’, available at www.ssm.lu/pdfs/2006_2_12.pdf (last visited 31 December 2009).

originated mainly from the field of demography, led by Helge Brunborg and Ewa Tabeau, using data from multiple sources (census data, exhumation records, International Committee of the Red Cross (ICRC) data on missing persons, data provided by NGOs, etc.).⁴⁸ This evidence was accepted by the judges and contributed to convictions in the cases of Krstić, Blagojević, and Jokić (for the mass killings in Srebrenica in July 1995), Galić (for the siege of Sarajevo and the resulting injuries and deaths of civilians in 1992–5) and Brđanin (for persecutions in Bosnian Krajina, including thousands of killings). Most of this work relied on different techniques of counting, matching, and managing existing individual records, which, as long as the records are reliable, makes for a relatively safe and robust approach. In the case of Galić a more complex method of ‘multiple system estimate’ (MSE) was used to estimate the total victim population on the basis of existing census and other kinds of data.

MSE is a method for quantitative estimates based on certain extrapolations from matches between several samples that should have been collected randomly and independently of each other. The samples can be collected specifically for the estimate or they may be found and utilized as a matter of secondary analysis. For the latter, in reality the data collection preconditions are very difficult to meet or correct in the context of war victimization, and the validity of the method is arguable.⁴⁹

Since 2004 the Prosecutor of the ICC has used descriptive statistics in all investigations, both internally for purposes of situation and case selection (including assessments of the gravity of the crime and degrees of responsibility among leaders) and to support applications for arrest warrants before the judges (from the application on Kony and others in Uganda to the application on President Bashir of Sudan).

Correlation. Once the pattern of crime as such has been described there is a need to analyse its correlation with the actions of the relevant structures, such as military offensives, orders, appointments, deployments, peace agreements, and others. It will be difficult to assess the correlations statistically, because the available data will rarely be sufficiently complete to run tests of significance in a reliable way. Correlations may be shown in a non-statistical way just by describing the chronological flow of events, presenting parallel graphic timelines, or using GIS to map the overlap between the crime pattern and certain units or resources.

Causation. As every social sciences student knows, correlation is not causation, and in criminal investigations correlations are usually only one of the elements that contribute to establishing the chain of causality. Criminal causation refers to the specific conduct of the individual suspect, and usually rests on complex qualitative assessments of the modes of liability and mental elements (including

48 Helge Brunborg is a demographer employed by the ICTY OTP since 1997. For the *Krstić* case he testified and presented the team’s ‘Report on the Number of Missing and Dead from Srebrenica’. Ewa Tabeau is a demographer heading the Demographic Unit of the ICTY OTP. For the *Galić* case she testified on the basis of her report, ‘Population Losses in the “Siege” of Sarajevo – 10 September 1992 to 10 August 1994’. See Brunborg’s recommendations for the ICC OTP in his paper of April 2003, ‘Needs for Demographic and Statistical Expertise at the International Criminal Court’, available at www.icc-cpi.int/iccdocs/asp_docs/library/organs/otp/brunborg.pdf (last visited 16 December 2009).

49 For a defence of the MSE method, see R. Silva and P. Ball, ‘The Demography of Conflict-Related Mortality in Timor-Leste (1974–1999): Reflections on Empirical Quantitative Measurement of Civilian Killings, Disappearances, and Famine-Related Deaths’, in Asher, Banks and Scheuren, *supra* note 45, at 117.

possibly knowledge of particular facts, specific intent, material context, personal qualifications, etc.). Such qualitative judgement is usually informed by the testimony of insiders or other witnesses who interacted directly with the suspect, as well as records of public statements, intercepted communications, or internal documents.

Problems arose for the ICTY Prosecutor when she moved from a merely descriptive kind of statistical analysis to a more ambitious analysis of causality, conflating in a way the logical description–correlation–causation sequence. This attempt took place first in the case against Slobodan Milošević for crimes committed in Kosovo, eventually to be the case of the highest civilian authority tried by the Tribunal. The Prosecutor engaged an external expert to present statistical evidence in relation to mass deportation and killings in Kosovo.⁵⁰ The expert first presented his report and testimony in 2002 and he was subject to cross-examination by Milošević himself. Beyond descriptive statistics, the expert defined certain causal hypotheses and applied tests of regression to them. An interesting question in cross-examination was why the statistical analysis had focused only on one segment of the Kosovo population, the local Albanians, when local Serbs had also experienced mass displacement. The witness answered that such was the scope of the case defined by the Prosecutor, which was true, but still raises doubts about the validity of the findings: it is difficult to assess whether there is group-specific targeting if the analysis is limited to a particular group without the benefit of a comparative assessment. The defendant also raised a valid point when asking about the choice of the causal hypotheses, which could be seen as arbitrary or as presenting false dilemmas, since large-scale displacement and violence may result from multiple factors that are not mutually exclusive. We do not know what the judges thought of this statistical evidence because the proceedings unfortunately ended without a judgment due to the death of the accused.

When the same expert provided his statistical analysis and testimony for the related case against Milutinović and others in 2008 the judges dismissed it because they found both the data and the methods unreliable. The judges agreed partly with the critique presented by the defence expert witness and found that the data were inconsistent and the analysis of causality reductionist.⁵¹ Subsequently, to their credit, an associate of the expert conducted a thorough review of this experience and found a number of important lessons to be learned in order to improve the use of statistical evidence.⁵² In any event, the judges did convict the accused, which

50 P. Ball is a statistician with experience in the analysis of mass violence in multiple situations worldwide through his work with the American Association for the Advancement of Science (AAAS), the Human Rights Data Analysis Group (HRDAG), and Benetech. Ball referred to his team's report, 'Refugee Flow and Mass Killings in Kosovo, March–June 1999', and his earlier report, 'Policy or Panic? The Flight of Ethnic Albanians from Kosovo, March–May 1999', 2000, available at <http://shr.aaas.org/kosovo/policyorpanic/>, and http://shr.aaas.org/kosovo/icty_report.pdf (last visited 16 December 2009).

51 *Prosecutor v. Milan Milutinović*, Judgement, Case No. IT-05-87-T, T.Ch.II, 26 February 2009, available at www.icty.org/x/cases/milutinovic/tjug/en/judog0226-e3of4.pdf (accessed 17 December 2009), 13–17.

52 A. Hoover, 'Learning the Hard Way at the ICTY: Methods and Strategies for Presenting Statistical Evidence of Human Rights Violations', draft paper presented at the International Expert Meeting on Collective Violence and International Criminal Justice: An Interdisciplinary Approach, organized by the Amsterdam Centre of Interdisciplinary Research on International Crimes and Security, Amsterdam, 2009.

begs the question of what exactly would have been the added value of the statistical evidence.

3.4. Crime mapping

Crime mapping is the standard term for the use of GIS in crime analysis. It may range from basic drawing by hand to computerized cartography through geo-coding, geo-databases (matching descriptive data with geometric data) and geo-statistics.⁵³ Provided the geographic and other data are sufficiently accurate, crime mapping should be used for analysing patterns of sexual violence just as much as it has been used for other crimes in national and international jurisdictions. In the absence of precise geographic co-ordinates for the specific incidents (which is often the case), aggregation by broader geographic units (district, province, etc.) may provide a valid approximation. Since 2004 the Prosecutor of the ICC has used crime-mapping techniques in all investigations, including for presentations before the judges, whether plotting incidents and relevant events on maps, using animations to show the flow of events over the relevant areas, analysing and coding satellite imagery, or using remote-sensing data for three-dimensional topography. For example, in the case of Bemba data on rape and other crimes were plotted on animated maps to analyse the correlation with military operations, and in the case of Bashir crime and tribal population data were plotted to analyse correlations indicative of specific intent (in both cases such maps were presented before the judges).

3.5. Pattern witnesses

Using witnesses who have an overall view of the crimes is a common practice for identifying patterns of international crimes and presenting them before the trial chambers. Precedents have been known since the Tokyo trials, when missionaries who witnessed the 'Rape of Nanking' were called as witnesses for the prosecution, since they were able to move through the city when the rapes and other crimes were taking place.⁵⁴ As referred to above, the testimonies of Binaifer Nowrojee before the ICTR and Beth Vann before the SCSL are valuable precedents.⁵⁵

Witnesses of this kind may include field workers, researchers, journalists, international observers, or local leaders and authorities, conditional on their agreement and reliability, and provided there is no impeding conflict with their primary responsibilities. Often the testimony of these witnesses is supported by the reports that they produced at the relevant time (a technique already utilized in the Tokyo trials and greatly exploited before the different international tribunals).

53 For domestic crime mapping standards see, among others, K. Harries, *Mapping Crime: Principle and Practice* (1999), available at www.ncjrs.gov/pdffiles1/nij/178919.pdf (last visited 21 April 2010).

54 Z. Khaiyuan (ed.), *Eyewitnesses to Massacre: American Missionaries Bear Witness to Japanese Atrocities in Nanjing* (2001). Some of them were scholars of Chinese culture and had reported to the Japanese embassy in a series of letters.

55 B. Vann, 'Report to the Office of the Prosecutor, the Special Court for Sierra Leone: Conflict-Related Sexual Violence in Sierra Leone', 2007, as filed by the Prosecutor in the case against Charles Taylor (SCSL-03-01-PT) on 15 May 2007.

4. CONCLUSIONS

Pattern evidence and analysis have been successfully used to a limited extent in the investigation of sexual violence in international cases and they need to be further developed at different levels.

At the organizational level, the tendency of law enforcement and judicial institutions to neglect sexual violence needs to be seriously addressed from the highest levels of management and direction, to recruitment, investigations, litigation, and judges. Awareness of the seriousness of sexual violence should be a precondition of work in the investigation of international crimes, and the professionals in this field must be directed towards and know how to look actively for the relevant evidence and interact empathetically with victims and witnesses. The clear-cut definition of rape under international law allows no excuses; rather to the contrary, it lays the foundations for particularly solid grounds of evidence.

At the evidence collection level, there is a need to address under-reporting and to bring to light the very large 'dark figure' of sexual crimes that remains unknown. Specific victimization surveys may produce the most comprehensive and suitable evidence, for which proper methodology and resource allocation will be needed. Perpetrator-focused evidence is critical: learning about the point of view, motives, and rules of the perpetrator is essential for successful criminal investigations. Secondary analysis of medical and other data may be of great usefulness, provided there is informed consent from the victims or adequate transmission by the health authorities and professionals. Proxy data should also be considered, to the extent possible and reasonable. Specific training is clearly advisable for the originators and collectors of the data.

At the analysis level, the available evidence needs to be subject to impartial examination beyond the preconceptions of the conflict parties and advocacy groups. Some of the arguments that are popular in media and other sources may need to be critically considered to avoid unfair exaggerations that could harm the truth, as well as the case in court. Analysis will need to resist the temptations of causal and other fallacies and comply with the relevant scientific standards, in order for quantitative, qualitative, and GIS techniques to present the best findings on the description, correlations, and causation of the patterns. For that matter the analysis work will need to be properly planned and resourced from the outset of the investigations. Thorough review of different experiences and lessons learned in the field of investigations of international sexual crimes is needed at professional and academic levels. Training of prosecutors and judges would help them to better appreciate pattern evidence and analysis.

This is not an impossible task. It is only a matter of bringing together the available experiences and resources, with a clear purpose to put an end to impunity for sexual crimes.