

## SUMMARY

This thesis examines the use of non-textual evidence in international criminal prosecutions, with an emphasis on atrocity crimes. Non-textual evidence refers to evidence that is primarily presented to the senses of sight and hearing (not via text) and which has physical or digital form. It includes film, photographs, video recordings, satellite images, computer generated animations, data representations, advanced visual representations, and other visual forms of evidence. Non-textual evidence can be remarkably effective in the search for the truth, but it also poses significant technical, epistemic, and legal challenges. This thesis conducts an in-depth exploration of the use of this evidence for proof and didactic purposes and emphasizes the need for improved visual literacy among counsel and the court. Throughout this thesis, reference is made to relevant practices and case law in international criminal prosecutions ranging from Nuremberg to the *ad hoc* tribunals to the ICC.

This thesis is intended to chart a path forward in the use of non-textual evidence in international criminal prosecutions. It identifies and explores existing challenges in the creation, acquisition, processing, and use of non-textual evidence, and makes recommendations for how those challenges might be profitably addressed. It also evaluates the risks attendant with some evidence and how those risks can be minimized. The role of forensic analysis in image authentication, the detection of image forgery, and the assessment of image content is examined. Significantly, this thesis argues that the use of non-textual evidence in international criminal prosecutions is at a tipping point and that while the *status quo* has value, further effective integration of this evidence would be beneficial in the search for truth.

Trials are prime opportunities for storytelling where complex narratives of relevant events and characters are presented by the parties. Chapter One considers the significant role that counsel fulfill in the collection, selection, and presentation of evidence at the pre-trial and trial stages of a case. Though *viva voce* evidence has been a dominant feature in most atrocity crime prosecutions, non-textual evidence often proves to be integral in the development of the narrative. Different types of non-textual evidence and the roles they have played in prosecutions are discussed. Chapter Two opens with an exploration of the messages that international criminal justice strives to deliver, with an emphasis on truth discovery and the creation of a historical record. It argues that while truth discovery is one of the paramount goals of international criminal justice, the creation of a comprehensive historical record should not be the role of the court. The chapter explores the use of different types of non-textual evidence as a didactic tool which can be used to convey complex and compendious data to the court and facilitate improved comprehension.

Chapter Three examines the democratization of evidence gathering, specifically the role that non-investigators such as civilian witnesses, victims, combatants, perpetrators, third-party observers, and members of civil society play in recording and submitting evidence of criminality. This unavoidable devolution of evidence gathering is necessary due to insufficient investigative resources, delay in scene attendance, government interference, and security risks present in active conflict zones, all of which militate against investigators being able to gather necessary evidence in a timely manner (or at all). This chapter explores the opportunities and challenges involved in the democratization process, including those affiliated with evidence that is uploaded to social media and open source sites. This naturally leads into Chapter Four which argues that photographs and video images are different from other forms of evidence because they are not merely discoverable, they are *created* by interested parties whose subjective choices influence what is ultimately produced for consideration. Visual narratives of atrocities are impacted by the agendas and biases of photographers, and this in turn informs what is framed, collected, and retained for viewing. Photographers can intentionally or unwittingly misrepresent the truth. This chapter analyzes how party agendas and biases can harm the pursuit of the truth and skew the court record.

There is a common belief that viewers intuitively know a genuine image when they see it and that they possess the ability to distinguish a fair image from a fraudulent one. This reflects the somewhat naïve perspective that seeing is knowing and that sight leads to insight. Chapter Five argues that images are mediated views that are often designed to convey mixed messages. Whether images are worthy of belief is a contextual consideration that is dependent upon their source, the presenter, any narrative attached to the images, and the purpose for which they are being shown. Accordingly, the reliability of digital images is the focus of this chapter. Images can be intentionally manipulated or inadvertently altered in such a way as to mislead viewers. Fake news, including images of questionable reliability, is a serious threat to society and the pursuit of the truth. This chapter considers the ramifications of unreliable images in international criminal justice and articulates how counsel can present complex non-textual evidence in a manner that conveys its content accurately, reliably, in greater detail, and with more understanding. The overriding message conveyed is that when courts are trying to ascertain the truth surrounding allegations of criminality, a more robust visual literacy is essential.

Despite the popular saying, pictures do not necessarily speak for themselves and must be viewed and interpreted with an understanding of the context in which they were created, the photographer's perspective, and the narratives they purportedly support. Chapter Six explores the importance of informed image interpretation and why expert assistance may be required to properly understand what images have to offer, particularly when they are semi-legible. Forensic image analysis allows images to be confronted by

someone with the skills necessary to dissect and reconstruct them to maximize their true evidential value. This chapter will outline different techniques that can be used by experts to unlock image details. Building upon the previous chapter, Chapter Seven investigates whether images can be trusted to show what their proponent claims they do and addresses the important topic of image authentication (establishing that images are what they purport to be). Following an in-depth legal analysis of how authentication has been addressed in common law courts, the *ad hoc* tribunals, and the ICC, this chapter advocates for a different approach to authentication than is currently utilized in the ICC and makes recommendations for how image authentication should be addressed by counsel and the court.

Chapter Eight looks at emerging technical frontiers and the use of advanced visual representations in international criminal justice and atrocity crime prosecutions. The focus of this chapter is on the use of virtual reality, immersive virtual environments, and augmented reality in the courtroom. It investigates the potential uses of these technologies and their associated advantages and disadvantages. Also examined are the technical and legal implications involved in using new technology and an assessment of probative value versus potential prejudicial effect. The chapter concludes with recommendations for how emerging technologies should be evaluated for use in the courtroom and if used, how they can be used as effective tools in the search for the truth.

The concluding chapter of this thesis offers important takeaways for the reader. Chapter Nine provides a thematic analysis of the recommendations that arose in earlier chapters, including policy and practice recommendations and suggestions for improving the current legal approach to the authentication and use of non-textual evidence at the ICC. It contextualizes the contents of this thesis among existing guidance and articulates how this thesis takes non-textual evidence farther and charts a sound path forward in international criminal prosecutions. Second, this chapter articulates recommendations for the ICC OTP regarding the development (and modification) of a formal repository for the acquisition, assessment, and storage of non-textual evidence submitted by individuals and organizations other than OTP investigators, including recommendations for a more prevalent role for machine learning and artificial intelligence to do the tasks humans would otherwise have to perform. Third, this chapter argues that the use of non-textual evidence in international criminal prosecutions is at a tipping point. The assessment is not that the current approach is inherently wrong or troubling but rather that it is fundamentally inadequate for truth seeking purposes, the core business of the court. The chapter evaluates the *status quo* regarding the use of non-textual evidence and makes targeted recommendations for how to transcend the *status quo* to push the use of non-textual evidence out of the liminal space it currently occupies to the next level in international criminal justice.