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What is the pertinence of Traditional Best Practices for
Collecting, Handling, and Utilizing Physical Evidence in
Open-Source Investigations?

Identifying Challenges and Formulating Adaptive Strategies in the
Digital Age.

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Abstract:

With its deeply transformative character, the digital age has ushered profound transformations in many realms of the human rights environment. In the ever-evolving landscape of human rights fact-finding, the emergence of open-source methodologies as a prominent means for evidence identification, collection, and preservation has greatly impacted the traditional frameworks of best practices for collecting, handling, and utilizing evidence. As doctrine and practice attempt to reel in the revolutionizing potential of open-source methods, this thesis delves into the pertinence of traditional methodologies in the context of open-source investigations, seeking to identify inherent challenges and formulate adaptive strategies to align the tradition with the novel demands of the digital age.

The initial discourse surrounding the emergence of open-source approaches to information-gathering, will allow us to explore the recent technological developments in human rights monitoring and reporting, especially emphasizing their capacity to open brand-new avenues for human rights practitioners. The exploration then moves to retracing the path that led to the institutionalization of best practices in evidence collection and analysis. However, as open-source methods gain prominence in the digital era, the relevance of these established practices is scrutinized against the backdrop of evolving technological landscapes. By critically assessing the applicability of traditional methodologies within the digital realm, we will shed light on the tensions that arise when these methodologies encounter the novel challenges presented by open-source investigations.

The permeation of digital technologies in human rights fact-finding introduced an array of complexities, ranging from the reliability of online sources to the preservation of data in an ever-morphing digital landscape. Moving beyond the analysis of traditional best practices framework, the research consequently examines the unique challenges posed by open-source investigations, attempting to provide a comprehensive understanding of the intricacies that investigators face when navigating the digital realm, and identifying the necessity for adaptive strategies that harmonize the traditional sets of practices with contemporary challenges.

In response to these challenges, the development of a new framework for best practices emerges as a pivotal step in this recalibration process. This new framework must strike a delicate balance between the preservation of core principles and the incorporation of innovative methods, reflecting a human rights-based approach, effectively addressing the challenges associated with digital evidence, and maintaining the integrity of established principles while integrating innovative methods. Drawing on case studies and real-world practices, the research identifies a series of adaptive strategies encapsulating the symbiotic relationship between tradition and technology.

Overall, this work attempts to contribute to a growing strand of literature and academic discussions striving to find the balance between the need to identify effective procedural standards and to safeguard the ethical underpinnings of human rights. Such nuanced understanding of the topic underlines the importance of analyzing the pertinence of traditional best practices for collecting, handling, and utilizing physical evidence in the context of open-source investigations. By formulating adaptive strategies to guarantee the healthy development of the doctrine and identifying new avenues for procedural analysis, this thesis strives to serve as a starting point to harmonize the rich legacy of traditional investigative practices with the demands of the contemporary digital landscape.

What is the pertinence of Traditional Best Practices for Collecting, Handling, and Utilizing Physical Evidence in Open-Source Investigations? Identifying Challenges and Formulating Adaptive Strategies in the Digital Age.

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Introduction

It was July 2017 when a video depicting around twenty hooded individuals kneeling in the dirt of an undisclosed location surfaced on Facebook.¹ The barren silence of the environment was broken by the echoing voice of who was then identified as Mahmoud Mustafa Busayf Al-Werfalli, the alleged commander of the Al-Saiqa Brigade of the Libyan National Army (LNA), condemning the individuals to death because of their presumed involvement with the terrorist acts committed by the Islamic State. The brutal execution that followed quickly gained traction on social media platforms but, at least at first glance, the video seemed to be hard to geolocate and the perpetrators difficult to identify. Indeed, other than the dusty surface of the desert, at times livened by sparse bushes and vegetation, the arid landscape did not present any identifiable landmark, and the Libyan National Army, in a statement that quickly followed the publication of the video, rejected the allegations that its soldiers, under the command of Al-Werfalli, were responsible for the summary executions.²

With the development of digital technology and social media platforms, videos such as this have become increasingly present in the framework of human rights investigations, progressively transforming into fundamental tools for actors and organizations in their efforts to promote human rights and fundamental freedoms. The need to geolocate and time-stamp online resources and identify the actors depicted in said resources is becoming increasingly prominent in the work of international non-governmental organizations (NGOs), civil society advocacy groups, and international institutions. In particular, the summary executions depicted in the video became the focus of the work of many large NGOs like Amnesty International and Human Rights Watch, smaller focus groups like Bellingcat, and bodies like the International Criminal Court (ICC) and the United Nations (UN). Its frames were picked apart and analyzed by human rights defenders to identify the specific location of the massacre, the time when it took place, and the perpetrators involved until it was eventually admitted as incriminating evidence in the first-ever arrest warrant of the International Criminal Court based, for the most part, on evidence collected on social media.³

The video depicting the violence of the LNA militants represents an instance of open-source information, a concept commonly used to define the information that any member of the public can observe, purchase, or request, without requiring special legal status or unauthorized access.⁴ Born in the

¹ Mohammed Al-Gali, "Incident 7 - Archived Version," [www.youtube.com](http://www.youtube.com/watch?v=oMfohLyw8d8?t=65), July 23, 2017, <http://youtu.be/oMfohLyw8d8?t=65>.

² Libyan National Army Spokesman, "https://twitter.com/LNASpox/Status/887967479724683264," X (formerly Twitter), July 20, 2017, <https://twitter.com/LNASpox/status/887967479724683264>.

³ Bellingcat, "How a Werfalli Execution Site Was Geolocated," Bellingcat, October 3, 2017, <https://www.bellingcat.com/news/mena/2017/10/03/how-an-execution-site-was-geolocated/>.

⁴ Lindsey Freeman, Alexa Koenig, and Eric Stover, "Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law" (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

field of journalism to guarantee the best possible adherence to the facts reported and to promote a more direct depiction of the events, open-source information was quickly adopted by human rights defenders, lawyers, and activists worldwide who, much like journalists, were fundamentally concerned with reporting on information, and were therefore prone to rein in the power of global connectivity and user-generated content to corroborate their advocacy and legal proceedings.

Although having experienced some setbacks in its insertion into the international legal frameworks, in the last few decades, open-source information has progressively been recognized as a fundamental means to deepen the scope of human rights investigations. Indeed, with a growing number of photographs and videos populating the digital landscape across the globe, and with social media platforms becoming increasingly accessible, new forms of human rights documentation have emerged, allowing for the flourishing of a growing strand of scholarly literature on the matter that recognized the necessity to identify the technical and procedural underpinnings for their optimal exploitation in human rights investigations.⁵

A good portion of the scholarly literature on the matter has been prone to analyze the advantages and disadvantages of the implementation of open source information in human rights investigations, orienting their focus to the identification of the principles and technical processes through which challenge, and potentially overcome, the aforementioned disadvantages.⁶ Academia on the matter progressively highlighted the technical and human bias that emerge when open source information is employed in human rights investigation and started sketching out the contours of standards, principles, and procedures designed to help investigators and lawyers regulate the technical process that underscores the investigation and the prosecution.

⁵ Sam Dubberley, Alexa Koenig, and Daragh Murray, *Digital Witness : Using Open Source Information for Human Rights Investigation, Documentation, and Accountability* (Oxford, United Kingdom: Oxford University Press, 2020), 3–8.

⁶ See, Jeff Deutch and Hadi Habal, “The Syrian Archive: A Methodological Case Study of Open-Source Investigation of State Crime Using Video Evidence from Social Media Platforms,” *State Crime Journal* 7, no. 1 (2018): 46, <https://doi.org/10.13169/statecrime.7.1.0046>., Sam Dubberley and Gabriela Ivens, “Outlining a Human-Rights Based Approach to Digital Open Source Investigations: A Guide for Human Rights Organisations and Open Source Researchers” (University of Essex - Human Rights Center, March 2022), <https://repository.essex.ac.uk/32642/1/Outlining%20a%20Human-Rights%20Based%20Approach%20to%20Digital%20Open%20Source%20Investigations.pdf>., Sam Dubberley, Alexa Koenig, and Daragh Murray, *Digital Witness : Using Open Source Information for Human Rights Investigation, Documentation, and Accountability* (Oxford, United Kingdom: Oxford University Press, 2020), 3–8., Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf., Yvonne McDermott, Alexa Koenig, and Daragh Murray, “Open Source Information’s Blind Spot: Human and Machine Bias in International Criminal Investigations,” *Journal of International Criminal Justice* 19, no. 1 (March 2021), <https://doi.org/10.1093/jicj/mqab006>., Nikita Mehandru and Alexa Koenig, “Icts, Social Media, & the Future of Human Rights,” *Duke Law & Technology Review* 17, no. 1 (April 1, 2019): 129–45, <https://scholarship.law.duke.edu/dltr/vol17/iss1/5/>., Daragh Murray, Yvonne McDermott, and K Alexa Koenig, “Mapping the Use of Open Source Research in UN Human Rights Investigations,” *Journal of Human Rights Practice* 14, no. 2 (April 23, 2022): 554–81, <https://doi.org/10.1093/jhuman/huab059>.

Nonetheless, the focus of the current literature on the creation of a common set of definitions, principles, and standards to bring greater systematicity to the use of open-source information in human rights investigations often overlooked the fact that the new technological means did not only bring upon technical challenges but also human and ethical ones as well. In traditional human rights investigations, the concept of best practices understood as a working method, or a set of working methods, accepted to being the best to use in a particular field, emerged to orient the actions of investigators, lawyers, and prosecutors, towards approaches that merge efficacy with the respect of human rights and fundamental freedoms. In a context in which digital evidence and open-source information are becoming more and more prevalent means through which human rights violations are recorded, documented, and reported, a need for a procedural framework designed around best practices for open-source human rights investigations seems to be becoming prominent.

Considering the current scholarly discourse, this study aims to identify the pertinence of traditional best practices for collecting, handling, and utilizing physical evidence once they are confronted with the challenges posed by the emergence of digital evidence. In particular, a large portion of this study is oriented to the development of the doctrine on the employment of open-source information in human rights investigations and to the subsequent challenges and avenues for growth. Nonetheless, and most importantly, this study strives to emphasize the need for both an adaptation and a reformulation of the traditional framework of best practices to incorporate digital evidence in its human-rights-oriented perspective and aims to sketch out a methodology from the principles and minimum standards set out by the current academic discourse to facilitate the growth of such mechanisms considering these novel technological developments.

The substantial basis for this study refers to the various initiatives and publications oriented to the identification of minimum standards, principles, and guidelines for the collection, preservation, and employment of open-source information in human rights investigations. From those like the Berkeley Protocol on Digital Open Source Investigations seeking to sketch out purely technical rules of procedure for the collection, analysis, and preservation of open-source information, to those, like the contributions of organizations like Bellingcat, the Syrian Archive, and OSR4Rights, striving to interrelate the collection of open source information to their exploitation in legal contexts.⁷ In particular, similarly to the premises of the Berkeley Protocol on Digital Open Source Investigations, this study strives to represent a stepping stone towards the development and the implementation of a framework of best

⁷ See, “Bellingcat - the Home of Online Investigations,” Bellingcat, accessed November 19, 2023, <https://www.bellingcat.com>, “Home | OSR4Rights,” OSR4rights.org, accessed November 19, 2023, <https://osr4rights.org>, “Syrian Archive,” Syrianarchive.org, accessed November 19, 2023, <https://syrianarchive.org>.

practices *'for documenting and verifying violations of international human rights law and international humanitarian and criminal law'*.⁸

On this basis, the study is structured as follows. The initial discourse surrounding the development of digital evidence in human rights investigation will allow readers to explore the gradual shift from physical to digital evidence in the modern age of human rights monitoring and reporting, especially emphasizing the impact of open-source information on recent cases of human rights violations. Through the illustration of the events that eventually allowed for the rise of open-source information in international human rights investigations, Chapter I will discuss the challenges posed by this novel form of evidence, but also the avenues for growth that they present to investigators, lawyers, and activists.

Chapter II delves instead into the historical development of best practices in human rights investigations. It first defines the concept of best practices in human rights fact-finding, constructing the backbone for the analysis of the core principles guiding these practices and for the identification of their significance in ensuring accountability for human rights violations. The chapter emphasizes the role of best practices in the promotion of human rights-oriented documentation, collection, and preservation of evidence in human rights investigations. By juxtaposing the framework of traditional best practices with the emergence of digital evidence, the chapter finally highlights how, although the orienting principles might remain unvaried, there is a need for reformulation and adaptation of the methodological frameworks on which best practices are founded to accommodate the new digital landscape and put human rights at the forefront of investigative processes.

In Chapter III the different challenges of integrating digital evidence into established investigative methodologies are approached through a comparative analysis of traditional best practices and the novel requirements brought upon by the introduction of digital evidence. To reveal the obstacles faced in adapting traditional best practices to the handling of digital evidence, the chapter first distinguishes between what the processes of adaptation and reformulation entail. By opposing the aspects of digital evidence that require a simple adaptation of the established framework to those who pose the necessity for evolution and reformulation, the chapter concludes by discussing the critical need to strike the right balance between adaptation and reformulation in best practice frameworks and by emphasizing that the effectiveness of these frameworks depends on the context and the unique challenges posed by each investigation process.

Lastly, Chapter IV presents a series of human-rights-based strategies formulated to tackle the challenges identified in the preceding chapters. It unveils a framework of best practices for digital evidence

⁸ Lindsey Freeman, Alexa Koenig, and Eric Stover, "Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law", pp. 4-5 (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

collection, documentation, and employment, with a focus on ensuring the technical, procedural, but also human-rights-based aspects of the investigative process. The chapter explores the delicate balance of preserving rights while conducting thorough human rights investigations in the digital era, while also emphasizing the integration of technology to enhance traditional investigative processes, empowering investigators with innovative tools to pursue justice. The chapter serves as a juncture to a concrete application of the framework in the shape of a case study analyzing the on-the-field implementation of best practices for digital investigation in the case of serious human rights violations. Based on such reflections and framework, the chapter ends by presenting a set of recommendations based on training and capacity-building, emphasizing the need to empower investigators with the skills required to navigate the digital evidence landscape confidently. By presenting actionable recommendations, this chapter provides a roadmap for stakeholders to enhance their human rights investigative practices.

Methodology and Definitions

Acknowledging the growing role of open-source information in the current institutional, but also grassroots, efforts towards accountability for human rights violations and international crimes, represents a pivotal step to address the challenges and ways forward presented by this relatively novel instrument in human rights reporting. This study therefore aims to dissect the procedural aspects of human rights investigations in the digital age through a dual approach that incorporates a comprehensive analysis of the current scholarly discourse on the topic, but also an understanding of the concrete challenges arising from the on-site use of open-source information for human rights reporting.

Corroborating the outcomes of extensive research on both primary and secondary sources with the insights deriving from formal and informal interviews with human rights investigators, lawyers, and practitioners, provided this study with the background to analyze the mechanisms and procedures through which the principles outlined in many protocols, guidelines, and trainings are translated into reality. The contributions of interviewees, based on their expertise in open-source investigation processes within institutional and/or research-oriented contexts, constituted the foundations from which to approach the concrete challenges and opportunities brought upon by the development of open-source information. On the other hand, a thorough scrutiny of the current stances, perspectives, and approaches implemented by international bodies on the matter, allowed the research to compare the differences in the multi-level employment of these new technologies.

Drawing from the current scholarly writings on the matter, among which the Berkeley Protocol on Digital Open-Source Investigations, the University of Essex's Guide for Human Rights Organizations and Open-Source Researchers, the International Criminal Court and Eurojust Guidelines for Civil Society Organizations, as well as the extensive research of scholars and practitioners such as Alexa Koenig, Daragh Murray, Lindsay Freeman, Sam Dubberley, and many others, the below-listed definitions help categorize and classify the different elements that became prominent in human rights investigations in the digital age:

Open-Source Information

Open-source information, understood by Sam Dubberley, Alexa Koenig, and Daragh Murray as all the information that is publicly available and can be obtained by anyone upon request, purchase, or observation⁹, differs from digital open-source information, which the Berkeley Protocol on Digital

⁹ Sam Dubberley, Alexa Koenig, and Daragh Murray, "The Emergence of Digital Witnesses," in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2020), 4–11.

Open-Source Investigations defines as publicly available information in the digital format, often acquired from the internet, and comprising both user-generated and machine-generated data.¹⁰ Online open-source information can range from social media content, images, videos, and audio recordings posted on websites and online databases, as well as satellite imagery, government-published data, and resources.

Daragh Murray, Yvonne McDermott, and Alexa Koenig, in “*Mapping the Use of Open-Source Research in UN Human Rights Investigations*”, further distinguish between different types of open-source information based on two other variables. The first variable, according to the authors, evaluates whether the piece of information is a primary source, understood as a first-hand account from someone who personally and directly experienced the event in question or a secondary source. The second variable instead analyzes whether the information is an individual piece of data or the result of a process of data aggregation.¹¹

Based on the following variables, for example, an NGO report will often be identified as a secondary source of aggregated nature, while raw satellite imagery or a video posted on social media will usually be considered as primary sources of individual nature, although their nature can evolve if they are inserted in a composite resource.

Open-Source Investigation

Open-source investigations are all those processes that entail the collection, documentation, and analysis of open-source information for investigative processes. For this study, we will focus on the concept of open-source human rights investigations which focus on determining whether the investigated facts could constitute violations of international human rights law, international humanitarian law, and international criminal law.

Open-Source Intelligence (OSINT)

The Escal Institute of Advanced Technologies (SANS Institute) defines open-source intelligence as “*intelligence produced by collecting, evaluating and analyzing publicly available information to answer*

¹⁰ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law”, p.3, (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

¹¹ Yvonne McDermott, Alexa Koenig, and Daragh Murray, “Open Source Information’s Blind Spot: Human and Machine Bias in International Criminal Investigations,” *Journal of International Criminal Justice* 19, no. 1 (March 2021), <https://doi.org/10.1093/jicj/mqab006>.

a specific intelligence question".¹² This concept differs from that of open-source information because it entails the processing of open-source data through the lenses of reasoning and critical thinking. OSINT refers to the analysis of the meaningful connections between individual pieces of data, their relation to a wider picture, and their capacity to provide actionable intelligence in the context of an investigation or research.

Information and Communication Technology

Information and communication technology (ICT) is defined by the European Commission as ‘all technical means used to handle information and aid communication’, fundamentally including hardware and software involved in information generation, collection, and dissemination.¹³

Documentation

Documentation, as emphasized by the Open Society Institute in their guide for human rights advocacy, forms the core of human rights work. This process involves the meticulous recording of human rights abuses, serving as a powerful tool contingent on the accuracy and completeness of the gathered evidence.¹⁴ Documentation revolves around collecting narratives, establishing truths, and alerting the public to patterns of abuse, therefore serving to record violations, offer a snapshot of events, and lay the groundwork for publicizing abuses.

Collection

According to the Berkeley Protocol on Open-Source Investigations, the collection is the act of “*gaining possession of online information through a screenshot, conversion to PDF, forensic download or other forms of capture*”.¹⁵ Once they are identified as relevant and reliable for an investigation, information, data, and other primary sources are collected and stored, often to be transformed into secondary sources such as reports, statements, communications, or campaigns.

¹² Ritu Gill, “What Is OSINT (Open-Source Intelligence?) | sans Institute,” [www.sans.org](https://www.sans.org/blog/what-is-open-source-intelligence/), February 23, 2023, <https://www.sans.org/blog/what-is-open-source-intelligence/>.

¹³ European Commission, “Glossary: Information and Communication Technology (ICT),” [ec.europa.eu](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Information_and_communication_technology_(ICT)#:~:text=Information%20and%20communication%20technology%2C%20abbreviated.), n.d., [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Information_and_communication_technology_\(ICT\)#:~:text=Information%20and%20communication%20technology%2C%20abbreviated.](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Information_and_communication_technology_(ICT)#:~:text=Information%20and%20communication%20technology%2C%20abbreviated.)

¹⁴ Karyn Kaplan, “Human Rights Documentation and Advocacy: A Guide for Organizations of People Who Use Drugs,” [www.opensocietyfoundations.org](https://www.opensocietyfoundations.org/publications/human-rights-documentation-and-advocacy-guide-organizations-people-who-use-drugs) (Open Society Foundations, 2009), <https://www.opensocietyfoundations.org/publications/human-rights-documentation-and-advocacy-guide-organizations-people-who-use-drugs>.

¹⁵ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law”, pp. 58-59, (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

Verification

Navanethem Pillay, former United Nations High Commissioner for Human Rights, the focal importance of the verification of information in human rights investigation. According to Pillay, “the credibility depends on corroborating the information provided by one source with that sought from other independent sources”, underscoring the importance of this process.¹⁶ In broader terms “verification” refers to the process of establishing the reliability of a piece of data’s provenance to corroborate a narrative, serving therefore as a test of validity and veracity.

¹⁶ Navanethem Pillay, “Human Rights Investigations and Their Methodology - Lecture by UN High Commissioner for Human Rights,” United Nations, February 24, 2010, <https://www.un.org/unispal/document/auto-insert-197324/>.

The Development of Digital Evidence in Human Rights Investigations

The Dawn of Open-Source Information

The process of gathering and exploiting openly available and freely accessible information is not merely a 20th-century invention. Indeed, the history of the collection and exploitation of open-source information traces back to the very dawn of humanity. From Viking explorers recording and reporting the configuration of enemy territories before an attack, to ancient Greek students gathering the teachings of their mentors on tables for posterity, passing through the countless instances of Roman-time reviews of delicacies, restaurants, and beverages engraved on columns and city walls, the gathering, analysis, and dissemination of information defined humanity since its onset.¹⁷

Nonetheless, the systematic exploitation of openly available and freely accessible information for monitoring and reporting purposes was institutionalized only from the moment that information on social, technical, economic, military, and political developments became publicly available in an aggregated form. As reported by Ludo Bloch in his contribution to the *Journal of Intelligence History* the starting point for open-source collection practices could be identified in the 18th century, when printed media progressively became widespread, accessible, and comprehensive in its reporting of events.¹⁸ The advent of the printing press fundamentally changed the trajectory of information sharing, substituting the traditional mouth-to-mouth mechanisms of communication with the encoded, standardized, and reliable character of print. Although this improvement did not completely eradicate the more ‘traditional’ mechanisms of information-sharing, it still represented a move towards the harnessing of the power of information-sharing.¹⁹

In the context of the American Civil War, for example, the development of journalistic coverage of the events of the war greatly aided the espionage efforts of the different fronts that, for the first time in history, were able to easily access civil and military intelligence about their opponents from the media. In *Yankee Reporters and Southern Secrets - Journalism, Open-Source Intelligence, and the Coming of the Civil War* Michael Fulhage precisely argued that the press at the time served as an informal surveillance network through which secret information was shared, leaks mainstreamed, and conflict-

¹⁷ Chris Westcott, “Open Source Intelligence - Academic Research, Journalism or Spying?,” in *The Routledge International Handbook of Universities, Security and Intelligence Studies* (Routledge, 2019), 383–92, <https://doi.org/10.4324/9780203702086-29>.

¹⁸ Ludo Bloch, “The Long History of OSINT,” *The Journal of Intelligence History*, June 14, 2023, 1–15, <https://doi.org/10.1080/16161262.2023.2224091>.

¹⁹ Chris Westcott, “Open Source Intelligence - Academic Research, Journalism or Spying?,” in *The Routledge International Handbook of Universities, Security and Intelligence Studies* (Routledge, 2019), 383–92, <https://doi.org/10.4324/9780203702086-29>.

sensitive information was collected.²⁰ In such context, most of the information retrieved was of political and military nature, identifying the state of the enemy military troops, their movement routes, and even their arsenal, a series of elements that could be easily transformed into operational intelligence on the battlefield.

The know-how acquired throughout the conflict in the field of open-source research inevitably impacted the trajectory of information sharing in the United States and the entire world. Indeed, if at the onset of the Civil War in the early 1860s, virtually no formal intelligence body existed in the American system, by 1865, the Bureau of Military Information was fully operative.²¹ Representing the first intelligence unit of the United States, the Bureau was composed of around 70 field agents tasked with gathering information through interrogation, but most importantly, through open-source research on newspapers and documents left on the battlefield by the retreating enemy forces.²²

Open-source research therefore first emerged as a fundamental means of monitoring and reporting in a context of conflict, fundamentally foreshadowing its upcoming role in the wars that would ravage multiple countries throughout the 20th century. Indeed, the initiation of an autonomous capacity for monitoring, filtering, transcribing, translating, and archiving information from foreign media sources can be traced back to the establishment of the American Foreign Broadcast Monitoring Service (FBMS) in 1941.²³ Initially tasked with monitoring, translating, and disseminating openly available news and information from international media sources, following the attack on Pearl Harbor in December 1941, the FBMS gained importance and changed its name to the Foreign Broadcast Intelligence Service (FIBS). This strategic move reflected the recognition of the importance of monitoring and comprehending the information disseminated by adversaries through radio waves and the FIBS emerged therefore as a critical instrument in decoding the messages broadcasted by the Axis powers, thereby providing invaluable intelligence to U.S. authorities during a pivotal period in history.²⁴

The Cold War era witnessed the replication of similar open-source collection capacities in other nations on both sides of the Iron Curtain. These capacities were predominantly embedded within their clandestine intelligence frameworks and, as reported by Schaurer and Störge, according to CIA analyst Stephen Mercado, open sources not only "constituted a major part of all intelligence" during this period, but eventually evolved into "the leading source" of information about adversaries' military capabilities

²⁰ Michael Fuhlhage, *Yankee Reporters and Southern Secrets: Journalism, Open Source Intelligence, and the Coming of the Civil War* (New York: Peter Lang, 2019).

²¹ Ludo Block, "The Long History of OSINT," *The Journal of Intelligence History*, June 14, 2023, 1–15, <https://doi.org/10.1080/16161262.2023.2224091>.

²² Central Intelligence Agency, "Intelligence in the Civil War — Central Intelligence Agency," web.archive.org, December 12, 2007, <https://web.archive.org/web/20071212003327/https://www.cia.gov/library/publications/additional-publications/civil-war/index.html>.

²³ F. Schaurer and Jan Störge, "The Evolution of Open Source Intelligence" 2010, no. 3 (October 1, 2010), <https://doi.org/10.3929/ethz-a-006251404>.

²⁴ Erik Barnouw, *A History of Broadcasting in the United States* (Oxford University Press, 1966).

and political intentions.²⁵ Concomitant with these institutional advancements and the increasing automation of processing was a substantial evolution in information and communication technology. This evolution, marked by the growing prevalence of televised programs and the emergence of the internet, gradually diminished the significance of radio, and press as the primary openly available means for accessing timely information.

Indeed, the following period, characterized by the information revolution, experienced a life-changing impact of every facet of life, leading to a paradigmatic shift that had social, political, and economic consequences.²⁶ The advent of the internet in the 1990s provided new avenues for information sharing that were immediate and publicly accessible, transforming individuals across the world into potential providers of data and information. Such development fundamentally revolutionized how information traveled but, most importantly, who were the actors shaping information itself. From a pool of selected journalists, broadcasters, news anchors, and public figures, the global environment of information sharing almost instantly became a free-for-all arena in which each individual disposing of internet access could share information.

In this context, the same interpretations of the core concepts of ‘information’ and ‘knowledge’ changed drastically, with Schaurer and Störge defining them respectively as the foundation of knowledge and the judgment built on said knowledge, fundamentally implying that while data and information could now be easily shared and transferred by anyone, knowledge was contingent on adequate processing, analysis, production, classification, and dissemination.²⁷ Following the collapse of the Soviet Union and the advent of the internet, international bodies quickly caught on to the potential of the digital sphere, and the term OSINT, an acronym for Open-Source Intelligence, gained prominence. Simultaneously, parallel efforts by the North Atlantic Treaty Organization (NATO) to formulate a framework for the use of OSINT within its domain also resulted in the publication of several handbooks, primers, and practical manuals, delineating a generalized interest in the procedures through which international bodies could employ the power of open-source information.

Alongside the state-sponsored actors, civil society organizations, journalists, lawyers, and human rights advocates have also progressively embraced the capacity of open-source information in their search for justice, accountability, and fundamental rights through the mainstreaming of information technology and networks of communication. At the time of the World Wars smartphones and hand-held cameras did not exist yet but, as technology progressed, society was progressively able to reign in its power to

²⁵ F. Schaurer and Jan Störge, “The Evolution of Open Source Intelligence” 2010, no. 3 (October 1, 2010), <https://doi.org/10.3929/ethz-a-006251404>.

²⁶ HARVEY M. DEITEL and BARBARA DEITEL, “The Information Revolution,” *An Introduction to Information Processing*, 1986, 2–19, <https://doi.org/10.1016/b978-0-12-209005-9.50006-0>.

²⁷ F. Schaurer and Jan Störge, “The Evolution of Open Source Intelligence” 2010, no. 3 (October 1, 2010), <https://doi.org/10.3929/ethz-a-006251404>.

share timely, reliable, and accessible information. From the unfolding of the Arab Spring to the Black Lives Matter movement, passing through the climate crisis, and the ever-increasing waves of refugees seeking to cross the Mediterranean, more and more events are documented and reported through digital means. As reported by Sandra Ristovska, Ryan Kautz, Senior Video Producer and Editor at WITNESS, a Brooklyn-based NGO supporting the documentation and mainstreaming of human rights violations, underlined how society progressively gravitated towards video reporting as an instrument for social change. Kautz stressed how the wide accessibility of the platforms for information-sharing allowed civil society to understand the evocative power images have in advocating for human rights.²⁸

The 2009 protests that were ignited throughout Iran after the re-election of Mahmud Ahmadinejad, and the subsequent violent suppression by national authorities, represented a striking example of the power of imagery in advancing advocacy efforts. Documented by citizens and opposition groups on social media, the events of 2009 became a viral sensation and ignited the debate on the freedom of expression of Iranian citizens. The Green Movement harnessed the power of social media platforms, which became instrumental in swiftly organizing and coordinating opposition efforts, orchestrating public demonstrations, and disseminating political manifestos. As the regime barred foreign journalists from covering the presidential election and, in some instances, imprisoned them, Twitter and YouTube played a crucial role in connecting Iranians with the international community, with YouTube even going as far as relaxing its usual restrictions against graphically violent videos to enable the widespread broadcast of videos depicting the Iranian upheaval and captivate its massive international user base.²⁹

Soon after, Storyful, the first social media newswire verifying news sources and online content, was founded in Ireland in response to the disorganized overflow of information emerging during the Arab Spring.³⁰ Storyful's founders strived to provide verified user-generated videos to help newsrooms accurately report on the waves of protests affecting countries in northern Africa and the Middle East by verifying the reliability of content, facilitating the dissemination of resources, and categorizing information.³¹ Storyful's attempt to systematize the collection and verification of open-source information was soon echoed by the efforts of countless other news agencies and journalist organizations to address how to harness the power of content shared on these networks without succumbing to inaccuracies and alterations.

²⁸ Sandra Ristovska, "The Rise of Eyewitness Video and Its Implications for Human Rights: Conceptual and Methodological Approaches," *Journal of Human Rights* 15, no. 3 (July 2, 2016): 347–60, <https://doi.org/10.1080/14754835.2015.1132157>.

²⁹ Elson et al., "Background on Social Media Use in Iran and Events Surrounding the 2009 Election," in *Using Social Media to Gauge Iranian Public Opinion and Mood after the 2009 Election* (RAND Corporation, 2012), 12–22 <https://www.jstor.org/stable/10.7249/tr1161rc.10?seq=3>.

³⁰ Storyful, "About Us," Storyful, accessed November 25, 2023, <https://storyful.com/about/>.

³¹ Sam Dubberley, Alexa Koenig, and Daragh Murray, *Digital Witness: Using Open Source Information for Human Rights Investigation, Documentation, and Accountability* (Oxford, United Kingdom: Oxford University Press, 2020), pp. 5-6.

Parallel to the pioneering efforts of journalists and reporters to reign in the power of open-source information, human rights advocates, lawyers, and prosecutors also started to utilize this novel form of information-seeking for their purposes. Although experiencing different challenges from journalists and news broadcasters, lawyers and advocates are also committed to conveying messages and stories through locally sourced information. It was for this exact purpose that they too quickly turned to explore the power of social media, global internet connectivity, and the capacities of user-generated content, marking a paradigmatic shift in how information is sourced, verified, and employed for the pursuit of justice and accountability.

The roots of open-source research, with a particular focus on human rights violations and human rights advocacy, run deep in recent history. Indeed, as reported by Sam Dubberley, Alexa Koenig, and Daragh Murray, the same inception of the now internationally-known NGO Amnesty International was catalyzed by open-source information.³² In 1960, British lawyer and future founder of Amnesty International Peter Benenson launched an appeal for amnesty for prisoners of conscience after reading a newspaper article detailing the punishment of prisoners in Portugal based on political activism. In a subsequent article, entitled “*The Forgotten Prisoners*”, Benenson himself stressed the relevance of publicizing the personal stories of prisoners and detainees to amplify the reach of the appeal and its humanitarian goals. According to Benenson, “The most rapid way of bringing relief to Prisoners of Conscience is publicity, especially publicity among their fellow citizens. With the pressure of emergent nationalism and the tensions of the Cold War, there are bound to be situations where governments are led to take emergency measures to protect their existence”.³³

Since then, the organization's evolution has consistently relied on open-source information, with the formation of specialized open-source research units, setting the standard for many other international organizations willing to embark on the journey of open-source research. Notably, the development of open-source research in human rights monitoring and reporting quickly became a prominent trend in the digital age, with the 1990s representing a period in which the capacities of human rights investigators in open-source research recorded an unprecedented surge. Such exponential growth, which inevitably allowed for the globalization of human rights advocacy, was propelled by the technological advancements of the time, but also by the changing attitudes of professionals in the field.

Indeed, embracing these technological advancements allowed organizations like Amnesty International to not only expand the reach of their advocacy efforts, but also to acquire the capacity to monitor, document, and report on issues, areas, and topics that before were completely inaccessible. Issues such as security constraints, geographical remoteness, and lack of cooperation from governmental bodies,

³² Sam Dubberley, Alexa Koenig, and Daragh Murray, *Digital Witness: Using Open Source Information for Human Rights Investigation, Documentation, and Accountability* (Oxford, United Kingdom: Oxford University Press, 2020), pp. 12-13.

³³ Peter Benenson, “The Observer Weekend Review,” 1961, https://www.amnesty.org.uk/files/info_sheet_3.pdf.

could all represent impediments to on-the-ground investigations, but they could also often be bypassed using open-source research, transforming this tool into an incredibly indispensable instrument for the human rights community worldwide.

Open-Source Research in Human Rights Investigations

As underlined by Christoph Koettl, Daragh Murray, and Sam Dubberley in ‘*Digital Witness: Using Open-Source Information for Human Rights Investigation, Documentation, and Accountability*’, the skyrocketing of open-source information in human rights-oriented work can be directly linked to the development of satellite imagery, modern phones and cameras, digital social media networks, and globally accessible information. Such technological developments represented the fundamental building blocks that led the human rights community to embrace the reconfiguration of information sharing.³⁴

Available initially only to governmental bodies, satellite imagery became openly accessible to actors in real estate, urban planning, and intelligence in 1999 with the launch of the first commercial high-resolution satellites and the creation of ‘Keyhole EarthViewer’, the first open-source database of mapping data. ‘Keyhole’, turned ‘Google Earth’ after being purchased by Google in 2004, opened unheard avenues for geographical mapping and monitoring, enabling remote research, analysis, and investigation in areas that were previously inaccessible. Indeed, unlike traditional eyewitness accounts, satellite images offer a broader and unbiased perspective of events on the ground, enabling researchers to assess the overall extent of destruction in a specific area, fundamentally introducing not only an additional form of witnessing but an entirely distinct type of observation. While human rights organizations traditionally relied on statements from victims, witnesses, and bystanders, technologies like satellite imaging depend on the capability for mechanical witnessing, paving unprecedented avenues for shedding light on human rights issues.³⁵

One of the first initiatives dedicated to utilizing satellite imagery for human rights documentation was the Geospatial Technologies and Human Rights Project, initiated in 2005 by the American Association for the Advancement of Science (AAAS). The project's inception was based on leveraging the capabilities of satellite sensors to document human rights abuses through high-resolution satellite imagery following the launch of the first commercial high-resolution satellites. Its initial focus was on Darfur, Sudan, in partnership with Amnesty International’s ‘Eyes on Darfur’, a web-based project in

³⁴ Christoph Koettl, Daragh Murray, and Sam Dubberley, “Open Source Investigation for Human Rights Reporting,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2021), 16–23.

³⁵ Matthew Powers, “A New Era of Human Rights News? Contrasting Two Paradigms of Human Rights News-Making,” *Journal of Human Rights* 15, no. 3 (July 2, 2016): 324–25, <https://doi.org/10.1080/14754835.2015.1106309>.

which satellite image documentation offered unparalleled insights into a conflict unfolding in an otherwise inaccessible region.³⁶

Alongside satellite imagery, the commercialization of modern phones, equipped with high-resolution cameras and extensive storage, as well as the proliferation of digital social media platforms, revolutionized the landscape of open-source research for human rights violations. In more and more contexts violations of human rights and the unraveling of international crimes are recorded on mobile phones by victims, witnesses, or even common bystanders, only to be then disseminated through the avenues of global connectivity.

For instance, the inconceivable episode of police brutality that led to the death of George Floyd in Minneapolis in May 2020 was recorded by a witness and viewed across the world, sparking a global movement advocating for human rights and fundamental freedoms. The global uproar over Floyd's death was echoed on social media platforms, eventually leading to the State of Minnesota employing digital evidence in the prosecution. On a similar note, the violent repression of the Chilean uprisings of 2019 by the militarized police force was also documented on social media through user-generated content. In one tragic case, after the video of a police officer pushing a teenager off a bridge started gaining traction online, the authorities were forced into reparative and judicial action.³⁷

Satellite imagery, remote-sensing technologies, as well as social media platforms and content-hosting websites have undoubtedly started to provide human rights investigators and advocates with novel vantage points to document and monitor the human rights situation of different areas of the world without the need for on-site presence. Nonetheless, the digital age of human rights monitoring and reporting not only started bypassing geographical limitations with investigators accessing sensitive information remotely, but it also began to provide avenues for almost real-time monitoring, collection, and preservation of evidence. Such developments eventually allowed digital evidence to progressively start providing information in national and international crime cases, with user-generated content being used more and more both as corroborating evidence and case-building information.

These developments in Information and Communication Technologies (ICTs) have therefore favored the emergence of an era of human rights fact-finding in which digital technology progressively became the predominant means of information-gathering. In this specific context human rights researchers were confronted, for the first time in history, with the need to develop the capacities and literacies to reign in the power of technology and global connectivity.³⁸ For this reason, in the past decades, a multitude of

³⁶ Philip Alston and Sarah Knuckey, *The Transformation of Human Rights Fact-Finding* (New York, NY: Oxford University Press, 2016), 464–65. pp.464-465.

³⁷ Eric Sype, "Open-Source Investigations Provide Avenues for Communities around the World," SOLUTIONS LAB | Collaborate, Adapt, Learn, May 3, 2023, <https://www.solutionslabllc.com/newsandblog/open-source-investigations>.

³⁸ Anna Veronica Banchik, "Throwing Keywords at the Internet: Emerging Practices and Challenges in Human Rights Open Source Investigations" (2019).

bench books, training workshops, and guidelines have emerged, international human rights NGOs have developed their own internal open-source research bodies, and international institutions like the United Nations and the ICC's Office of the Prosecutor have also trained their staff to engage with digital technologies, showcasing a growing interest in institutionalizing methodologies for open-source research.

In an emergency session of February 2011, the United Nations Human Rights Council adopted resolution S-15/1, through which it established the International Commission of Inquiry (COI) on Libya to investigate “*all alleged violations of international human rights law in Libya, to establish the facts and circumstances of such violations and of the crimes perpetrated and, where possible, to identify those responsible*”.³⁹ The Commission, in its June 2011 report, underlined how to attend to its mandate it studied a large number of reports, submissions, and other documentation which eventually amounted to more than 5,000 pages of documents, more than 580 videos, and over 2,200 photographs.⁴⁰ The research work taken on by the Commission included reports, videos, and pictures provided by individuals, non-governmental organizations, and media organizations, as well as satellite imagery of the concerned areas. In particular, the United Nations Institute for Training and Research (UNITAR) collaborated with the Office of the High Commissioner for Human Rights to conduct a detailed analysis of satellite imagery in response to specific requests from the Commission itself. The analysis involved examining numerous high-resolution commercial satellite images and led to the drafting of a series of reports addressing various areas like damage assessment to provide insights to the COI's investigations.⁴¹

For the first time in the history of the United Nations, the Commission had openly employed evidence retrieved from social media platforms, media broadcasting services, and news agencies to clarify the circumstances of the alleged human rights violations. The Commission even went as far as to state that it tended “to give credibility to the accuracy and genuine nature of these images, which in many cases amount to clear indications of violations of international human rights law, humanitarian law and criminal law”.⁴²

³⁹ Human Rights Council, Resolution S-15/1 on the Situation of Human Rights in the Libyan Arab Jamahiriya (A/HRC/RES/S-15/1), 3 March 2011), available at: <https://www.globalr2p.org/resources/resolution-s-15-1-libyan-arab-jamahiriya-a-hrc-res-s-15-1/>

⁴⁰ Human Rights Council, Report of the International Commission of Inquiry to investigate all alleged violations of international human rights law in the Libyan Arab Jamahiriya (A/HRC/17/44), June 1st, 2011, pp. 2-3 Available at: https://www.ohchr.org/sites/default/files/english/bodies/hrcouncil/docs/17session/A.HRC.17.44_AUV.pdf

⁴¹ UN Institute for Training and Research, “Satellite Imagery and the Libyan Conflict a Report Prepared for the International Commission of Inquiry on Libya, Office of the High Commissioner for Human Rights February 23, 2012 -Version 2.0” (United Nations, February 3, 2012), https://www.ohchr.org/sites/default/files/Documents/HRBodies/HRCouncil/RegularSession/Session19/A_HRC_19_68_AnnexIV.pdf.

⁴² Human Rights Council, Report of the International Commission of Inquiry to investigate all alleged violations of international human rights law in the Libyan Arab Jamahiriya (A/HRC/17/44), June 1st, 2011, pp. 2-3 Available at https://www.ohchr.org/sites/default/files/english/bodies/hrcouncil/docs/17session/A.HRC.17.44_AUV.pdf

Such a perspective was echoed by other Commissions of Inquiry, Fact-Finding Missions, and other human rights investigation bodies that, throughout the decades, progressively became aware of the impact that open-source research could have in the identification, collection, verification, and preservation of corroborating materials in human rights investigations. Indeed, the Fact-Finding Mission on Myanmar and the Group of Eminent Experts on Yemen soon followed the footsteps of the COI on Libya and represented a step forward in the institutionalization of open-source research in the UN system. In both instances, open-source technology was used not only to identify leads but also to aid verification and corroboration processes. In the specific case of Yemen, the Group of Eminent Experts resorted to open-source research to identify leads and assess the reliability of sources, once it was faced with significant security, logistical, and administrative constraints in planning official visits.⁴³

In September 2020, the release of the Detailed Findings of the Independent International Fact-Finding Mission on the Bolivarian Republic of Venezuela breathed new life into the institutionalization of open-source practices in UN methodologies. Indeed, in the case of Venezuela, the Mission made full use of available open-source information, among which social media posts, blogs, reports, journalistic articles, and press releases. Open-source information proved to be fundamental not only to “corroborate and help contextualize information gathered from direct sources”, but also to identify and verify incidents and perpetrators.⁴⁴

For the first time, the Mission openly considered verified digital information as a direct source of information and even went as far as creating the basis for a methodology for collecting, verifying, and preserving it. In particular, the Mission assessed the information’s reliability through “objectively verifiable information, corroboration of dates and times, visual comparison, comparing features of objects, persons and/or locations, geolocation, chronolocation, and completeness, namely whether it captured the information in its entirety and surrounding context.”⁴⁵

Nonetheless, in the context of the 2011 Libyan investigation, the Commission opted to consider open-source information mainly as supporting data, rather than evidentiary material, setting the standard for a procedural approach whose traces are still visible in present days. Indeed, even in the most recent investigations conducted by the UN bodies, the institutional buy-in of the organization concerning open-source research is still relatively limited, although improving. Daragh Murray, Yvonne McDermott, and Alexa Koenig, in their contribution to the *Journal of Human Rights Practice*, notably underlined how

⁴³ Daragh Murray, Yvonne McDermott, and K Alexa Koenig, “Mapping the Use of Open Source Research in UN Human Rights Investigations,” *Journal of Human Rights Practice* 14, no. 2 (April 23, 2022): 555–556, <https://doi.org/10.1093/jhuman/huab059>.

⁴⁴ Human Rights Council, Detailed Findings of the Independent International Fact-Finding Mission on the Bolivarian Republic of Venezuela (A/HRC/45/CRP.11), September 15, 2020, pp. 3-5 Available at https://www.ohchr.org/sites/default/files/Documents/HRBodies/HRCouncil/FFMV/A_HRC_45_CRP.11.pdf

⁴⁵ Ibid.

the United Nations mechanisms seem to still be showing a ‘mixed approach’ to the use of open-source methodologies mainly due to ‘staff and resourcing issues’.⁴⁶

Murray, McDermott, and Koenig notably underlined a drastic differentiation in the approach to open-source techniques in human rights investigations across different missions and bodies, overall limitations in the available resources and training opportunities available for practitioners, and a generalized absence of a comprehensive methodology.⁴⁷ Indeed, the various Commissions of Inquiry and Fact-Finding Missions previously mentioned all share relatively different approaches to the possibility of expressing a complete institutional buy-in of the UN in open-source research, with the only uniting feature being their cautiousness in systematizing its use. Such conditions hindered the possibilities for a progressive standardization of its use across the UN system, favoring instead the emergence of ad-hoc approaches and case-by-case application. This inevitably impacted the allocation of resources, the development of training opportunities, and the outlining of an organization-wide methodology.

Nonetheless, the methodology outlined by the Independent International Fact-Finding Mission on the Bolivarian Republic of Venezuela in 2020, as well as the emergence of UN-endorsed documentation like the Berkeley Protocol on Digital Open-Source Investigation in 2022, all contributed to the identification of a progressive methodological shift. Several UN-mandated investigative bodies are therefore progressively considering verified open-source information as evidentiary proof of human rights violations and international crimes. For instance, although the mandate of the most recent Independent International Fact-Finding Mission on the Islamic Republic of Iran does not specifically mention open-source information, it has accepted numerous submissions by NGOs and civil society bodies that made use of verified open-source research to identify alleged crimes against humanity committed by the Iranian regime in the context of the 2022-2023 protests.

Furthermore, the Berkeley Protocol on Digital Open-Source Investigation, created by the Human Rights Center at the University of California, Berkeley, School of Law, and the Office of the High Commissioner for Human Rights of the UN, represented a fundamental step in the right direction concerning the institutionalization of open-source research methodologies. Building on the advancements of the Minnesota Protocol on the Investigation of Potentially Unlawful Death⁴⁸, and of

⁴⁶ Daragh Murray, Yvonne McDermott, and K Alexa Koenig, “Mapping the Use of Open Source Research in UN Human Rights Investigations,” *Journal of Human Rights Practice* 14, no. 2 (April 23, 2022): 570-571, <https://doi.org/10.1093/jhuman/huab059>.

⁴⁷ Daragh Murray, Yvonne McDermott, and K Alexa Koenig, “Mapping the Use of Open Source Research in UN Human Rights Investigations,” *Journal of Human Rights Practice* 14, no. 2 (April 23, 2022): 571-574, <https://doi.org/10.1093/jhuman/huab059>.

⁴⁸ The Minnesota Protocol was developed in 1991 and amended in 2016 by lawyers and practitioners to “protect the right to life and advance justice, accountability and the right to a remedy, by promoting the effective investigation of potentially unlawful death or suspected enforced disappearance”. The Protocol set out a series of common standards of performance for the staff of detention centres, State bodies, and individuals involved in investigations surrounding potentially unlawful deaths

the Manual on the Effective Investigation and Documentation of Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment⁴⁹, the Protocol employed a collaborative approach to put together the legal and procedural standards for conducting digital open-source research on alleged violations of international humanitarian, criminal, and human rights law. In doing so the Protocol became one of the most comprehensive collections of methodological principles to gather, analyze, and preserve digital evidence. It managed to set out measures and procedures to protect the “digital, physical, and psychosocial safety of themselves and others, including witnesses, victims, and first responders, who risk their own well-being to document human rights violations and serious breaches of international law”.⁵⁰

In the past decades, open-source information also became the focus of the attention of the Office of the Prosecutor (OTP) of the International Criminal Court, especially because of the popularization of social media platforms and the ever-increasing amount of potentially incriminating evidence being recorded on their servers every day. Indeed, with the advent of internet connectivity, monitoring with almost real-time precision the human rights situation of different areas of the world became a very real possibility, creating the premises for the emergence of new avenues for investigators and prosecutors. Nonetheless, as open-source information made its way into national and international crime cases, prosecutors found themselves faced with the need to develop mechanisms, procedures, and laws, to properly collect, verify, authenticate, and employ digital content.

Since its first investigation on the Democratic Republic of Congo (DRC) in 2004, the ICC has made extensive use of open-source materials and resources in the process of evidence collection and case building. In the case of the DRC, the Office of the Prosecutor was mandated to investigate the alleged war crimes and crimes against humanity potentially committed in the Ituri region and the North and South Kivu Provinces, since 1 July 2002. Nonetheless, due to the conflict situation, investigators found themselves having to rely on witnesses and intermediaries, whose experiences were collected by NGOs and UN bodies already working in the area. For instance, during the investigations surrounding the alleged war crimes of Thomas Lubanga Dylio, former President of the Forces Patriotiques pour la Libération du Congo, organizations like Human Rights Watch and the Women’s Initiative for Gender

or suspected enforced disappearances. See: The Minnesota Protocol on the Investigation of Potentially Unlawful Death (2016), Office of the United Nations High Commissioner for Human Rights, New York/Geneva, 2017.

⁴⁹ The Manual on the Effective Investigation and Documentation of Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (Istanbul Protocol), first developed in 2004 and revised in 2022, represents a collection of internationally recognised standards and procedures on how to recognise and document symptoms of torture so the documentation may serve as valid evidence in court. See: The Manual on the Effective Investigation and Documentation of Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment (2022), Office of the United Nations High Commissioner for Human Rights, New York/Geneva, 2022.

⁵⁰ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law”, foreword (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

Justice provided the Prosecutor with crucial information on rape and sexual violence in the Ituri region of the DRC.⁵¹

However, the development of the practice of the ICC concerning open-source evidence somewhat halted in 2013, as underlined by Lindsay Freeman in her contribution to the volume “*Digital Witness - Using Open-Source Information for Human Rights Investigation, Documentation, and Accountability*”. During a hearing of the Prosecutor v Gbagbo case, the Pre-trial Chamber stressed that heavy reliance on open-source research, particularly for key elements like the contextual aspects of crimes against humanity and war crimes, did not meet the working criteria of the institution. In particular, the Court underscored that while open-source evidence might be insightful to better understand the context that eventually led to the commission of an international crime, it cannot be generally employed to meet the evidentiary threshold for charge confirmation.⁵²

The Prosecutor v Gbagbo case therefore brought upon an approach based on case-by-case analysis of the admissibility of open-source evidence, through which the Court’s treatment of such evidence, its admissibility, and its weight, became commonly evaluated according to the circumstances and the reliability of the sources. Such an approach not only created new rules of procedures and hierarchies in the value of open-source evidence, but also raised questions on the need to create standardization across the practices of the Court concerning evidence provided by civil society organizations, and, more recently, even social media platforms.⁵³

Indeed, with social media platforms becoming increasingly employed by victims, witnesses, bystanders, and even perpetrators themselves, more and more data concerning the insurgence and development of international crimes is constantly being inputted into the online sphere. Consequently, the ICC has found itself progressively depending more and more on information deriving from open-source research to identify potential contexts of violations under its jurisdiction and to corroborate the reasoning behind arrest warrants and decisions.

Notably, while investigating the actions of Ahmad Al-Faqi Al-Mahadi, an alleged member of a movement associated with Al Qaeda in the Islamic Maghreb, for the war crime of directing attacks against religious and historic buildings in Mali in 2012, videos depicting Al-Mahadi overseeing and directing the destruction of mosques were central in the conviction. Throughout the investigation, the Office of the Prosecutor, partnered with open-source researchers and NGOs to geolocate and timestamp

⁵¹ Katy Glassborow, “NGOs Defend ICC Role in Lubanga Case,” iwpr.net, December 1, 2006, <https://iwpr.net/global-voices/ngos-defend-icc-role-lubanga-case>.

⁵² Lindsay Freeman, “Prosecuting Atrocity Crimes with Open-Source Evidence,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 53–54.

⁵³ White, Elizabeth. "Closing Cases with Open-source: Facilitating the Use of User-generated Open-source Evidence in International Criminal Investigations through the Creation of a Standing Investigative Mechanism." *Leiden Journal of International Law*, 2023, 1-23. doi:10.1017/S0922156523000444.

the evidence.⁵⁴ Among these actors, Situ, an architecture practice based in New York City that uses design, research, and fabrication for creative and social impact, was tasked with designing a tool for the presentation of evidence at the ICC and developing new means of engaging with visual and spatial information in the courtroom.⁵⁵ Combining geospatial information, historic satellite imagery, photographs, open source videos, and other forms of site documentation, Situ developed a platform to facilitate the organization, analysis, and presentation of evidence documenting the destruction of sites of cultural heritage in Timbuktu, Mali, which was eventually used as part of trial proceedings against Al Mahdi for the intentional destruction of the religious sites.⁵⁶

A few years later, in August 2017, the ICC issued an arrest warrant for Mahmoud Mustafa Busayf Al-Werfalli, the alleged commander of the Al-Saiqa Brigade of the Libyan National Army (LNA). Allegedly involved in multiple summary executions and extra-judicial killings, he was accused of the arbitrary execution of around thirty individuals because of their presumed involvement with the terrorist acts committed by the Islamic State when videos depicting him directing the killing surfaced on social media. The brutal executions garnered swift attention on social media platforms, attracting, in particular, the interest of Bellingcat, an independent investigative collective of researchers, investigators, and citizen journalists founded in 2014 to employ open-source research methods to investigate a variety of subjects of public interest.⁵⁷ The staff of Bellingcat was particularly interested in the geolocalization of the viral clips and devoted weeks to documenting any identifiable mark on the surface of the desert, eventually employing satellite imagery to geolocate the site of the execution and link it to the LNA forces.⁵⁸

As the first-ever arrest warrant of the International Criminal Court based, for the most part, on evidence collected through open-source methods, the Al-Werfalli warrant was deemed by the human rights community as some sort of landmark as it marked the first instance in which the ICC reached a consensus through the extensive use of digital open-source material. The Al-Mahadi and Al-Werfalli cases demonstrated a tendency of the Court to look at digital evidence and open-source research through different lenses, but they also created the premises to ponder over the best suitable procedures to authenticate, verify, and employ such a form of evidence in international criminal proceedings.

⁵⁴ Stefano Trevisan, “Open-Source Information in Criminal Proceedings: Lessons from the International Criminal Court and the Berkeley Protocol,” 2021, https://www.giurisprudenzapenale.com/wp-content/uploads/2021/04/Trevisan_gp_2021_4.pdf.

⁵⁵ See, <http://icc-mali.situplatform.com/>

⁵⁶ Situ Research, “SITU – ICC Digital Platform: Timbuktu, Mali,” situ.nyc, accessed December 10, 2023, <https://situ.nyc/research/projects/icc-digital-platform-timbuktu-mali>.

⁵⁷ See, <https://www.bellingcat.com/about/who-we-are/>

⁵⁸ See, <https://www.bellingcat.com/news/mena/2017/10/03/how-an-execution-site-was-geolocated/>

A Shift in the Paradigm: The Impact of Digital Evidence on Human Rights Investigations and Prosecutions

Although the announcement of the Al-Werfalli warrant constituted a landmark decision in the case law of the International Criminal Court for what concerns digital evidence and open-source research, it is also representative of a wider paradigmatic shift that has progressively changed the realm of human rights. Indeed, in the past few decades, both institutional bodies and human rights advocates, practitioners, and lawyers, have increasingly started to embrace open-source research to advance their efforts towards justice and accountability. Whether through formal or direct forms of engagement, like the approach employed by international NGOs like Human Rights Watch, Amnesty International, and Witness, or through an acclimatization process like the one adopted by the UN and the ICC, the world is turning towards open-source research. The almost global reach of digital technologies has undoubtedly impacted the field of human rights in a wide variety of frameworks. The emergence of a ‘Digital Age’ of human rights monitoring and reporting therefore opened the doors to brand new avenues for research, analysis, and employment in criminal proceedings of open-source materials, that have proven to be crucial to the work of human rights investigators and prosecutors from all different sectors and professional branches.

Indeed, in navigating the complexities of global challenges, open-source information has progressively emerged as a beacon, casting a transformative light on the landscape of human rights investigations, and weaving together evidence, testimonies, and recounts for the purpose of justice and accountability. From shaping the inception of investigative plans, to helping navigate the labyrinth of witness testimonies, to its inherent democratizing potential, open-source information emerged as a tool whose potential allows investigators to transcend their original limitations. The narrative therefore shifted from the traditional reliance on geographical proximity and witness testimony to the uncharted territory of open-source materials as potential direct evidence – an acknowledgment that the pixels and bytes comprising our digital existence are not merely silent observers but vocal witnesses to unfolding human rights developments.

For the purpose of analytical subdivision, it would seem appropriate to categorize the impact of digital evidence and open-source materials on human rights investigations and prosecutions as contextual impacts and procedural impacts. On the one hand, contextual impacts reflect the repercussions of the employment of open-source research in human rights investigations and prosecutions on the underlying societal context. Contrarily, procedural impacts commonly indicate the significance of these methods on the concrete research and adjudication process. Contextual impacts often refer to the positive influence that the use of open-source methods in human rights work can have on society at large, encompassing elements like its democratizing potential and its capacity to ensure accountability and transparency.

Notably, the democratizing capacity that is inherent to open-source methods derive from the fact that, as of today, digital technologies have taken the world by storm, transforming common civilians all over the world into potential witnesses to human rights violations and international crimes. Digital technologies have opened novel avenues for ordinary citizens to directly impact the emergence and development of human rights investigations, fundamentally overcoming the limits of accessibility of traditional investigative processes.⁵⁹ Indeed, open-source research offers human rights investigators and prosecutors the possibility to draw from a wide variety of perspectives and experiences, amplifying the pleas of communities and victims that often go unheard. By overcoming the issue of witness selection in investigative processes, the approach brought upon by open-source methods spotlights victims directly, empowering them to report on the experiences they live and allowing the analysis to touch upon areas and environments that would otherwise be inaccessible to the investigators.⁶⁰ For instance, in the context of the 2006 coup d'état in Thailand, against the backdrop of widespread media censorship and restrictions, college students played a fundamental role in documenting the developments of the coup, with some of the earliest pictures of the event emerging online through citizen documentation.⁶¹

By democratizing the fact-finding process, the employment of open-source methods in human rights fact-finding fundamentally qualified the use of new technologies as a means for accountability. As underlined by Federica D'Alessandra and Kirsty Sutherland in their contribution to the *Journal of International Criminal Justice*, the London-based watchdog 'Airwars' constitutes an optimal exemplification of the avenues opened by the leveraging of technology for public accountability.⁶² Monitoring and recording allegations of civilian harm resulting from international military airpower in Syria, Iraq, Libya, Yemen, and Somalia, Airwars utilizes open source to highlight significant discrepancies in official casualty counts reported by state militaries. This inherent capacity to call for transparency became the subject of public scrutiny in 2014, when the Malaysia Airlines Flight MH17 was downed by rockets, starting a global search for responsible parties. To identify the attacker, the team of Bellingcat analyzed videos and photos posted online in the days of the shooting and, following the digital threads, they were eventually led to link a missile-equipped convoy to the Russian forces and to identify the location of the convoy and its moving process by comparing images uploaded online to satellite imagery.⁶³ In light of Russia's denial of its involvement with the attack, Bellingcat's findings

⁵⁹ Federica D'Alessandra and Kirsty Sutherland, "The Promise and Challenges of New Actors and New Technologies in International Justice," *Journal of International Criminal Justice* 19, no. 1 (June 7, 2021), <https://doi.org/10.1093/jicj/mqab034>.

⁶⁰ Daragh Murray, Yvonne McDermott, and K Alexa Koenig, "Mapping the Use of Open Source Research in UN Human Rights Investigations," *Journal of Human Rights Practice* 14, no. 2 (April 23, 2022): 571-574, <https://doi.org/10.1093/jhuman/huab059>.

⁶¹ Philip Alston and Sarah Knuckey, *The Transformation of Human Rights Fact-Finding* (New York, NY: Oxford University Press, 2016), 402-403.

⁶² Federica D'Alessandra and Kirsty Sutherland, "The Promise and Challenges of New Actors and New Technologies in International Justice," *Journal of International Criminal Justice* 19, no. 1 (June 7, 2021), <https://doi.org/10.1093/jicj/mqab034>.

⁶³ Will Croxton, "How Bellingcat Tracked a Russian Missile System in Ukraine," [www.cbsnews.com, February 23, 2020, https://www.cbsnews.com/news/how-bellingcat-tracked-a-russian-missile-system-in-ukraine-60-minutes-2020-02-23/](https://www.cbsnews.com/news/how-bellingcat-tracked-a-russian-missile-system-in-ukraine-60-minutes-2020-02-23/).

were eventually verified by the joint investigative team operating on the matter, proving to be fundamental in substantiating the allegations and challenging the alternative narratives put forth by Russian authorities.⁶⁴

Alternatively, the concept of procedural impact will be used to identify the advantages that the use of open-source methodologies has brought upon the more procedural aspects of the investigation and prosecution of human rights violations and international crimes. Because of their diversified and ever-evolving nature, open-source methods have been employed across all stages of investigative processes, among which investigative planning, evidence collection, and documentation, as well as the identification of responsibility.

Notably, as underlined by Daragh Murray, Yvonne McDermott, and Alexa Koenig, in their contribution to the *Journal of Human Rights Practice*, the development of investigative plans represented probably the “*most significant perceived added value of open source information during the early stages of an investigation*”.⁶⁵ Indeed, the identification of an overview of the situation under analysis represented a challenge for human rights investigators, which oftentimes had to balance the need to not only visualize the problem but also outline their potential approach to it. For this reason, using open-source methods recently became part of the common practice of human rights practitioners to get a better sense of the areas of focus, and of the actors involved, facilitating the development of a more comprehensive and inclusive investigative plan.⁶⁶

The Syrian Archive in particular, a Syrian-led project that aims to preserve, enhance, and memorialize documentation of human rights violations and other crimes committed by all parties to conflict in Syria, used open-source information to acquire a better understanding of the human rights situation of the area. Indeed, the project has, since its inception, devoted a considerable amount of time and effort to the establishment of a database of credible sources for visual content comprising over 5,000 sources to identify the most pressing issues and areas of interest in the organization’s advocacy efforts.⁶⁷

Nonetheless, having established a strong investigative plan and methodology does not assure the proper development of an investigation. Since many areas where human rights violations take place tend to close off access to international media and actors to avoid public scrutiny, the potential of open-source information to overcome geographical limitations is crucial in the facilitation of investigative processes.

⁶⁴ Federica D’Alessandra and Kirsty Sutherland, “The Promise and Challenges of New Actors and New Technologies in International Justice,” *Journal of International Criminal Justice* 19, no. 1 (June 7, 2021), <https://doi.org/10.1093/jicj/mqab034>.

⁶⁵ Daragh Murray, Yvonne McDermott, and K Alexa Koenig, “Mapping the Use of Open Source Research in UN Human Rights Investigations,” *Journal of Human Rights Practice* 14, no. 2 (April 23, 2022): 558-559, <https://doi.org/10.1093/jhuman/huab059>.

⁶⁶ Ibid.

⁶⁷ Jeff Deutch and Hadi Habal, “The Syrian Archive: A Methodological Case Study of Open-Source Investigation of State Crime Using Video Evidence from Social Media Platforms,” *State Crime Journal* 7, no. 1 (2018): 55-56, <https://doi.org/10.13169/statecrime.7.1.0046>.

In particular, the employment of satellite imagery plays a pivotal role in bypassing physical access restrictions and security concerns, allowing for a process of documentation that scrutinizes even remote or dangerous locations, such as conflict zones. Notably, in 2010, the American Association for the Advancement of Science (AAAS) used satellite imagery to document the targeting and destruction of villages in the Negeha region of South Darfur. In the region, which is practically unreachable due to the conflict and its geographical collocation, AAAS aided the documentation process and the establishment of a timeline for the destruction of the sites, allowing for an assessment of the temporal development of the attacks.⁶⁸

The exploitation of satellite technology in open-source research therefore fundamentally addresses limitations on the ground by analyzing wide areas through a bird-view approach, expanding the scope of analysis of human rights researchers by detecting indicators of large-scale violations. In another project conducted by AAAS, gas flaring in the Niger Delta was the focus of analysis of satellite imagery. The study utilized the daily monitoring capabilities of satellite sensors to identify stable gas flares and identified flares occurring near human habitation, demonstrating the environmental and health impacts associated with such activities.⁶⁹

Beyond mapping and planning, open-source research offers significant value as a catalyst for the generation of lead evidence. Lead evidence, commonly understood as all the materials, testimonies, and elements proving the existence or non-existence of material facts, provides avenues for further inquiry, guiding investigators toward additional areas of interest that could aid the investigation. Social media posts, satellite imagery, and news reports can all help identify a pattern of violations that can aid investigators and prosecutors in building their cases, as well as reveal connections and networks that play a pivotal role in the identification of responsibility.⁷⁰ Indeed, new technologies tend to enhance human rights investigations by helping collective extensive amounts of quantitative data from a variety of sources through processes that are often more timely and less work-intensive than traditional techniques.

As international NGOs like Human Rights Watch, Physicians for Human Rights, and Amnesty International have increased their efforts to integrate quantitative data into their human rights research, their use has become increasingly crucial in documenting both positive and negative aspects of rights protection. For instance, after a video showing prison staff beating detained individuals surfaced in January 2017, the international community mobilized to geolocate the incident and identify the

⁶⁸ Philip Alston and Sarah Knuckey, *The Transformation of Human Rights Fact-Finding* (New York, Ny: Oxford University Press, 2016), 469–471.

⁶⁹ Ibid.

⁷⁰ Daragh Murray, Yvonne McDermott, and K Alexa Koenig, “Mapping the Use of Open Source Research in UN Human Rights Investigations,” *Journal of Human Rights Practice* 14, no. 2 (April 23, 2022): 560, <https://doi.org/10.1093/jhuman/huab059>.

perpetrators. Such verification process, which started from an example of quantitative data, involved the geolocation and timestamping of the video, reverse-image searches, and metadata research, eventually linking the perpetrators to the Cameroonian Army's elite unit, BIR (Bataillon d'Intervention Rapide). The similarities between the video's content, location, and distinctive marks, with the quantitative data previously recorded by various international organizations on the conditions of detainees in Cameroon, played a role in invalidating the initial denial by the Cameroon authorities. Satellite imagery and corroborating evidence from a former detainee confirmed the findings and actively contributed to the identification of the site as a detention center under the control of the BIR, later prompting the United States Africa Command (AFRICOM) to launch an investigation into their troops' knowledge of the violations taking place in the center.⁷¹

Other than purely investigation-related benefits, the use of open-source research in human rights fact-finding represents an asset for the prosecution of these violations. Indeed, open-source research has proven to play a crucial role in identifying criminal responsibility, especially in international legal proceedings. Digital open-source materials have been instrumental in various legal actions, including International Criminal Court arrest warrants and trials for crimes committed in Syria, Cameroon, and the Democratic Republic of the Congo.⁷² In many of these instances, open-source information proved to be increasingly valuable to help ascertain the perpetrator's motive behind the action, an element that, according to Article 30 of the ICC Statute, is fundamental to hold an individual criminally responsible.⁷³

Indeed, as stressed by Article 30, "a person shall be criminally responsible and liable for punishment for a crime within the jurisdiction of the Court only if the material elements are committed with intent and knowledge".⁷⁴ Notably while investigating the actions of Ahmad Al-Faqi Al-Mahadi for the war crime of directing attacks against religious and historic buildings in Mali, the Prosecutor's Office made extensive use of the videos depicting Al-Mahadi overseeing and directing the destruction of mosques to identify his intent to commit the crime for which he was being investigated.

Beyond the identification of motive, open-source information in international crime cases has been used often as linkage evidence. Linkage evidence, commonly understood as evidence capable of creating connections between alleged perpetrators and the crimes for which they are investigated, was traditionally equated to official documents, public speeches, and command hierarchies. In the digital

⁷¹ Christoph Koettl, Daragh Murray, and Sam Dubberley, "Open Source Investigation for Human Rights Reporting," in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2021), 25-26.

⁷² Federica D'Alessandra and Kirsty Sutherland, "The Promise and Challenges of New Actors and New Technologies in International Justice," *Journal of International Criminal Justice* 19, no. 1 (June 7, 2021), <https://doi.org/10.1093/jicj/mqab034>.

⁷³ Lindsay Freeman, "Prosecuting Atrocity Crimes with Open-Source Evidence," in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 61-62.

⁷⁴ See, International Criminal Court, "Rome Statute of the International Criminal Court," July 17, 1998, <https://www.icc-cpi.int/sites/default/files/RS-Eng.pdf>.

age, characterized by the rise of social media networks and almost instant communications, this form of evidence evolved, creating the premises for its employment in the identification of chains of command and organizational hierarchies.⁷⁵ Therefore, open-source materials as linkage evidence are proving to be more and more used to both link perpetrators to violations and perpetrators to other perpetrators, creating the premises for a better understanding of where to place criminal responsibility.

The transformative impacts of digital evidence and open-source research on human rights investigations and prosecutions become evident in the ever-evolving landscape of global accountability. The global shifting approach to digital technologies has led to the development of digital forms of documentation, reshaping how human rights violations are investigated and prosecuted and, as technology continues to develop and grow, institutions, NGOs, and prosecutors are increasingly being trained in open-source skills. If the procedural impacts of these processes are more evident across all stages of human rights investigations, their contextual counterparts are more streamlined and extend beyond fact-finding processes, promoting transparency, accountability, and the democratization of fact-finding.⁷⁶

Within the intricate tapestry of the digital realm, pixels and bytes therefore transform into direct witnesses, challenging traditional methodologies but also urging the global community to adapt to the changing landscape of justice and accountability in our ever-evolving digital age. However, as we stand on the threshold of the digital age, a landscape populated by challenges emanating from misinformation, data integrity, security implications, and fake news also emerges. It is precisely in this ongoing quest for standardization that international actors engage to design tools and mechanisms to enhance the spectrum of open-source investigations, from documentation to preservation, analysis to verification, and ultimately, their use in legal proceedings.

Digital Evidence: Challenges and Avenues for Growth

Having established the transformative power of open-source research on human rights investigations and prosecutions, especially in overcoming the hurdles that in the past have hindered fact-finding processes, it is also necessary to underline how nonetheless it does not constitute a panacea for human rights. Indeed, the academic discourse on the matter has progressively underlined how many key challenges associated with the use of open-source research methods in human rights fact-finding could interrelate to negatively impact the success rate of the processes. As highlighted by Daragh Murray, Yvonne McDermott, and Alexa Koenig, in their contribution to the *Journal of Human Rights Practice*, open-source research not only cannot provide a complete depiction of the human rights situation of an

⁷⁵ Lindsay Freeman, “Prosecuting Atrocity Crimes with Open-Source Evidence,” in *Digital Witness - Using Open-Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 61-62

⁷⁶ Philip Alston and Sarah Knuckey, *The Transformation of Human Rights Fact-Finding* (New York, NY: Oxford University Press, 2016), 469–471.

entire geographical area, but it can also easily be influenced by factors like incompleteness, manipulation, and practice discrepancies.⁷⁷

As of October 2023, Statista, a German platform specializing in data visualization, recorded that more than 5.3 billion people, approximately 65.7% of the entire world population, had access to the internet.⁷⁸ Nonetheless, societal variables like gender, income, geographical collocation, and digital literacy create discrepancies in access to cameras, cell phones, internet resources, and social media platforms, fundamentally creating the premises for the emergence of notable gaps in the coverage of particular areas or topics. Such inconsistencies in global connectivity create blind spots in the realm of open-source materials, negatively impacting the democratizing potential of digital means and often impeding the work of human rights investigators through procedural hardships that can hinder the fact-finding processes.

Since the element of representativeness constitutes a crucial aspect in the establishment of fact-finding processes on human rights incidents and abuses, the disparity in the capacities to create and share their digital recounts creates inconsistencies between who gets heard and who does not. As underlined by Jay D. Aronson in his contribution to the volume “The Transformation of Human Rights Fact-Finding”, individuals often exhibit different propensities to report instances of oppression and abuse, potentially demonstrating greater comfort in reporting certain forms of brutality as opposed to others.⁷⁹ For instance, in the context of the 2022-2023 protests that swept the Iranian territory after the death of Mahsa ‘Jina’ Amini, widespread occurrences of gender-based violence were recorded among the protesters, and yet the coverage of such aspects is extremely limited compared to the more well-known cases of police brutality.

In a conversation with the BBC, women’s rights activist Azadeh Devachi underlined how “[u]sing sexual violence and assaulting imprisoned women is one of the long-standing tools of the Islamic Republic to put pressure on women and their families. This issue is important because sexual assault on women always creates a kind of shame and taboo in the individual, family, and society. [...] Victims and their families do not have much desire to tell what happened to them, and recounting it is considered taboo and shameful both in the family and in society. Knowing this, women's bodies become a tool to

⁷⁷ Daragh Murray, Yvonne McDermott, and K Alexa Koenig, “Mapping the Use of Open Source Research in UN Human Rights Investigations,” *Journal of Human Rights Practice* 14, no. 2 (April 23, 2022): 564, <https://doi.org/10.1093/jhuman/huab059>.

⁷⁸ See, Ani Petrosyan, “Global Digital Population 2023,” Statista, October 25, 2023, <https://www.statista.com/statistics/617136/digital-population-worldwide/>.

⁷⁹ Jay D. Aronson, “Mobile Phones, Social Media and Big Data in Human Rights Fact-Finding Possibilities, Challenges, and Limitations,” in *The Transformation of Human Rights Fact-Finding*, ed. Philip Alston and Sarah Knuckey (Oxford University Press, 2016), 441–62.

put pressure on, a tool that shows its effectiveness in a large part of society's layers and can influence the suppression of women to continue protests".⁸⁰

Societal factors like gender discrimination, therefore, have a discernible incidence in the coverage of human rights abuses and international crimes. Coupled with a lack of internet access due to either technological constraints, the absence of digital literacy, or antagonizing actions by governmental bodies like state-sponsored internet blackouts and social media obscuration, these discrepancies can lead to situations remaining undocumented and unreported. Such limitations, although inherent to the human rights domain in its entirety, have particularly persisted in open-source investigations, providing practitioners with incomplete or non-representative depictions of reality.

Yet, even in instances where information is available and retrievable, the element of incompleteness can play a pivotal role in steering the direction of investigations and, more particularly, prosecutions. Indeed, the role of open-source evidence in attributing criminal responsibility can often be tightly constrained by its lack of contextual positioning. For instance, user-generated content, such as video evidence of shelling, massacres, and violent repressions, might underline the profound gravity of the events, but might also lack the geographical, chronological, and contextual elements necessary for investigators and prosecutors to attribute criminal responsibility. While these pieces of evidence might present clues in their pixels, the natural focus of the creator on portraying the situation and its immediate aftermath can oftentimes lead to the overlooking of crucial details or the identification of broader patterns of violations rather than incriminating evidence.⁸¹

Furthermore, the same nature of open-source materials, which revolves around their capacity to present a picture of alleged human rights violations through the direct perspective of actors on the ground, can lead to potentially harmful distortions of the narrative, both as the result of a conscious manipulation and of subconscious mental approaches. Indeed, the concepts of disinformation and misinformation, understood respectively as “deliberately misleading or biased information” and “false information that is spread, regardless of whether there is intent to mislead”, often play an important role in the work of human rights investigators.⁸²

Although investigators tend to be generally careful with the employment of user-generated content, the element of disinformation is becoming more and more a global phenomenon that impacts the truthful and accurate coverage of incidents, violations, and patterns of abuse. Notably, as recently as December 2023, the BBC uncovered a Russian propaganda campaign involving a multitude of fake accounts

⁸⁰ See, <https://www.bbc.com/persian/articles/cd1z7pzg3q4o>

⁸¹ Daragh Murray, Yvonne McDermott, and K Alexa Koenig, “Mapping the Use of Open Source Research in UN Human Rights Investigations,” *Journal of Human Rights Practice* 14, no. 2 (April 23, 2022): 564, <https://doi.org/10.1093/jhuman/huab059>.

⁸² See, <https://shorturl.at/ejnIZ>

spreading disinformation about the war in Ukraine through the social media platform TikTok. These videos, often attracting millions of views, were allegedly crafted by Russian sources to subject users in European countries to disinformation and constructed narratives about the development of the war and relevant figures in the Ukrainian context. To twist the narrative surrounding the war, these instances of targeted disinformation implied that Ukrainian politicians had bought luxury property or goods during a time of war.⁸³

Nonetheless, disinformation is not always the result of a purposeful manipulation by the perpetrators of international crimes or human rights violations and can often derive from the willingness of victims, interest groups, and civil society actors to pursue justice.⁸⁴ When a narrative is non-deliberately twisted by either labeling errors or overarching influences, we speak of misinformation rather than disinformation. In this specific case, the inaccurate geographical or contextual qualification of a situation may not be deliberate and may derive from the mislabeling of photo and video sources on social media. This can eventually lead human rights activists and advocates to wrongfully interpret and qualify these forms of evidence as relevant for their accountability purposes. The Gaza Commission of Inquiry notably highlighted instances where Israeli think tanks, such as the NGO Monitor, sought to deduce support for Hamas's distinct political wing from publicly available sources. This effort was employed as a rationale for the lethal force used against protestors. The commission observed that demonstrators were consistently labeled as 'Hamas terrorists,' 'Hamas operatives,' or 'Hamas families,' rather than individuals exercising their fundamental right to protest—particularly against 51 years of occupation and an escalating humanitarian crisis.⁸⁵

Not undermining the risks related to widespread disinformation, the issue of misinformation is particularly permeating open-source research because of its capacity to affect, shape, and twist narratives through a process of influence. Widely disseminated videos or pictures can oftentimes impact the rational interpretation of an event and the relative witness accounts of how the situation played out, who the actors involved were, and which were the most relevant elements. Popular, or 'viral', recounts of human rights violations and international crimes pose a risk to the reliability of witness accounts because they can influence their testimony or orient their recounts to certain types of violations.

The challenges of disinformation and manipulation therefore pose a dilemma for human rights investigators, particularly in their reliance on open-source evidence. While cognizant that open-source evidence provides a solution to access issues impeding on-the-ground investigations, investigators are simultaneously aware that such evidence is susceptible to deliberate and involuntary attacks. This

⁸³ See, <https://www.bbc.com/news/world-europe-67687449>

⁸⁴ Daragh Murray, Yvonne McDermott, and K Alexa Koenig, "Mapping the Use of Open Source Research in UN Human Rights Investigations," *Journal of Human Rights Practice* 14, no. 2 (April 23, 2022): 564, <https://doi.org/10.1093/jhuman/huab059>.

⁸⁵ Ibid.

concern is poised to intensify with the growing prevalence of 'deepfakes'—sophisticated audio recordings, videos, or images created using machine learning, featuring realism that makes their inauthenticity challenging to discern.⁸⁶ The primary risk associated with this technological advancement is not the incorrect reliance on deepfake footage in human rights investigations but rather the widespread erosion of trust in content which may lead investigators and courts to exclude authentic footage due to fears that it might be an elaborate fake.⁸⁷

Furthermore, resource and practice discrepancies across organizations, communities, and geographical areas, introduce complex dimensions to the utilization of open-source evidence by human rights investigators and prosecutors. The sheer abundance of open-source information often leads to the significance or importance of a piece of content emerging only when each individual piece is viewed in conjunction with other sources. However, the very process of locating, storing, analyzing, and verifying individual pieces of open-source evidence presupposes the allocation of time, resources, skills, and technological capacity.

Foremost, the time-and-resource-related costs incurred in collecting, preserving, verifying, and analyzing open-source evidence of human rights violations force some investigations to heavily rely on collaboration with external actors. Although progressively improving, many investigative bodies lacked specialized staff dedicated to open-source research, and the transformative character of many human rights practitioners, who often were 'turned' into open-source researchers, underscores the adaptive nature of responsibilities within investigative contexts.⁸⁸

Therefore, it becomes evident that there is a lack of uniform and standardized practices in open-source research for human rights investigations which inevitably impacts the efficacy of these research mechanisms. The diverse nature of the challenges, which often intertwine and develop seamlessly, underscores the need to develop a comprehensive framework of best practices to guarantee the effectiveness of open-source research and safeguard the credibility of the evidence gathered. Indeed, if the application of open-source information in human rights fact-finding is not without its challenges, the identification and establishment of best practices in open-source research, encompassing not only the technical aspects of gathering and analyzing data but also ethical considerations, security protocols, and methodologies to minimize potential harm, play a pivotal role in the advancement of the doctrine.

⁸⁶ Vincent, J. 2018. Why we Need a Better Definition of 'Deepfake'. The Verge. <https://www.theverge.com/2018/5/22/17380306/deepfake-definition-ai-manipulation-fake-news> (referenced 4 December 2021).

⁸⁷ Daragh Murray, Yvonne McDermott, and K Alexa Koenig, "Mapping the Use of Open Source Research in UN Human Rights Investigations," *Journal of Human Rights Practice* 14, no. 2 (April 23, 2022): 564, <https://doi.org/10.1093/jhuman/huab059>.

⁸⁸ Ibid.

The experiences and insights shared by practitioners and investigators throughout the years underscore the urgency of creating a cohesive set of guidelines that can guide actors in navigating the complexities of open-source research. As of the time of writing, countless institutions - namely the Office of the Prosecutor of the International Criminal Court and the European Union Agency for Criminal Justice Cooperation (EUROJUST) - as well as international organizations, academics, and civil society actors, are turning to collaborative efforts to formulate and promote such best practices. These would not only enhance the reliability and credibility of open-source data, but also play a pivotal role in promoting more equitable and ethical human rights fact-finding practices. Indeed, the dynamic nature of technology, as well as its growing role in human rights investigations, seem to demand the continuous refinement of best practices to guarantee their effectiveness in an ever-changing landscape.

By developing a narrative starting from the evolution of methodologies, principles, and ethical standards constituting the backbone of investigative processes, the following chapter will focus on defining and examining the very concept of best practices and on elucidating their guiding principles as well as their indispensable role in fostering accountability for human rights violations. In the digital age, our discussion strives to bridge the gap between traditional investigative methods and the emergence of digital evidence, emphasizing the need for adaptation and reformulation of practices to meet the demands of the evolving technological landscape.

Best Practices in Human Rights Fact-Finding Investigations

Best Practices: The Methodological Framework

The 1970s heightened tensions between the right-wing government aligned with the United States and the left-wing opposition leaning towards the Soviet Union characterized El Salvador's political landscape. Such a deep ideological divide explicitly manifested on October 15, 1979, when President Carlos Humberto Romero was ousted by a coup d'état, ushering in a military junta known as the Revolutionary Government Junta.

After taking power, the left-wing opposition under the banner of the Farabundo Martí Front for National Liberation (FMLN), gathered the support of rural peasant organizations, received indirect backing from Cuba, and acquired comprehensive support, including military aid, from Nicaragua's Sandinista regime. Upon assuming the presidency in January 1981, President Ronald Reagan labeled the FMLN a Soviet expansion threat in Latin America, deciding to increase military aid to the Salvadoran government, deploy U.S. advisors to the armed forces, and conduct National Guard "training exercises" in and around El Salvador. Predictably, the conflict intensified rapidly, and allegations of torture, kidnapping, and assassination from both sides of the civil war quickly followed.⁸⁹

During President Ronald Reagan's first term, the situation of El Salvador represented one of the main focuses of American foreign policy, and non-governmental organizations played a crucial role in challenging the Administration's narrative through well-documented reports on the ongoing abuses and violations. These reports, often presented at congressional hearings, virtually constituted the only counter-narrative to the Administration's findings. Nonetheless, the Reagan Administration actively discredited the work of NGOs, attempting to undermine the findings of these independent bodies to instead strengthen its political stance.⁹⁰ Notably, in response to a joint report published by Americas Watch and the American Civil Liberties Union (ACLU) documenting human rights violations in El Salvador, Assistant Secretary of State for Human Rights and Humanitarian Affairs Elliott Abrams even went as far as leading efforts to undermine the NGOs' credibility by preparing a critique to question its underlying political motives.

As reported by Orentlicher, the Memorandum of the Secretary of State underlined that:

“The ACLU-Americas Watch report is an extremely well-prepared, effective documentation of human rights violations in El Salvador by government forces. Its moderate and clinical tone contributes to its effectiveness and

⁸⁹ History, “United States Calls Situation in El Salvador a Communist Plot,” History, December 13, 2018, <https://www.history.com/this-day-in-history/united-states-calls-situation-in-el-salvador-a-communist-plot>.

⁹⁰ Diane Orentlicher, “Bearing Witness: The Art and Science of Human Rights Fact-Finding,” *Law Reviews & Other Academic Journals* 3 (January 1, 1990).

credibility. The report's careful preparation and general tendency to stick to either what is credible or what cannot be effectively disproved make it a tough document to attack. It is, nevertheless, a document prepared with political objectives and is obviously slanted and totally one-sided in all its presentation."⁹¹

The attempt by the Reagan administration represents nothing but one of the many attempts by governmental bodies and powerful actors that, throughout the decades, attempted to undermine the validity and credibility of fact-finding efforts, raising broader questions about the methodological underpinnings of human rights fact-finding. Nonetheless, the approach of the United States government was met by an NGO response based on transparency and accountability, opening a dialogue that highlighted the need for a methodological alignment of practices to strengthen the argumentation surrounding the monitoring and reporting of human rights violations.⁹²

More recently, the Rohingya crisis in Myanmar's Rakhine state, represented another instance in which the credibility of NGOs was questioned by recalcitrant governments. With the Myanmar government blocking international actors from accessing the area, human rights advocates faced significant challenges in obtaining reliable information, especially because of the absence of independent observers. This situation highlighted the need for alternative research methods and eventually led to the employment of a combination of remote sensing, visual content analysis, and interviews with Rohingya refugees. Satellite images and remotely sensed data played a pivotal role in corroborating reports of attacks on specific villages, refuting the claims by Myanmar's State Counsellor, Aung San Suu Kyi, that military operations had already ended at the time of the investigation.⁹³

Notably, in 2019, during a three-day session at the International Court of Justice, Aung San Suu Kyi appealed to the U.N. International Court of Justice to dismiss the genocide case against her country. In that context, rather than acknowledging the reported atrocities, Suu Kyi sought to downplay the severity of what foreign observers had termed an organized, prolonged campaign against the Rohingya. She questioned the accuracy of the accounts, suggesting they might be exaggerated or misunderstood due to malice or ignorance. While conceding that the Myanmar military might have used "disproportionate

⁹¹ D. Shaffer, Declassified Memorandum: The ACLU-Americas Watch Committee Report on Human Rights in El Salvador: A Preliminary Analysis 1 (Feb. 4, 1982) (submitted by Peter Sarros to Elliott Abrams).

⁹² Diane Orentlicher, "Bearing Witness: The Art and Science of Human Rights Fact-Finding," *Law Reviews & Other Academic Journals* 3 (January 1, 1990).

⁹³ Christoph Koettl, Daragh Murray, and Sam Dubberley, "Open Source Investigation for Human Rights Reporting," in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2021), 16–23.

force" or failed to "distinguish clearly enough" between rebels and civilians, she criticized what she described as the impatience of international actors.⁹⁴

The battles over the abuses taking place in El Salvador and Myanmar constituted just a few of such unfortunate patterns in international human rights diplomacy and served as compelling examples to reveal the challenges and tensions inherent in the intersection of political agendas and human rights advocacy. These tensions mainly revolved around the issues of reliability and transparency, highlighting the necessity for a methodological alignment of practices in international human rights fact-finding. Indeed, the lessons learned in those specific situations contributed to shaping the approach of both institutional and civil society actors in the process of human rights fact-finding for the decades to come. As NGOs, international bodies, and State-sponsored initiatives started to delve into the monitoring and reporting of human rights violations worldwide, more and more guidelines, approaches, and best practices started to emerge as guiding principles.

'Best practices' progressively emerged as an overarching concept in the development of methodologies for human rights fact-finding. Adopting the definition of the World Health Organization, 'best practices' can be widely understood as techniques or methodologies that, through experience and research, proved to be reliable in leading to a desired outcome. Used most often in sectors such as administration, health, education, and management, these practical guidelines serve as orienting principles for effective action.⁹⁵

In human rights fact-finding, the concept of best practices refers to the procedural and ethical approaches employed by those engaged in identifying, collecting, analyzing, and disseminating information related to alleged human rights abuses. Founded on principles prioritizing transparency, objectivity, and the commitment to uncovering the truth, these practices serve as sets of guidelines and standards that, when consistently adhered to, enhance the reliability and credibility of human rights investigations.⁹⁶

Indeed, legislative, and political actors often demand evidence to be both credible and politically impactful, requiring a delicate balance between factual accuracy and analytical argumentation. International actors involved in fact-finding, in response to these challenges, embrace best practices to fortify the rigor of their methodologies. The intricate realm of human rights investigations therefore demands a robust methodology that goes beyond a "one size fits all" approach and instead requires

⁹⁴ Marlise Simons and Hannah Beech, "Aung San Suu Kyi Defends Myanmar against Rohingya Genocide Accusations," *The New York Times*, December 11, 2019, sec. World, <https://www.nytimes.com/2019/12/11/world/asia/aung-san-suu-kyi-rohingya-myanmar-genocide-hague.html>.

⁹⁵ World Health Organization (WHO), "Guide for Documenting and Sharing 'Best Practices' in Health Programmes," 2008, https://www.afro.who.int/sites/default/files/2017-06/Guide_for_documenting_and_sharing_best_practice_-_english_0.pdf.

⁹⁶ Philip Alston and Sarah Knuckey, *The Transformation of Human Rights Fact-Finding* (New York, Ny: Oxford University Press, 2016).

cogency and coherence in research and analytical frameworks, adaptable to specific contexts while maintaining rigorous standards.⁹⁷

Indeed, the term "methodology" in human rights investigations encompasses more than a uniform approach. It instead underscores adaptability while upholding rigorous standards. Because of such character investigations must be responsive to specific contexts and circumstances, employing discovery and evaluation procedures against the backdrop of internationally accepted norms. As of the time of writing, the methodology for human rights investigations has evolved through the collective experience of various entities, including non-governmental organizations, international bodies, and the United Nations Office of the High Commissioner for Human Rights (OHCHR)⁹⁸. The OHCHR's experiences highlighted the need for adaptable methodologies, and, throughout the decades, the organization developed systematic approaches to investigative methodologies.

Behind the Practice: The Institutionalization of Best Practices in Human Rights Investigations

The practice of international human rights fact-finding (IHRFF) has characterized the efforts of international organizations, civil society groups, and local entities since the onset of the human rights system and, since then, it has been broadly characterized as a method to “ascertain the relevant facts relating to and elucidating a situation of human rights concerns, whether allegedly committed by state or non-state actors through the evaluation and compilation of various information”.⁹⁹ Its purpose is to elucidate the circumstances, causes, and consequences of a particular event with the aim of dispelling or verifying the allegations of human rights abuses through outputs notably ranging from reports, communications, and statements.¹⁰⁰

While IHRFF is not a novel endeavor and has a long history involving various organizations and entities, recent years have witnessed a notable surge in IHRFF missions in response to alleged human rights violations across different regions, focus areas, and time periods. The increasing prominence of IHRFF and its substantial impact on domestic and global affairs provided a rationale for contemporary scholars, academics, and practitioners to delve into a renewed examination of its praxis.¹⁰¹ In particular,

⁹⁷ United Nations, “Human Rights Investigations and Their Methodology - Lecture by UN High Commissioner for Human Rights,” United Nations, February 24, 2010, <https://www.un.org/unispal/document/auto-insert-197324/>.

⁹⁸ Federica D’Alessandra and Kirsty Sutherland, “The Promise and Challenges of New Actors and New Technologies in International Justice,” *Journal of International Criminal Justice* 19, no. 1 (June 7, 2021), <https://doi.org/10.1093/jicj/mqab034>.

⁹⁹ See, Théo Boutruche, “Credible Fact-Finding and Allegations of International Humanitarian Law Violations: Challenges in Theory and Practice,” *Journal of Conflict & Security Law* 16, no. 1 (2011): 105–40, <https://www.jstor.org/stable/26294716>. See also, International Bar Association: Human Rights Institute, *Guidelines on International Human Rights Fact-Finding Visits and Reports (“Lund-London Guidelines”)*, 1 June 2009, available at: <https://www.refworld.org/docid/4a39f2fa2.html> [accessed 3 January 2024]

¹⁰⁰ Théo Boutruche, “Credible Fact-Finding and Allegations of International Humanitarian Law Violations: Challenges in Theory and Practice,” *Journal of Conflict & Security Law* 16, no. 1 (2011): 105–40, <https://www.jstor.org/stable/26294716>.

¹⁰¹ Obiora Okafor, “International Human Rights Fact-Finding Praxis,” in *The Transformation of Human Rights Fact-Finding*, ed. Philip Alston and Sarah Knuckey (Oxford University Press, 2016), 49–67.

the discussions concerning its operational aspects and best practices have represented the focus of debate, especially in the current time, where fact-finding missions and initiatives are finding themselves faced more and more with novel, digital, challenges to overcome.

As Obiora Okafor observed, IHRFF can be conducted by a United Nations organ, an international non-governmental organization, a local NGO, and an individual state.¹⁰² The purposes of each of these actors could be classified, according to Frans Viljoen, through the lenses of a taxonomy differentiating among three kinds of IHRFF: investigative IHRFF, indirect IHRFF through the examination of state reports, and complaints-based IHRFF.¹⁰³ This multiplicity in taxonomical distinctions is crucial in analyzing IHRFF because the various manifestations of the practice differ in form and substance but have often intersected in the identification of practices designed to overcome the challenges associated with other categories of the praxis.

The substantial proliferation of IHRFF mechanisms, ranging from those established by governments and intergovernmental bodies to non-governmental organizations and private entities, has transformed them into somewhat-routinely examinations of the global state of human rights. Indeed, from the institutionalized monitoring and reporting implemented by different Special Rapporteurs under the guidance of the United Nations, the Council of Europe's Human Rights Commissioner, and the Inter-American Commission on Human Rights, to the ad-hoc investigations of international bodies after alleged incidents, abuses, and violations, the landscape of fact-finding has evolved significantly.

Nonetheless, routinized fact-finding has somewhat always been the source of controversy and faced strong criticism because of the methodologies it applied and its overall underlying principles. Notably, the 2010 *“Mapping Exercise Documenting the Most Serious Violations of Human Rights and International Humanitarian Law Committed within the Territory of the Democratic Republic of Congo between March 1993 and June 2003”* was particularly met with criticism by the Rwandan government.¹⁰⁴

The discovery of three mass graves in the eastern part of the Democratic Republic of the Congo (DRC) in late 2005, led the United Nations to dispatch a mapping exercise under the auspices of the Office of the UN High Commissioner for Human Rights. Tasked with conducting a comprehensive mapping of the most severe violations of human rights and international humanitarian law within the territory of the DRC, the Mission evaluated the capacities of the national judiciary to appropriately address any relevant human rights violation, and offered various assistance plans to the Government of the DRC

¹⁰² Ibid.

¹⁰³ Viljoen, Frans. (2004). Fact-Finding by UN Human Rights Complaints Bodies - Analysis and Suggested Reforms. Max Planck Yearbook of United Nations Law. 8. 49-100. 10.1163/138946304775159747.

¹⁰⁴ Federica D'Alessandra, “The Accountability Turn in Third Wave Human Rights Fact-Finding,” *Utrecht Journal of International and European Law* 33, no. 84 (April 12, 2017): 59–76, <https://doi.org/10.5334/ujiel.369>.

with the objective of establishing efficient transitional justice mechanisms and addressing the implications of these violations to put forth truth, justice, reparation, and reform.¹⁰⁵

The 550-page report developed by the mapping team identified 617 alleged violent incidents that took place in the DRC between March 1993 and June 2003, highlighting potential violations of human rights and/or international humanitarian law. Nonetheless, in response to the report, the Rwandan government expressed its dissent, even going as far as threatening to withdraw all Rwandan peacekeepers from various missions in Africa. The government criticized the report as ahistorical, dangerous, and irresponsible, and condemned the methodology as deeply flawed and one-sided.¹⁰⁶ In particular, the Permanent Mission of Rwanda in Geneva, condemned:

“1. The manipulation of UN processes by organizations and individuals—both inside and outside the UN—for purposes of rewriting history, improperly apportioning blame for the genocide that occurred in Rwanda and reignite the conflict in Rwanda and the region.

2. The flawed methodology and application of the lowest imaginable evidentiary standard.

3. The overreliance on the use of anonymous sources, hearsay assertions, unnamed, un-vetted and unidentified investigators, and witnesses, who lack credibility; and allegation of the existence of victims with uncertain identity.

4. Failure to address the glaring inconsistency that claims of genocide are directly contradicted by Rwanda’s extensive and coordinated efforts to repatriate, resettle and reintegrate 3.2 million Hutu refugees; efforts that were supported by the UN.”¹⁰⁷

While fact-finding missions present cost-effective and adaptable means to mobilize and transform the public and governmental interpretation of a human rights situation, potentially holding the capacity to favor substantial political or institutional reform, the Rwandan case underscores the still pressing need to identify the components or approaches likely to bolster their success and avoid criticism.¹⁰⁸

¹⁰⁵ Office of the High Commissioner for Human Rights of the United Nations, “OHCHR | DRC: Mapping Human Rights Violations 1993-2003,” OHCHR, 2010, <https://www.ohchr.org/en/countries/africa/2010-drc-mapping-report>.

¹⁰⁶ Obiora Okafor, “International Human Rights Fact-Finding Praxis,” in *The Transformation of Human Rights Fact-Finding*, ed. Philip Alston and Sarah Knuckey (Oxford University Press, 2016), 49–67.

¹⁰⁷ Official Government of Rwanda Comments on the draft UN Mapping Report on the DRC.(Geneva, 30 September 2010)

¹⁰⁸ Obiora Okafor, “International Human Rights Fact-Finding Praxis,” in *The Transformation of Human Rights Fact-Finding*, ed. Philip Alston and Sarah Knuckey (Oxford University Press, 2016), 49–67.

Surprisingly, still considering the pivotal role these IHRFF efforts play in the advancement of human rights and the abundance of handbooks, primers, and practical manuals, relatively-reduced amounts of research and analysis have been devoted to the identification of best practices compared to the comprehensive studies conducted on various practices of international criminal courts and tribunals.

In this context of proliferation of fact-finding exercises, human rights fact-finders are actively innovating, pushing boundaries, revealing weaknesses, and reshaping the doctrine through the innovations and developments of novel and improved investigative techniques. The changing nature of human rights fact-finding methodologies is leading to novel ways of perceiving and describing human rights violations as the field appears to be both fragmenting into specialized sub-areas like new technologies and video evidence, but also converging on the need for comprehensive repositories of experience and expertise to guide practitioners.¹⁰⁹

Cherif Bassiouni, Egyptian American jurist and emeritus professor of law at DePaul University, underlined the impact of such absence in his contribution to the Washington University Journal of Law & Policy where he underlined that:

“After fifty years, there is no standard operating procedure for fact-finding missions. Admittedly, any standard operating procedure needs to be tailored to the situation. But no manual exists to describe how an investigation should be conducted and there is no standard, though adaptable, computer program to input collected data. [...]

In short, there is nothing to guide, instruct, or assist the heads and appointees to these missions of how to better carry out their mandates. It strains one’s belief that in fifty years the most elementary aspects of standardized organization, planning, documentation, and reporting have not been developed. Thus, each mission has to reinvent the wheel and, in an organizational sense, has to reinvent itself as a mission.

The lack of standardized methods, particularly as to empirical research and field investigation, means that there is no basis to test the validity of the research in order to assess the plausibility of the conclusions.”¹¹⁰

¹⁰⁹ Philip Alston and Sarah Knuckey, *The Transformation of Human Rights Fact-Finding* (New York, Ny: Oxford University Press, 2016), 1-23.

¹¹⁰ M. Cherif Bassiouni, “Appraising UN Justice-Related Fact-Finding Missions,” *Washington University Journal of Law & Policy* 5, no. 1 (January 1, 2001): 035–49, https://openscholarship.wustl.edu/law_journal_law_policy/vol5/iss1/6.

Encountering frequent complaints from practitioners like Bassiouni about the lack of standardized best practices, guidelines, training manuals, and tools to facilitate investigations and improve practices over successive missions progressively emerged in the human rights practice.

As highlighted by the El-Salvador case, initial human rights fact-finding efforts in the 1960s and 1970s were marked by contentious political situations, limited on-site access, and ad hoc procedures, prompting calls for a more professional approach. Therefore, one of the earliest endeavors to introduce greater rigor into fact-finding occurred within the context of a 1963 inquiry mandated by the UN General Assembly. The UN Fact-Finding Mission to South Vietnam was established in 1963 and was tasked with investigating alleged violations committed by the government of South Vietnam. In the context of the investigation, the United Nations Secretary-General transformed the realm of human rights fact-finding by publishing a report exploring methods for future investigations.¹¹¹

The report stressed that, throughout its activities, the Mission received 116 communications from individuals or non-governmental organizations, that it analyzed following a rigorous identification process of all sources that featured high levels of confidentiality. The terms of reference highlighted in the report further emphasized the Mission's role as an ad hoc fact-finding body, tasked with ascertaining the facts related to alleged human rights violations by the Government of the Republic of Vietnam in its dealings with the Buddhist community. Finally, the procedures, outlined in the published rules, covered aspects such as the use of effective information collection, on-the-spot investigations, petition reception, and witness hearings in its working methods.¹¹²

The Mission's adherence to these procedures set a precedent, serving as a model for the objective and impartial pursuit of factual evidence and setting the stage for the 1968 International Conference on Human Rights in Teheran. The Teheran Conference notably recognized the relevance of established rules of procedure for the effective design and implementation of fact-finding efforts by UN human rights bodies.¹¹³ Following the Conference, a Working Group of the UN Human Rights Commission was tasked to elaborate a series of rules of procedures based on the conclusions of the Conference and their draft. Albeit incomplete and never adopted by the Economic and Social Council, the draft was then used to prepare the on-site visit of the Commission on Human Rights' Working Group on Chile.¹¹⁴

Following these initial attempts to codify principles, calls for the adoption of clear minimum standards in fact-finding gained momentum. Notably, in 1980, scholars Thomas M. Franck and H. Scott Fairley

¹¹¹ Philip Alston and Sarah Knuckey, *The Transformation of Human Rights Fact-Finding* (New York, Ny: Oxford University Press, 2016), 1-23.

¹¹² Sydney D. Bailey, "Un Fact-Finding and Human Rights Complaints*," *International Affairs* 48, no. 2 (April 1972): 250–66, <https://doi.org/10.2307/2613441>.

¹¹³ Final act of the International Conference on Human Rights, UN Doc. A/CONF.32/41(1968), p.12.

¹¹⁴ Philip Alston and Sarah Knuckey, *The Transformation of Human Rights Fact-Finding* (New York, Ny: Oxford University Press, 2016), 1-23.

argued that the viability of fact-finding hinged on a delicate assumption of "fairness" and "credibility".¹¹⁵ Therefore, according to Franck and Scott, to elevate fact-finding beyond an elusive ideal, institutions must establish universally applicable minimal standards of due process. These standards should be capable of governing both the establishment of facts and their subsequent utilization because, without such measures, the facts uncovered would serve solely as tools for propaganda and reinforcing pre-conceived political views on the investigated situation.¹¹⁶

Within the UN context, steps towards the standardization of best practices for human rights fact-finding were taken in 1991 with the adoption of the Declaration on Fact-Finding by the United Nations in the Field of the Maintenance of International Peace and Security. The Declaration highlighted the significance, for the United Nations, of acquiring detailed knowledge about factual circumstances in maintaining international peace and security. The Assembly acknowledged that effective fact-finding could enhance the UN's role in peacekeeping, peaceful settlement, and the prevention of threats to peace through a series of operative key principles. These included, among many others, the necessity for complete knowledge of facts and the comprehensive, objective, impartial, and timely character of fact-finding.¹¹⁷ Nonetheless, as stressed by Alston and Knuckey, this landmark document, although serving as a fundamental form of encouragement for the United Nations bodies, still fell short in addressing the complexities of the fact-finding process, delineating orienting principles instead of specific procedural methodologies.¹¹⁸

Throughout the 1990s, the UN context attempted to implement further developments in the systematization of best practices for human rights fact-finding. Notably, in 1998, the UN Special Procedures mandate-holders formulated their "Terms of Reference for Fact-Finding Missions by Special Rapporteurs/Representatives of the Commission on Human Rights." A detailed "Manual of the UN Human Rights Special Procedures" which were almost immediately implemented in the "Manual of the UN Human Rights Special Procedures". The Manual, initially adopted at the 6th Annual Meeting of Special Procedures mandate-holders in 1999, was designed to offer guidance to mandate-holders appointed under various United Nations human rights Special Procedures and to enhance their engagement with other stakeholders. The guiding principles strived to embody best practices and support mandate-holders in their endeavors to advocate for and safeguard human rights. Since its original adoption the Manual has undergone revisions to accommodate shifts in the structure of the UN

¹¹⁵ Thomas M. Franck and H. Scott Fairley, "Procedural Due Process in Human Rights Fact-Finding by International Agencies," *American Journal of International Law* 74, no. 2 (April 1980): 308–45, <https://doi.org/10.2307/2201504>.

¹¹⁶ Ibid.

¹¹⁷ United Nations General Assembly resolution 46/59 (9 December 1991)

¹¹⁸ Philip Alston and Sarah Knuckey, *The Transformation of Human Rights Fact-Finding* (New York, Ny: Oxford University Press, 2016), 1-23.

human rights machinery, changes related to mandates, and the evolving working methods of mandate-holders.¹¹⁹

Beyond formal human rights structures, the UN Security Council's Sanctions Committee responded to criticism of its ad hoc and inconsistent fact-finding with the development of a series of guidelines in 2006.¹²⁰ The Informal Working Group on General Issues of Sanctions, in fulfilling its mandate to enhance the effectiveness of United Nations working methods, endorsed a series of best practices related to the design, implementation, evaluation, and follow-up of working methods, methodological standards, and reporting format for expert groups.¹²¹ According to the Committee, expert groups had refined their working methods through a process of trial and error, recognizing that any perceived shortcomings in their conduct could cast doubt on the integrity of their entire reports. To address this, the Committee made several recommendations, including:

- a. Establishing clear guidelines for expert groups, based on best practices, to ensure their inquiries and findings adhere to high standards.
- b. Setting minimum standard criteria for the format of expert group reports, adopting a practical and action-oriented approach.
- c. Encouraging expert groups to define the terms of reference for their work with the Committee at the outset or during their mandate.
- d. Promoting increased cooperation and interaction among various expert groups to enhance efficiency and reduce duplication of effort.
- e. Addressing the challenge of the time required for the Secretariat to appoint monitoring mechanisms and process their reports.¹²²

While non-binding, these guidelines aimed to identify best practices for monitoring, enforcement, and methodological standards for expert groups and called for additional work about fact-finding methodologies and best practices.

Building upon its previous work, in 2015 the Office of the High Commissioner for Human Rights published the *Commissions of Inquiry and Fact-Finding Missions On International Human Rights And Humanitarian Law* manual. Encapsulating the insights gained from the history of the United Nations work in international commissions of inquiry and fact-finding missions, the document outlined guiding

¹¹⁹ Office of the High Commissioner for Human Rights of the United Nations, *Manual of Operations of the Special Procedures of the Human Rights Council*, 1998, https://www.ohchr.org/sites/default/files/Documents/HRBodies/SP/Manual_Operations2008.pdf.

¹²⁰ Philip Alston and Sarah Knuckey, *The Transformation of Human Rights Fact-Finding* (New York, Ny: Oxford University Press, 2016), 1-23.

¹²¹ United Nations Security Council, "Report of the Informal Working Group of the Security Council on General Issues of Sanctions (S/2006/997)," *United Nations Security Council*, December 22, 2006, <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N06/685/06/PDF/N0668506.pdf?OpenElement>.

¹²² Ibid.

principles, policies, practices, and methodologies for good practice. Aiming to serve as an integrated resource for those engaged in fact-finding within international commissions of inquiry, it offered policy, methodological, legal, and operational guidance, based on relevant international standards. Its purpose was to aid the efforts of these international investigative bodies, as well as those involved in their establishment and mandate, by providing a coherent methodology rooted in best practices, thereby optimizing their potential for successfully fulfilling their mandates.¹²³

More recently, The Human Rights Center at the University of California, Berkeley, School of Law, and the OHCHR have collaborated to release the Berkeley Protocol on Digital Open-Source Investigations. This practical guide is dedicated to the effective utilization of digital open-source information when investigating violations of international criminal, human rights, and humanitarian law. The Berkeley Protocol incorporates international standards for conducting online research concerning alleged breaches of international human rights, humanitarian, and criminal laws, further offering comprehensive guidance on methodologies and procedures for the professional, legal, and ethical collection, analysis, and preservation of digital information.¹²⁴

Yet, the UN was not the only international body looking into the development of best practices for human rights fact finding. International fact-finding arrangements under the International Committee of the Red Cross (ICRC) and the International Labor Organization (ILO) have emerged throughout the years as sourced of know-how.¹²⁵ Notably, the International Humanitarian Fact-Finding Commission was created in 1991 to “secure the guarantees accorded to the victims of armed conflict” through “the investigation of allegations of grave breaches and other serious violations of international humanitarian law, also through compliance and practice suggestions.”¹²⁶

After the end of the Cold War, international non-governmental organizations also started to emerge as prominent figures in the realm of human rights monitoring and reporting. Amnesty International, that was founded in response to the need to advocate for prisoners of conscience, and Human Rights Watch, that emerged in the human rights research field in 1978, began building their lobbying power by developing reports and calls to action to media outlets around the world. As underlined by Clark in ‘Diplomacy of Conscience: Amnesty International and Changing Human Rights Norms’, Amnesty

¹²³ Office of the High Commissioner for Human Rights of the United Nations, “Commissions of Inquiry and Fact-Finding Missions on International Human Rights and Humanitarian Law,” *OHCHR*, 2015, https://www.ohchr.org/sites/default/files/Documents/Publications/CoI_Guidance_and_Practice.pdf.

¹²⁴ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

¹²⁵ Philip Alston and Sarah Knuckey, *The Transformation of Human Rights Fact-Finding* (New York, Ny: Oxford University Press, 2016), 1-23.

¹²⁶ International Committee of the Red Cross, “The International Humanitarian Fact-Finding Commission – Factsheet,” International Committee of the Red Cross, September 17, 2014, <https://www.icrc.org/en/document/international-humanitarian-fact-finding-commission-factsheet>.

International held particular significance for the international NGO community with its pioneering role in the development of guidelines and techniques still widely employed by human rights fact-finders.¹²⁷ In particular, according to Clark, “*Amnesty forged many of the techniques that are now the common stock of international NGOs, [...] its research and monitoring activities and its public membership legitimated its efforts to influence the creation of norms through the UN.*”¹²⁸ Among these activities, the publication, in 2002, in tandem with the Council for the Development of Social Science Research in Africa (CODESRIA), of the handbook titled “UKWELI: Monitoring and Documenting Human Rights Violations in Africa” marked a pivotal moment in the history of the organization. Developed based on discussions between Amnesty’s representatives and African human rights activists the guide collected best practices for NGOs and activists engaging with human rights fact-finding and even went as far as outlining research methodologies, country visit procedures and objectivity principles.¹²⁹

Stressing the fundamental importance of the document, its drafters underlined how:

*“The collection seeks to facilitate monitoring, documentation and fact-finding by human rights organizations and individual activists and to do so on the basis of the best practices and experiences of African human rights defenders.”*¹³⁰

In the same year, the Martus Project emerged as one of the prominent human rights documentation databased. The project, a Human Rights initiative under the umbrella of Benetech, was founded by Jim Fruchterman to leverage technology to address critical social needs. The Human Rights Program at Benetech was at the forefront of advancing the global human rights movement and strived to provide and support effective, secure, and openly available information management and data collection technology to rights defenders, activists, journalists, researchers, and civil society practitioners.¹³¹

At the time of writing countless NGOs and civil society organizations have started to develop their own internal guidelines and fact-finding methodologies to adapt to the ever-increasing necessities of technological and socio-political advancements. Ranging from Amnesty International, Human Rights Watch, to Advocates for Human Rights and WITNESS, each local and international actor has started to progressively define its specific guidelines and compilations of good practices. WITNESS, a Brooklyn-based NGO striving to support the documentation of human rights violations for justice and

¹²⁷ Ann Marie Clark, *Diplomacy of Conscience Amnesty International and Changing Human Rights Norms* (Princeton University Press, 2010), 1–10.

¹²⁸ Ibid.

¹²⁹ Gerald M Steinberg, Anne Herzberg, and Jordan Berman, *Best Practices for Human Rights and Humanitarian NGO Fact-Finding*(Leiden: BRILL, 2012).

¹³⁰ Amnesty International and Council for the Development of Social Science Research in Africa, “UKWELI - Monitoring and Documenting Human Rights Violations in Africa a Handbook” (Amnesty International, 2002), https://ihrp.law.utoronto.ca/utfl_file/count/documents/InternResources/Monitoring%20and%20Documenting.pdf

¹³¹ See, <https://www.martus.org/about.html>

accountability has progressively put together an extensive library of resources for video activists, trainers, and supporters. Such library contains a wide range of training courses, modules, and documents to build the capacity of witnesses to record and share recounts of human rights violations worldwide.¹³²

Furthermore, the "Lund-London Guidelines," officially denominated the "Guidelines on International Human Rights Fact-Finding Visits and Reports", were formulated through collaboration between the International Bar Association and the Raoul Wallenberg Institute. These guidelines constitute a unique set of human rights fact-finding best practices to address the absence of common international standards for human rights fact-finding, monitoring, and reporting. These guidelines aim to "fill this gap by setting an agreed international standard of good practice in the conduct of fact-finding visits and in the compilation of reports".¹³³

Such efforts to enhance the process of fact finding, ranging across a widely diverse range of non-governmental organizations with different needs and perspectives, underlines the common recognition of the need for a more consistent structure of best practices to acquire methodological systematization and embrace technological advancements. Numerous actors are now undergoing training efforts to effectively handle novel technologies like digital content, with an emphasis on developing best practices for fact-finding and legal accountability in the digital sphere. Organizations like WITNESS, Videre est Credere, and eyeWitness to Atrocities train activists and investigators utilizing video evidence, while groups such as Bellingcat and UC Berkeley's Human Rights Center often conduct workshops to train investigators on the more technical aspects of evidence collection through digital means.¹³⁴

Nonetheless, despite the importance of these efforts, the debate over the necessity for fact-finding best practices underpinned by clear and coherent principles persists. Indeed, although some argue against it, stressing the limitations coming from the implementation of overarching binding rules in such diverse field, others, among which the author, tend to acknowledge the increasing need for shared and endorsed principles.¹³⁵ Some form of uniformity in the shared practices and underlying principles could indeed offer benefits to the field by creating a series of minimum procedural and ethical standards capable of assisting practitioners in the process of human rights fact-finding. Although complex and in constant development, the field could benefit from a practice-oriented set of guidelines that can evolve alongside its users. For this exact reason, more and more entities have started bringing practitioners together and fostering dialogue and collaboration to create a form of communitarian approach to the practice of human rights fact-finding. Developments such as these, that have a human rights-based approach at the

¹³² See, <https://www.witness.org/resources/>

¹³³ See, <https://www.refworld.org/docid/4a39f2fa2.html>

¹³⁴ Christoph Koettl, Daragh Murray, and Sam Dubberley, "Open-Source Investigation for Human Rights Reporting," in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2021), 16–23.

¹³⁵ Philip Alston and Sarah Knuckey, *The Transformation of Human Rights Fact-Finding* (New York, Ny: Oxford University Press, 2016), 1-23.

core, are being seen as essential in developing shared guidelines or best practices for a field that is continuously progressing and advancing.

A Human Rights-Based Approach to Human Rights Fact-Finding

The concept of human rights has been a central pillar of the international community since the adoption of the Universal Declaration of Human Rights in 1948. Since then, states, NGOs, and international actors have devoted growing interest to the development of a comprehensive set of international norms and standards aimed at fostering dignity, freedom, and fundamental rights for all. Nonetheless, the previous breakdown of the history of the institutionalization of best practices and their overarching standards for fact-finding underlined a significant level of asymmetry in the methods, processes, and expectations of results across different bodies, instruments, and mechanisms.

Indeed, while at the time of writing many existing human rights fact-finding best practice frameworks contribute to addressing concerns like procedural hindrances and the more technical aspects of fact-finding, the doctrine is still debating whether they are adequate to address the multifaceted aspects of human rights investigations and the new challenges posed by the digital revolution.

As underlined by Theo Boutruche, in his contribution to “The Transformation of Human Rights Fact-Finding”, current fact-finding methodologies are often contemplated in a restricted way and the previously established principles seem to be lacking in development capacities.¹³⁶ In particular, Bourtruche stressed how, while the well-being of victims and witnesses is surely taken into account in fact-finding processes, the connotation of mandates and duties, which most of the time outline primarily methods to avoid further harm while investigating, creates mostly negative obligations for practitioners, employing a perspective that could potentially overlook the intertwining of other factors.

Notably, the ‘Do no Harm’ principle, conceived as one of the guiding tenets influencing the methodologies and approaches employed by fact-finders, digs its roots in the codes of medical ethics and in the principle of avoiding causing harm to victims and witnesses. Extensively developed in its conceptual and practical iterations by practitioners around the world, its importance has been recently underlined by the Office of the Prosecutor of the International Criminal Court and the European Union Agency for Criminal Justice Cooperation (EUROJUST) in their guidelines for documenting international crimes and human rights violations for accountability purposes. In the document, the institutions highlighted how investigators and fact-finder should always “*seek to prevent or minimise any unintended negative effects of their documentation activities on others and themselves. Such*

¹³⁶ Theo Boutruche, “The Relationship between Fact-Finders and Witnesses in Human Rights Fact-Finding - What Place for the Victims?,” in *The Transformation of Human Rights Fact-Finding*, ed. Philip Alston and Sarah Knuckey (Oxford University Press, 2016).

*activities should always be conducted in the best interest of persons providing information, intermediaries, local communities, and any other person involved in the documentation process.*¹³⁷

The ‘Do no Harm’ principle holds primary recognition as one of the most important ethical underpinnings in the realm of human rights fact-finding and humanitarian action because of its victim and witness centered character and its capacity to hold practitioners accountable in their research work. Notwithstanding its human rights-oriented character and capacities, once faced with the intersectional aspects of human rights monitoring and reporting and with the hardships brought upon by the digital age, the ‘Do no Harm’ principle could present relevant shortcomings in addressing specific concerns.¹³⁸

Occasionally misinterpreted as unrealistically requiring the investigator to avoid causing any harm to witness and victims, the ‘Do no Harm’ principle would be instead more concretely suited to identify the need, for practitioners, to reduce or minimize the harms and risks to those directly involved in the investigations. Indeed, as previously underlined by the EUROJUST guidelines, in the documentation and collection of evidence, as well as all the related activities, “[the] security, physical and psychological well-being, and privacy [of witnesses] should be prioritized [...] and activities that expose the above persons to a risk of harm should not be undertaken.”¹³⁹

Nonetheless, the relatively wide scope of the ‘Do no Harm’ principle impacted its practical developments, creating discrepancies in practice across manuals, guidelines, and bench books. For instance, bodies like the Office of the High Commissioner for Human Rights of the United Nations favor pragmatic and case specific definitions, underlining how:

*“While the commission/mission is unable to guarantee the safety of the persons it comes into contact with, it should ensure that its actions or inaction do not jeopardize the safety of such persons, its staff, its information or its work. it should also ensure that its activities are not detrimental to the United Nations.”*¹⁴⁰

At the opposite end of the spectrum, the NGO WITNESS, in its “*Video as Evidence - File Guide*” employs a broader interpretation of the concept, prompting frontline documenters to always strive to do

¹³⁷ Office of the Prosecutor of the International Criminal Court, European Union Agency for Criminal Justice Cooperation, and The Genocide Network, “Documenting International Crimes and Human Rights Violations for Accountability Purposes - Guidelines for Civil Society Organizations” (EUROJUST, 2022).

¹³⁸ Theo Boutruche, “The Relationship between Fact-Finders and Witnesses in Human Rights Fact-Finding - What Place for the Victims?,” in *The Transformation of Human Rights Fact-Finding*, ed. Philip Alston and Sarah Knuckey (Oxford University Press, 2016).

¹³⁹ Office of the Prosecutor of the International Criminal Court, European Union Agency for Criminal Justice Cooperation, and The Genocide Network, “Documenting International Crimes and Human Rights Violations for Accountability Purposes - Guidelines for Civil Society Organizations” (EUROJUST, 2022).

¹⁴⁰ Office of the High Commissioner for Human Rights of the United Nations, “Commissions of Inquiry and Fact-Finding Missions on International Human Rights and Humanitarian Law,” *OHCHR*, 2015, https://www.ohchr.org/sites/default/files/Documents/Publications/CoI_Guidance_and_Practice.pdf.

no harm when documenting human rights incidents through direct victim or witness accounts, especially because capturing testimony on video tends to increase the chances that the witnesses will be identified as cooperating with international actors and therefore put them at risk of reprisals.¹⁴¹

In practice, the ‘Do no Harm’ principle morphs even more, typically taking center stage only during specific phases or sections of the fact-finding investigation, namely in the risk assessment often conducted before the fact-finding process begins, and in the collection of victim and witness accounts.¹⁴² The importance of identifying the harm potentially arising in these two distinct phases has been notably underlined by the Siracusa Guidelines for International, Regional, and National Fact-Finding Bodies which underscore the importance of addressing security and potential risks to witnesses by ensuring a secure environment for interviews and implementing suitable measures to safeguard the confidentiality of witnesses' identity, evidence, and other provided information.¹⁴³

However, the sectoral implementation of principles like the ‘Do no Harm’ principle inevitably clashes with the intersectional and cross sectoral character of human rights questions. It is therefore fundamental for human rights practitioners to transform these principles from preparatory steps into overarching and wide-ranging working philosophies. More practically, human rights principles should not only be the building blocks of a series of steps in fact-finding efforts, but they should also become guiding standards for the process. Indeed, for the principle to be as effective as possible for victims, witnesses, and investigators, it requires a comprehensive and holistic implementation covering all stages of the fact-finding process, from the preparatory phase, to the evidence collection on the ground, passing through victim and witness interview and data preservation.¹⁴⁴ Such principles should not be solely confined to limited areas but should inform every step of the process in order to guarantee that the trickiest aspect of the intersectionality of human rights questions is properly addressed.

Against such background, the idea of a human rights-based approach (HRBA) to fact-finding has progressively emerged as a form of conceptual framework normatively grounded in international human rights standards and operationally focused on promoting and safeguarding human rights.¹⁴⁵ Under a human rights based approach, the design, implementation, and evaluation of policies and processes are sketched out through the interplay of rights and obligations established by international law and bolstered by the incorporation of principles deriving from the realm of human rights. According to the

¹⁴¹ WITNESS, “Video as Evidence - File Guide,” *WITNESS.org*, accessed January 7, 2024, <https://library.witness.org/product/best-practices-for-uploading-to-youtube/>.

¹⁴² Theo Boutruche, “The Relationship between Fact-Finders and Witnesses in Human Rights Fact-Finding - What Place for the Victims?,” in *The Transformation of Human Rights Fact-Finding*, ed. Philip Alston and Sarah Knuckey (Oxford University Press, 2016).

¹⁴³ Bassiouni and Abraham, *Siracusa Guidelines for International, Regional and National Fact-Finding Bodies* (2013)

¹⁴⁴ Theo Boutruche, “The Relationship between Fact-Finders and Witnesses in Human Rights Fact-Finding - What Place for the Victims?,” in *The Transformation of Human Rights Fact-Finding*, ed. Philip Alston and Sarah Knuckey (Oxford University Press, 2016).

¹⁴⁵ See, <https://unsdg.un.org/2030-agenda/universal-values/human-rights-based-approach>

United Nations 2003 Common Understanding on Human Rights Based Approach to Development Cooperation:

- *All programmes of development co-operation, policies and technical assistance should further the realisation of human rights as laid down in the Universal Declaration of Human Rights and other international human rights instruments.*
- *Human rights standards contained in, and principles derived from, the Universal Declaration of Human Rights and other international human rights instruments guide all development cooperation and programming in all sectors and in all phases of the programming process.*
- *Development cooperation contributes to the development of the capacities of 'duty-bearers' to meet their obligations and/or of 'rights-holders' to claim their rights.*¹⁴⁶

The relevance of a human rights-based approach in the promotion of human rights has been underlined also by the European Commission, that defined it as a methodology that employs five different working principles to advance human rights throughout the action process, among these are:

- The universality of human rights.
- Meaningful and inclusive participation into decision-making processes.
- Equality and non-discrimination.
- The respect for the rule of law and the pursuit of accountability.
- Free access to transparent and accurate information.¹⁴⁷

At its core, the HRBA draws inspiration from the international human rights framework and its fundamental principles. It functions as a supportive tool for State administrations, international organizations, and civil society bodies, pushing them to meet their human rights obligations and adhering to the legally binding treaties and conventions they have ratified. The overarching objective of the HRBA is to enhance the capacities of both duty-bearers and rights-holders in achieving human rights realization by tackling multifaceted challenges such as gender disparities, climate change, environmental degradation, violations of children's rights, the preservation of peace and security, and the management of migration or response to crises.¹⁴⁸

¹⁴⁶ United Nations, *The Human Rights Based Approach to Development Cooperation towards a Common Understanding among UN Agencies*, 2003, https://unsdg.un.org/sites/default/files/6959-The_Human_Rights_Based_Approach_to_Development_Cooperation_Towards_a_Common_Understanding_among_UN.pdf.

¹⁴⁷ See, <https://wikis.ec.europa.eu/pages/viewpage.action?pageId=50108948>

¹⁴⁸ See, <https://wikis.ec.europa.eu/pages/viewpage.action?pageId=50108948>

The emergence of a human rights-based approach to fact-finding represented a profound paradigm shift, underlining the ever-changing character of the landscape of human rights investigations. Encompassing a holistic working ethic and centering its action on the principles of universality, indivisibility and interdependence sketched out by the Universal Declaration of Human Rights, the human rights based approach represents a step forward in the incorporation of best practices in the international working methods.¹⁴⁹ At the core of this transformative framework, best practices become not only strictly procedural guidelines but the orienting principles that sustain the investigative processes aimed at pursuing justice and accountability in an ethical and effective way. The human rights-based approach therefore represents not only a static and monolithic methodology that is applied without exception, but it is instead a mindset that, having recognized the fundamental importance of cross-sectoral protection of fundamental rights and freedoms, surpasses the conventional focus on rules of procedure to instead embrace an approach that is mindful of the intersections between civil, political, economic, social, and cultural dimensions.

In this context, best practices serve as guiding notes, directing the work of investigators, and providing an ever-adapting framework of procedures that translates international human rights commitments into actionable and accountability-oriented processes that are characterized by fair ethical understandings. Such harmonization of best practices with traditional human rights principles constitutes the core of the human rights-based approach to ensure that each of the investigative steps in the fact-finding process aligns with the overarching principles of the international community. As underlined by Sam Dubberley and Gabriela Ivens in their contribution to the guide developed by the Economic and Social Research Council and the Human Rights Center of the University of Essex, human rights organizations tend to consider themselves as generally positive influences on human rights. Nonetheless, their action can also negatively impact human rights if attention is not paid to developing research methodologies through a human rights-based approach. These risks range from those endangering the rights of directly affected individuals or groups, but also of employees and researchers themselves. Notably, the publication of openly-available evidence that depicts bystanders and participants in potentially illegal activities like protests by advocacy organizations might endanger their right to privacy and, indirectly, lead to reprisals and safety risks.¹⁵⁰

Therefore, the integration of a human rights-based approach into the organizational and procedural aspects of human rights fact-finding means incorporating a series of best practices to limit the potential

¹⁴⁹ United Nations, *The Human Rights Based Approach to Development Cooperation towards a Common Understanding among UN Agencies*, 2003, https://unsdg.un.org/sites/default/files/6959-The_Human_Rights_Based_Approach_to_Development_Cooperation_Towards_a_Common_Understanding_among_UN.pdf.

¹⁵⁰ Sam Dubberley and Gabriela Ivens, “Outlining a Human-Rights Based Approach to Digital Open Source Investigations: A Guide for Human Rights Organisations and Open Source Researchers” (University of Essex - Human Rights Center, March 2022), <https://repository.essex.ac.uk/32642/1/Outlining%20a%20Human-Rights%20Based%20Approach%20to%20Digital%20Open%20Source%20Investigations.pdf>.

harms to human rights in the entire investigative process. From the selection of cases to the deconstruction of biases, the underlying objective is to minimise harms and uphold the rights to justice, accountability, and remedy. In a human rights-based approach best practices actively contribute to the pursuit of truth and the recognition of the role of international actors in justice seeking. As previously mentioned, trust represents a fundamental currency in the human rights field, and best practices, once integrated into a human rights-based approach, serve as the building blocks for local and international actors to gain credibility and reliability for their human rights work.¹⁵¹ Principles like transparency, fairness and openness become the foundations of research, fostering a stable integrity of the investigative process.

Further, while as of the time of writing no universal human rights-based approach has been commonly adopted, these approaches often learn from one another, with each fact-finding mission providing an opportunity for the refinement of the following efforts, ensuring that the integration of best practices remains dynamic and responsive to the evolving challenges of the human rights realm and contributing to the creation of a pool of shared knowledge among practitioners.¹⁵²

The emergence of a HRBA therefore signified more than just a methodological evolution in the fact-finding process. Its ethos can transcend the confines of procedural rules, representing a dynamic approach mindful of the interconnectedness of human rights dimensions. In this context best practices cease to be mere guidelines but instead they become orienting principles sustaining the pursuit of justice, accountability, and human rights. Yet, standing at the juncture of the digital age, the question of the integration of digital evidence within the framework of best practices introduces unprecedented challenges and opportunities by demanding either an adaptation to the changing technological landscape or, more drastically, a pivotal recalibration of traditional approaches. Nonetheless, the lessons learned from the foundational principles of the HRBA will still illuminate the path forward in a future where human rights fact-finders will be tasked with navigating the complexities of technology while respecting the ethical underpinnings of human rights.

Best Practices in the Digital Age: Between Evolution and Reformulation

The emergence of digital evidence as one of the primary means of evidence detection, collection, and preservation in the realm of human rights fact-finding has undoubtedly presented unprecedented challenges to the established frameworks of best practices, inevitably demanding transformative processes of adaptation and reformulation. The challenges posed by digital evidence have been likened

¹⁵¹ Diane Orentlicher, "Bearing Witness: The Art and Science of Human Rights Fact-Finding," *Law Reviews & Other Academic Journals* 3 (January 1, 1990).

¹⁵² Philip Alston and Sarah Knuckey, *The Transformation of Human Rights Fact-Finding* (New York, Ny: Oxford University Press, 2016), 1-23.

by Ella McPherson, Isabel Guenette Thornton, and Matt Mahmoudi, in their contribution to *Digital Witness: Using Open-Source Information for Human Rights Investigation, Documentation, and Accountability*, to a form of knowledge controversy.¹⁵³ For the purpose of this discussion, the definition developed by Whatmore will be used to define and qualify the concept of ‘knowledge controversy’. As underlined by Whatmore, a knowledge controversy underscores a process through which the technologies, methods, and approaches once hardwired into the working practices of an industry or a government “become enmeshed with, and redistributed through, an ever-growing, ever-more-varied cast of characters sufficiently affected by what is at issue to want to participate in collectively mapping it into knowledge and, thereby, into its social ordering.”¹⁵⁴

More practically, a knowledge controversy indicates a condition where traditional practices of knowledge production are disrupted and questioned due to the emergence of novel elements and factors such as participants, methods, data, and criteria. The progressive prevalence of open-source approaches within the domain of human rights fact-finding exemplifies an instance of knowledge controversy because of the incorporation of new technologies, actors, and norms in the assessment of alleged human rights abuses.

Although the authority to identify and enforce best practices in the realm of fact-finding was often a prerogative of Western human rights actors, practitioners, and institutions, the progressive emergence of a plurality of actors capable of creating and streamlining information through diverse networks in the current day and age has led to a fundamental decentralization of the poles of power.¹⁵⁵ New technologies have opened unpaved avenues for new actors to engage with and participate in human rights fact-finding processes by transforming normal civilians into potential witnesses holding incredible reporting power in their technological devices. Such expansion in the range of actors involved in the reporting process not only drastically enlarged the pool of data investigators could draw from, but also created the premises for questioning the capacities of the established frameworks of practices to hold up against the new challenges it posed.¹⁵⁶

¹⁵³ Ella McPherson, Isabel Guenette Thornton, and Matt Mahmoudi, “Open Source Investigations and the Technology-Driven Knowledge Controversy in Human Rights Fact-Finding,” in *Digital Witness Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 68–86.

¹⁵⁴ Sarah J. Whatmore, “Mapping Knowledge Controversies: Science, Democracy and the Redistribution of Expertise,” *Progress in Human Geography* 33, no. 5 (July 28, 2009): 587–98, <https://doi.org/10.1177/0309132509339841>.

¹⁵⁵ Ella McPherson, Isabel Guenette Thornton, and Matt Mahmoudi, “Open Source Investigations and the Technology-Driven Knowledge Controversy in Human Rights Fact-Finding,” in *Digital Witness Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 68–86.

¹⁵⁶ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

Indeed, such clash between these novel developments and established practices could be understood as producing a knowledge controversy whose magnitude impacted not only the methods of knowledge production, but also of knowledge assimilation and employment for the purpose of advancing human rights. Initially influenced by the likeness of diplomats, heads of State, and legal experts, the institutional framework for human rights fact-finding has undergone a progressive process of consolidation, standardization, and bureaucratization to respond to ample criticism on its lack of homogeneity. Nonetheless, these orthodox fact-finding practices, which were often constructed based on methodologies and necessities stemming from legal and para-legal backgrounds, struggled to resonate in a landscape in which more and more actors like non-governmental organizations and civil society bodies first, and citizen advocates second, progressively became more and more engaged.¹⁵⁷

Notably, the ‘Third-World Approaches to International Law’, most often known as TWAIL approaches, tend to group together scholars and practitioners upholding a conceptual and dialectic opposition to international legal regimes that often recreate the mechanisms of inequity, unfairness and injustice that have subjected (and still subject) developing nations to subordination and disadvantage.¹⁵⁸ TWAIL approaches embody the aforementioned discrepancy between established practices and tangible experiences and, although extremely diverse in their perspectives and conclusions, they often share a:

*“[...] ethical commitment to the intellectual and practical struggle to expose, reform, or even retrench those features of the international legal system that help create or maintain the generally unequal, unfair, or unjust global order [...]”*¹⁵⁹

Concerning the established frameworks of practice and action, TWAIL approaches have in multiple instances criticized the tendency of international human rights fact-finding processes to ignore, and at times even reinforce, a simplistic and potentially dangerous dichotomy between a perceived ‘good’ West and the seemingly ‘savage’ rest of the world. Such dichotomy is often reflected by the disproportionate deployment of missions, teams, and investigative efforts in developing nations, to the detriment of many human rights violations taking place in the West. While there is evidence suggesting that the international human rights fact-finding practices of major international actors and NGOs exhibit

¹⁵⁷ Ella McPherson, Isabel Guenette Thornton, and Matt Mahmoudi, “Open Source Investigations and the Technology-Driven Knowledge Controversy in Human Rights Fact-Finding,” in *Digital Witness Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 68–86.

¹⁵⁸ Obiora Okafor, “International Human Rights Fact-Finding Praxis,” in *The Transformation of Human Rights Fact-Finding*, ed. Philip Alston and Sarah Knuckey (Oxford University Press, 2016), 49–67.

¹⁵⁹ Obiora Okafor, “Number Perspective,” *Osgoode Hall Law Journal Osgoode Hall Law Journal* 43, no. 2 (2005): 171–91, <https://digitalcommons.osgoode.yorku.ca/cgi/viewcontent.cgi?article=1348&context=ohlj>.

a more global focus today compared to a decade ago, a good portion of these efforts, tends to overlook self-reflection on their own shortcomings.¹⁶⁰

In this context of ever-evolving and often conflicting perspectives, open-source approaches to human rights investigations may seem yet another incongruent development against established practices, yet some of the practices embedded into open-source methods are not in themselves novel developments but the natural extension of methodologies that have a long history. For instance, as underlined by McPherson, Thornton, and Mahmoudi, one of the earliest accounts of the mobilization of information deriving from civilian witnessing for advocacy and accountability already emerged in the context of the Second South African War of 1899-1902, where the living conditions of refugees in the British detention camps were recoded through fieldnotes, correspondence and witness interviews.¹⁶¹

In the contemporary landscape, the collection of data on alleged human rights abuses has become more secure, facilitated by the rise of widely used messaging services like WhatsApp and Telegram, as well as social media platforms like Instagram, Facebook, and Twitter that all provide relatively secure channels for capturing relevant and timely information and offer open-source investigators the opportunity to uncover almost infinite data sources. Indeed, as cameras and the access to the internet became widespread among the population, instances of spontaneous civilian witnessing only experienced further growth and eventually even paved the way for the integration of citizen media into human rights fact-finding.¹⁶²

Notably, in April of last year, the prosecution that convicted Derek Chauvin for the murder of George Floyd relied heavily on video evidence recorded, and then mainstreamed, by a citizen journalist present at the crime scene on the day of the attack. Following the dissemination of the video and its transformation in a tragic emblem for the fight against systemic racism, the court systematically verified the authenticity of the content, fundamentally elevating it to incriminating evidence to substantiate the case against Chauvin.¹⁶³ Similarly to what was done in the context of the South African War, contemporary open-source investigators therefore leverage a multitude of data sources through diverse methods, ranging from satellite imagery to publicly available social media posts. These developments not only set the tone for further institutionalization of digital means in open-source investigations, but

¹⁶⁰ Obiora Okafor, “International Human Rights Fact-Finding Praxis,” in *The Transformation of Human Rights Fact-Finding*, ed. Philip Alston and Sarah Knuckey (Oxford University Press, 2016), 49–67.

¹⁶¹ Ella McPherson, Isabel Guenette Thornton, and Matt Mahmoudi, “Open Source Investigations and the Technology-Driven Knowledge Controversy in Human Rights Fact-Finding,” in *Digital Witness Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 68–86.

¹⁶² Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

¹⁶³ Eric Sype, “Open-Source Investigations Provide Avenues for Communities around the World,” SOLUTIONS LAB | Collaborate, Adapt, Learn, May 3, 2023, <https://www.solutionslabllc.com/newsandblog/open-source-investigations>.

also fostered collaboration among a diverse network of actors, in which human rights investigators, journalists, grassroots activists, and political representatives, have identified a global infrastructure for human rights research.¹⁶⁴

Nonetheless, while open-source approaches might have roots in established mechanisms and practices, they still represent a significant departure from conventional human rights fact-finding methods. The multiplicity of data involved, and the involvement of an ever-growing number of actors underline the necessity for cooperative and transformative approaches to adapt, develop, and redefine the norms and processes that ruled human rights fact-finding. In navigating this changed landscape, the orienting principles of best practices must evolve and adapt to accommodate the transformative potential of digital evidence in reshaping the human rights realm. While the foundational principles may remain constant, their application and interpretation will require continuous refinement to align with the dynamics of the digital era.

In essence, the introduction of digital evidence challenges the status quo, urging human rights practitioners to reconsider, evolve, and reformulate best practices for a more inclusive, technologically advanced, and effective approach to human rights fact-finding. By conducting a comparative analysis of traditional best practices frameworks against the backdrop of the digital age, the following chapter will focus precisely on identifying the challenges of integrating digital evidence into established investigative, revealing the obstacles faced in adapting traditional best practices to digital evidence.

¹⁶⁴ Ella McPherson, Isabel Guenette Thornton, and Matt Mahmoudi, “Open Source Investigations and the Technology-Driven Knowledge Controversy in Human Rights Fact-Finding,” in *Digital Witness Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 68–86.

Adapting and Reformulating Traditional Best Practice Frameworks in the Digital Age

Adaptation or Reformulation: The Dilemma of Best Practices

The almost worldwide accessibility of camera-enabled mobile phones, the development of social media, and the capacity of current technology to harness the power of big data has progressively facilitated the capacity of individuals around the world to document and mainstream human rights abuses but, at the same time, it has undoubtedly created a series of challenges and hardships that practitioners, prosecutors, and advocates are grappling with in their daily work. Indeed, as underlined in the closure of the previous chapter, practitioners worldwide are starting to recognize how the technical concerns about the effective employment of digital technologies in human rights fact-finding represent but a fraction of the big picture that instead features concerns on its ethical and human underpinnings.

Although featuring a wide array of positive examples, the history of the employment of digital technologies for human rights monitoring and reporting is still mainly populated by complex realities rather than indicating that information and communication technologies unequivocally contribute to the development and the protection of human rights.¹⁶⁵ Notably, while the use of mobile phones, social media platforms, and online services could enable grassroots activism efforts and give resonance to others, it could also facilitate repressive efforts, governmental surveillance, and the leveraging of technological advancements by the same perpetrators of human rights abuses. Sarah Joseph, in *Social Media, Political Change, and Human Rights*, underlined that in the context of the Arab Spring social media platforms were used to spread messages of freedom and democratic values, with Tunisian and Egyptian advocates receiving support from countries that later on had uprisings of their own, in other contexts:

“Social media creates new risks of repressive surveillance. Data from relevant sites can provide information about a particular dissident and that person’s connections; social media can therefore facilitate the uncovering of an entire dissident network rather than just one person. [...] New technologies—such as facial recognition software that can facilitate the identification and subsequent persecution of protesters who bravely or inadvertently ended up on YouTube—are similarly problematic.”¹⁶⁶

For these reasons, the human rights community has progressively identified a fundamental need for practical guidelines and frameworks capable of guaranteeing both the efficacy and the ethical

¹⁶⁵ Jay D. Aronson, “Mobile Phones, Social Media and Big Data in Human Rights Fact-Finding Possibilities, Challenges, and Limitations,” in *The Transformation of Human Rights Fact-Finding*, ed. Philip Alston and Sarah Knuckey (Oxford University Press, 2016), 441–62.

¹⁶⁶ Sarah Joseph, “Social Media, Human Rights, and Political Change,” *SSRN Electronic Journal* 35, no. 1 (2011), <https://doi.org/10.2139/ssrn.1856880>.

underpinning of engaging with open-source research, big data analysis, and information dissemination, whether it's at the local, regional, or international level, yet, as underlined by Aronson, there is still confusion as to which set of professional standards would be the most appropriate to tackle the intersections of digital challenges, and how to adapt these frameworks to the different level of human rights fact-finding without risking to fall into excessively conservative and elitist approaches to the practice.¹⁶⁷

In *'Mobile Phones, Social Media, and Big Data'*, Aronson underlined the importance of the Menlo Report as an initial stride in this direction.¹⁶⁸ Developed in 2012 by the United States Department of Homeland Security, The Menlo Report on Ethical Principles Guiding Information and Communication Technology Research presented a framework of ethical guidelines on the employment of Information and Communication Technology for research. Building upon the principles outlined in the 1979 'Belmont Report' for biomedical research, the Menlo Report "attempts to summarize a set of basic principles to guide the identification and resolution of ethical problems arising in research of or involving information and communication technology" by acknowledging the complexities brought upon by Information Communication Technologies and the "need to interpret and extend the traditional ethical framework to enable ICT researchers and oversight entities to appropriately and consistently assess and render ethically defensible research".¹⁶⁹ Among the principles outlined in the Menlo Report, the respect for individuals, the need to balance potential harms and benefits, as well as the equitable distribution of benefits and burdens across the actors involved in the research identified ICT research as potentially harmful to humans, whether directly or indirectly, and therefore requiring a set of guidelines to adapt the traditional frameworks to the digital and technological realm.

Far from being the perfect programmatic document for human rights fact-finding and research in the digital age, the limited perspective employed by the Menlo Report in assuming that the core principles of medical ethics could be sufficient to meet the challenges of the digital age raised questions about whether a different or supplementary set of norms should be applied, particularly when research directly intersects with human rights advocacy and fact-finding. Indeed, the ample variety of actors currently engaged in fact-finding efforts, ranging from NGOs, academia, governmental bodies, and citizen

¹⁶⁷ Jay D. Aronson, "Mobile Phones, Social Media and Big Data in Human Rights Fact-Finding Possibilities, Challenges, and Limitations," in *The Transformation of Human Rights Fact-Finding*, ed. Philip Alston and Sarah Knuckey (Oxford University Press, 2016), 441–62.

¹⁶⁸ Jay D. Aronson, "Mobile Phones, Social Media and Big Data in Human Rights Fact-Finding Possibilities, Challenges, and Limitations," in *The Transformation of Human Rights Fact-Finding*, ed. Philip Alston and Sarah Knuckey (Oxford University Press, 2016), 441–62.

¹⁶⁹ United States Department of Homeland Security, "The Menlo Report - Ethical Principles Guiding Information and Communication Technology Research," *DHS.gov*, August 3, 2012, https://www.dhs.gov/sites/default/files/publications/CSD-MenloPrinciplesCORE-20120803_1.pdf.

journalists, as well as the different fora in which the respective findings will be employed prompt the necessity for variety in the approaches.¹⁷⁰

In this context, it is clear how the landscape of human rights monitoring and reporting is progressively becoming more and more fragmented and populated by a variety of actors requiring different sets of practices to function properly. Therefore, the human rights community is finding itself faced with the challenge of identifying which areas of its practice require a simple adaptation to the novel challenges of the digital age, and which others require instead a structural reformulation of best practices. The core objective of the following chapter precisely lies in elucidating the often-nuanced distinction between the processes of adaptation and reformulation of traditional best practice frameworks, particularly when confronted with the paradigm shift brought about by the digital age.

On the one hand, adaptation involves the tweaking and fine-tuning of already existing best practices frameworks to accommodate the intricacies brought upon by open-source research mechanisms. Understood by Larson as the process through which a specific factor adapts to the unique environment in which they are implemented, adaptation likens best practices to living organisms that must adapt to the ever-changing conditions and characteristics of their living environment to thrive.¹⁷¹ In this sense, adaptation is akin to the process of making adjustments, acknowledging novel challenges, and morphing to face them while still retaining the link to the same core principles of established frameworks. For instance, considering the need to integrate digital evidence into established practices for the maintenance of the chain of custody, the process of adaptation of traditional best practices does not present drastic changes in its underlying principles, but it may involve incorporating new methods of tracking and verifying the integrity of digital data as it travels from server to archive.¹⁷² Such development may require applying encryption technologies, time-stamping mechanisms, and storage protocols that allow investigators and prosecutors to bypass the ephemeral nature of digital data while still protecting the privacy of data sources.

Conversely, reformulation understood as the act of breaking down an established concept and rebuilding it from the ground up, demands a more profound alteration of the framework, sometimes even necessitating a fundamental rethinking of its underlying principles. Such a process implies a drastic departure from the traditional approaches, acknowledging that the nature of digital evidence requires not just adjustments but a transformative shift in how investigations are conceptualized and executed.

¹⁷⁰ Jay D. Aronson, “Mobile Phones, Social Media and Big Data in Human Rights Fact-Finding Possibilities, Challenges, and Limitations,” in *The Transformation of Human Rights Fact-Finding*, ed. Philip Alston and Sarah Knuckey (Oxford University Press, 2016), 441–62.

¹⁷¹ Rhett Larson, “Adapting Human Rights,” *Duke Environmental Law & Policy Forum* XXVI, no. 1 (2015): 2–7, https://www.researchgate.net/publication/295955506_Adapting_Human_Rights.

¹⁷² Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

As will be detailed below, novel challenges posed by open-source methods such as the impact of technological biases, the security risks arising in online inquiries, and the search for verification of digital content, all require a structural shift in the very building blocks of traditional best practices. For instance, the current best practices applied to the process of verification of physical evidence may necessitate a more radical transformation when tasked with verifying digital evidence like visual representations of alleged human rights abuses extrapolated from social media platforms.¹⁷³ Such processes could involve a profound restructuring of the very foundations of the verification process, now tasked with identifying potential red flags for technological alterations or inaccurate classification of the content. In the digital realm, where data can be effortlessly twisted and modified remotely, the reformulation of best practices might require practitioners to embark on a lengthy training process to fully harness the capacities of new technologies and monitoring tools.¹⁷⁴

Such dichotomy sets the stage for comprehending the varied levels of adjustment needed to effectively incorporate digital evidence within the environment of established investigative methodologies and best practices. Understanding this difference represents a pivotal step for investigators, prosecutors, and activists grappling with the complexities of the digital age because it represents the first step to outlining a roadmap for strategic decision-making when faced with the challenges of harmonizing established investigative practices with the unique demands of open-source processes.

In the subsequent sections, we will delve into the specific challenges encountered in adapting existing frameworks to digital evidence and explore new challenges that may necessitate the reformulation or evolution of these frameworks. Attempting to shed light upon the multifaceted landscape of human rights fact-finding in the current day and age, we will particularly emphasize the imperative need to strike a delicate balance between adaptation and reformulation to ensure the effectiveness of investigative methodologies in the digital age. As we embark on this exploration, the intricate interplay between tradition and innovation will become increasingly evident, laying the groundwork for a comprehensive understanding of how the digital age reshapes the very foundations of evidence handling and paving the way for the identification of a methodological framework striving to approach the threshold identified by the digital age.

¹⁷³ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

¹⁷⁴ Daragh Murray, Yvonne McDermott, and K Alexa Koenig, “Mapping the Use of Open Source Research in UN Human Rights Investigations,” *Journal of Human Rights Practice* 14, no. 2 (April 23, 2022): 554–81, <https://doi.org/10.1093/jhuman/huab059>.

Overcoming Obstacles: Adapting Best Practices Frameworks to the Digital Realm

The intersection of established best practices for human rights fact-finding and the ever-expanding realm of open-source methodologies presents a myriad of challenges that demand careful consideration. From evidence collection to the human rights related risks of investigations, passing through the safeguarding of data integrity and source safety. In this section we will embark in a comprehensive exploration of the complexities encountered in the process of adapting established best practice frameworks to the nuanced character of digital evidence collection, handling, and preservation. Our focus will particularly lie on identifying the challenges often encountered by investigators, prosecutors, and advocates while attempting to bridge the gap between the practices developed on the familiar terrain of physical evidence and the dynamic and unstable landscape of open-source research, as well as on delineating how these practitioners could begin to overcome said challenges.

Indeed, while the preceding chapters laid the foundation for the upcoming discussion by recognizing the imperatives associated with employing digital technologies in human rights fact-finding, the focus now turns to the challenges concretely faced by practitioners on the ground. As previously discussed, adaptation involves adjusting established frameworks and, in the context of best practices for human rights fact-finding, this could translate to tweaking existing procedures to accommodate the unique characteristics of open-source research. As such, the first section of this chapter unravels the multifaceted challenges encountered when adapting existing frameworks to the realm of digital evidence, stemming from the identification of novel procedures for evidence collection, to the refinement of the practices for maintaining the chain of custody and data integrity, finally tackling the human rights implications of open-source research. By meticulously examining these intricacies, we strive to provide insights and guidance for practitioners navigating the evolving landscape of human rights fact-finding in the digital age, piecing together the first elements of a much wider mosaic of effective, ethical, and context-sensitive investigative methodologies that harness the power of digital evidence while upholding the principles of human rights.

With as many as 328.77 million terabytes of data being created every day, which include nearly 231.4 million emails and 5.9 million texts being sent, around 50,000 photos being published, and 2.5 million Snaps shared on Snapchat per minute, the digital age has taken the world by storm, revolutionizing the systems of communication and solidifying the interconnectedness of the world.¹⁷⁵ These figures, which are expected to keep growing at an increasingly positive rate in the upcoming years, have not only created the premises for the aforementioned global connectivity, but have also drastically increased the amount and weight of the information currently available online. For instance, gaining more than 100 million users in the last quarter alone, the social media platform Instagram has been adhering to a

¹⁷⁵ Fabio Duarte, “Amount of Data Created Daily (2023),” Exploding Topics, March 16, 2023, <https://explodingtopics.com/blog/data-generated-per-day>.

growing trajectory that brought it from less than half a billion users in 2014, to more than 2 billion at the time of writing, allowing an ever-increasing number of users to connect, communicate, and share with each other.¹⁷⁶

For what concerns human rights investigations and fact-finding efforts, the growth in connectivity emerging in the digital age has allowed practitioners to scrutinize even those areas that were traditionally inaccessible to the human rights community. Nonetheless, such an extensive volume of information circulating on the internet also presents challenges for human investigators attempting to conduct comprehensive reviews of potentially pertinent data online. Although most human rights fact-finding efforts - even in the pre-digital era - faced the initial challenge of identifying which aspects of the matter to choose from and how to recover them, in open-source investigations such aspects acquire new perspectives. The sheer vastness and dynamic nature of data in the current age expose digital investigations to a multitude of challenges, particularly concerning the investigator's decision-making process. A central facet of this challenge therefore lies in the intricate task of determining which facts are deemed relevant, influencing the investigator's choices regarding the material they opt to review and collect, and of assessing which approaches to employ to collect it.¹⁷⁷

As underlined by Edwards in his contribution to '*Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*', human rights investigators traditionally run into the challenge of extracting the essential details – the 'who, what, where, and when' – of a given human rights situation to then begin crafting a coherent theory of the event that necessitates corroboration and verification.¹⁷⁸ The initial step in addressing this challenge typically involves collecting interviews and testimonies on the context of the events and happenings from victims and witnesses. In this context, despite the inherent - and often expected - biases associated with recounts and testimonies, most of the times witnesses and victims provide investigators with narratives that come into play either in the development of iterative questioning, or the drafting of investigative theories.

Conversely, the employment of open-source methods for human rights fact-finding presents unexpected challenges, as it lacks the structured and human-constructed narrative that could be, in other instances, extracted from the recounts of actors who were physically present during the events being investigated.¹⁷⁹ For instance, a video posted on social media by a bystander witnessing the brutal repression of a protest might be capable of highlighting an abuse of force by the police authorities, but

¹⁷⁶ Rohit Shewale, "Instagram Statistics - Global Demographics & Trends (2024)," DemandSage, December 20, 2023, <https://www.demandsage.com/instagram-statistics/#:~:text=There%20are%20currently%20over%202.4>.

¹⁷⁷ Alexa Koenig and Lindsay Freeman, "Cutting-Edge Evidence: Strengths and Weaknesses of New Digital Investigation Methods in Litigation," *UC Law Journal* 73, no. 5 (July 1, 2022): 1233, https://repository.uchastings.edu/hastings_law_journal/vol73/iss5/4.

¹⁷⁸ Scott Edwards, "Open Source Investigations for Human Rights - Current and Future Challenges," in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 87–104.

¹⁷⁹ Ibid.

its lack of capacity to organize the depicted facts in a chronological and causal structure inevitably complicates the work of human rights practitioners. Indeed, unlike information neatly organized in the framework of a witness' experience, open-source data is recorded and preserved without the interpretative and contextual additional information that informs witness testimony, fundamentally creating a further barrier to the identification of the 'who, what, where, and when' of the situation.

Finding a good 'signal-to-noise' ratio, understood as the balance between meaningful inputs and unwanted, background, inputs coming from the researched environment, has been a paramount objective of human rights investigators since the onset of the doctrine.¹⁸⁰ Yet, in the context of an open-source human rights investigation, the abundance of data does not necessarily represent a vantage point for practitioners, that are instead forced to develop new ways to skim through the 'noise' to instead get to the 'signal' - the 'who, what, where, and when' of the events analyzed.¹⁸¹ If in the realm of 'traditional' human rights investigations the amount of potentially-relevant data was limited to what was readily discoverable through witness accounts, the digital age prompted open-source investigators to employ novel search tools and employ newly-adapted research methodologies.

Among these, the Berkeley Protocol on Digital Open Source Investigations underlined how, to ensure effectiveness, the research practices for human rights investigations in the digital age should be adapted to the specific needs of the online sphere, encompassing an approach that is systematic, and grounded in well-defined research parameters.¹⁸² In the digital age practitioners are indeed more and more forced to master different search engines, tools, and techniques to identify and collect relevant data. In addition to traditional search engines, these novel approaches to research extend to social media platforms and databases, encompassing a series of fundamental elements:

- a. The articulation of precise and defined research parameters to adhere to the principles of objectivity and transparency while conducting research.
- b. The identification of the established elements - 'who, what, where, and when' - from which to start analyzing data.
- c. The development of research criteria to discern between incriminating and exonerating information specific to the investigation.

¹⁸⁰ See, <https://conversational-leadership.net/signal-to-noise-ratio/>

¹⁸¹ Scott Edwards, "Open Source Investigations for Human Rights - Current and Future Challenges," in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 87–104.

¹⁸² Lindsey Freeman, Alexa Koenig, and Eric Stover, "Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law" (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

- d. The precise detailing of research pathways to relevant material, detailing the terms, operators, and search engines that led to the content.¹⁸³

Unlike traditional forms of investigation, open-source research is deliberate, and the best practice frameworks for the identification and collection of evidence therefore require practitioners to strike a balance between maximizing the likelihood of finding relevant materials and minimizing the collection of extraneous information.¹⁸⁴ For instance, circling back to the previous example about the recording of an episode of police brutality during an uprising, investigators tasked with analyzing the frames of open-source materials from the event would have to take into consideration extensive amounts of data with the aim of avoiding to overlook vital information that could identify the perpetrators or the injuries suffered by victims. Best practices for choosing the appropriate range of the research, like those outlined in the Berkeley Protocol on Digital Open Source Investigations, therefore grapple with the paradox according to which a narrow research might lead to the overlooking of important information, but a broader and more inclusive discovery effort might also complicate the identification of relevant materials, underscoring the intricate balance investigators must navigate in the pursuit of uncovering critical information.¹⁸⁵

The intricate nature of open-source data sources presents investigators with a complex and often unstructured information landscape but, even before the collection process begins, these data sources require practitioners to develop nuanced strategies to adapt traditionally established best practices to the needs of the digital realm. According to the Office of the Prosecutor of the International Criminal Court, before initiating any information-gathering process involving interactions with victims or witnesses, such as conducting interviews, capturing photos/videos, or receiving documents, investigators should secure the informed consent of the individuals or entities with whom they are engaging.¹⁸⁶ Informed consent, generally understood as one of the foundational principles of research ethics, was created to ensure that the participants in a research projects would have complete awareness of the implications of their involvement and were willing to engage with it. According to this principle,

¹⁸³ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

¹⁸⁴ Scott Edwards, “Open Source Investigations for Human Rights - Current and Future Challenges,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 87–104.

¹⁸⁵ Ibid.

¹⁸⁶ Office of the Prosecutor of the International Criminal Court, European Union Agency for Criminal Justice Cooperation, and The Genocide Network, “Documenting International Crimes and Human Rights Violations for Accountability Purposes - Guidelines for Civil Society Organisations” (EUROJUST, 2022).

participants should be presented with information about the research, they should provide their consent before entering it, and there should be no exertion of undue influence to secure their agreement.¹⁸⁷

If in traditional human rights investigations the informed consent of victims and witnesses could be obtained relatively easily by investigators and practitioners, in the realm of open-source investigations, which is continuously expanding to include a growing array of data sources like social media data, maintaining the coherence of this funding principle requires additional steps. Indeed, in a landscape in which social media platforms tend to lack mechanisms for users to express preferences concerning how their data will be used, the informed consent of victims and witnesses posting alleged human rights abuses on their social media is often blurred. Such absence fundamentally resulted in the implicit assumption of consent by practitioners that often consider data sourced from social media, or the internet at large, as indirectly presenting consent because of its public character.¹⁸⁸

Further, as the events are often recorded in real time by individuals and bystanders, investigations considering these types of data need to employ particular attention to its lack of curation and professional character. Indeed, the natural focus on achieving timely and extensive documentation by witnesses to a human rights abuse may compromise other ethical considerations like the respect of privacy of other actors pictured. In the context of open-source investigations in conflict-affected areas, where civil society organizations often have relied on remote-based information and communication technologies for data collection, this complexity deepened further because the fundamental impossibility of obtaining informed consent creates an ethical dilemma weighting the risks to the safety of those pictured in the photos/videos and the need to mainstream the content.¹⁸⁹

Therefore, the same acquisition of informed consent, which could once be achieved by investigators through direct contact with witnesses, now demands practices to strike a delicate balance between leveraging data for critical inquiries and safeguarding individual rights and privacy. Investigators in the digital age are more and more being urged to scrutinize the intent and means behind making such data public, taking into consideration not only the verification and authentication of the accounts, but also the human rights implications for individuals depicted in the pieces of evidence. As underlined in the Berkeley Protocol on Digital Open Source Investigations, it is imperative that the information sourced for human rights investigations from the digital sphere is included in advocacy and reporting efforts only when investigators have exhausted all the mechanisms to obtain explicit consent from the involved

¹⁸⁷ University of Oxford, “Informed Consent | Research Support,” University of Oxford, December 2, 2021, <https://researchsupport.admin.ox.ac.uk/governance/ethics/resources/consent>.

¹⁸⁸ Zara Rahman and Gabriela Ivens, “Ethics in Open-Source Investigations,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 250–70.

¹⁸⁹ Joseph Guay and Lisa Rudnick, “Understanding Digital Threats, Risk, and Harm,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 292–313.

parties.¹⁹⁰ The challenges posed by evolving data sources inevitably underscore the need for the improvement of established practice frameworks in order to prioritize not only transparency, verification, and responsible handling of information, but also the acquisition of consent. In the expansive realm of the internet, practitioners often found themselves navigating the complex terrain of obtaining the creator's consent to circumvent potential privacy and security violations by diligently tracing the original source of each content piece obtained during investigations.¹⁹¹

Presuming that the relevant information was identified that informed consent was acquired, and that the collection of evidence took place, the following step for open-source investigators would naturally be that of documenting and preserving said data for its potential use in fact-finding or criminal adjudication. Indeed, as underlined by the Office of the Prosecutor of the International Criminal Court, once the informed consent was obtained, investigators are then tasked with securely preserving the information with the objective of submitting it to the competent authorities in a timely and secure manner.¹⁹² A fundamental step in effective fact-finding efforts, the preservation of potentially incriminating information requires practitioners to:

*“Preserve the integrity of each item and piece of information collected, from the moment it has been obtained to the moment when it is handed over to the competent investigative authorities. During that period, take the necessary measures to ensure that the item and the information collected are not damaged, lost, altered or tampered with.”*¹⁹³

The process of preservation involves the recording of the fundamental characteristics of the data, among which date, time and location of the collection, information about the original source, and an updated record of the chain of access. Such meticulous and systematic management of information represents a crucial aspect in the human rights fact-finding process not only because it guarantees the integrity of the analyzed data, but also because it safeguards the confidentiality and security of the original sources. Since preservation occupies such a central spot in fact-finding initiatives, throughout the years many guidelines have emerged to inform the action of practitioners on the best approaches and practices to its effective development. Among these, the ‘*Commissions Of Inquiry And Fact-Finding Missions On International Human Rights And Humanitarian Law - Guidance And Practice*’ report published by the Office of the High Commissioner for Human Rights of the United Nations underlined how an effective

¹⁹⁰ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

¹⁹¹ Ibid.

¹⁹² Office of the Prosecutor of the International Criminal Court, European Union Agency for Criminal Justice Cooperation, and The Genocide Network, “Documenting International Crimes and Human Rights Violations for Accountability Purposes - Guidelines for Civil Society Organisations” (EUROJUST, 2022).

¹⁹³ Ibid.

information management system often revolves around storage, retrieval, archiving, and preservation of information, emphasizing the need for a structured approach capable of maintaining the confidentiality of information sources and ensure overall information security.¹⁹⁴ As stressed by the ‘*Guidance and Practice*’ report, field staff should promptly document and preserve collected information, carrying on their person only essential information relevant to their tasks to minimize the risks associated with unnecessary exposure of sensitive data.¹⁹⁵

Echoing the suggestion of the OHCHR, the Office of the Prosecutor of the International Criminal Court underlined the importance of labeling, sealing, cataloguing, and storing in constructing the aforementioned information management system.¹⁹⁶ Indeed, according to ‘*Documenting international crimes and human rights violations for accountability purposes: Guidelines for civil society organisations*’, commencing with labeling, the process of preservation strives to identify and classify information, before sealing - in the past physically - the identified content into a version that should not be tampered with.¹⁹⁷ The following steps, namely cataloguing and storing emphasize the systematic character of traditional preservation processes, which often entails an approach capable of blending the above steps for optimal security and accessibility.¹⁹⁸

As underlined by the aforementioned examples and stated by Yvonne Ng, senior archivist at WITNESS, in ‘*Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*’, documentary evidence has historically held particular significance in human rights research, eventually leading to the emergence of practices and protocols for its handling and care.¹⁹⁹ Nonetheless, if traditionally its preservation involved the archiving of documents, folders, and tapes, today information is most commonly captured digitally on databases, drives, phone storages, and social media platforms.

The same example from which we started sketching out our analysis, the trial of Mahmoud Mustafa Busayf Al-Werfalli, is clear representation of the evolution of the preservation landscape and a poignant point from which discuss the changes in established best practices. On July 23, 2017, a 4-minutes-long video depicting the execution, ordered by Al-Werfalli himself, of around twenty individuals deemed to

¹⁹⁴ Office of the High Commissioner for Human Rights of the United Nations, “Commissions of Inquiry and Fact-Finding Missions on International Human Rights and Humanitarian Law,” OHCHR, 2015, https://www.ohchr.org/sites/default/files/Documents/Publications/CoI_Guidance_and_Practice.pdf.

¹⁹⁵ Ibid.

¹⁹⁶ Office of the Prosecutor of the International Criminal Court, European Union Agency for Criminal Justice Cooperation, and The Genocide Network, “Documenting International Crimes and Human Rights Violations for Accountability Purposes - Guidelines for Civil Society Organisations” (EUROJUST, 2022).

¹⁹⁷ Ibid.

¹⁹⁸ Ibid.

¹⁹⁹ Yvonne Ng, “How to Preserve Open-Source Information Effectively,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 143–64.

be terrorists allied with the Islamic State was posted on Facebook.²⁰⁰ The video quickly gained traction online and, not even a month later, it proved fundamental for the issuing of the first ever arrest warrant of the International Criminal Court leveraging data sourced from social media as incriminating evidence. Although a seemingly common procedural development, the Al-Werfalli case is particularly important because, as the trial unfolded, the incriminating videos were promptly deleted from the social media platforms they were once uploaded to. The ICC warrant was therefore based on information that was undoubtedly sourced from social media platforms, but that had been carefully collected, stored, and preserved to guarantee that the impermanence that is typical of digital sources did not impact the efficacy of the judicial action. The Al-Werfalli case represented a fundamental step in the right direction for human rights practitioners in the digital age because it presented them with the need to rethink the traditional - and often short-term - forms of preservation that, although effective in the past, could hold up against the necessities of the digital age.²⁰¹

Indeed, while preserving and maintaining delicate materials is a familiar task for practitioners and archivists based on established practices for the handling and storing of manuscripts, tapes, and recordings, websites and digital materials face a heightened risk of disappearance. When publications get recalled, governments undergo political transitions, or social movements lose momentum, websites may be taken down or lost, giving rise to new imperatives for digital archiving. The crucial role of web archivists is therefore that of capturing and preserving elements of potential interest from the dynamic and ever-changing web.²⁰² Issues relating to the disappearance of content can significantly impact human rights fact-finding efforts, especially when the content involves images or videos that could be employed to identify violations and perpetrators. Nonetheless, even in the case open-source information remains available online, its accessibility can morph and vary through changes in its digital location or the variation in the online file path. For these exact reasons, the preservation of controlled copies of relevant materials and the mechanisms put in place for their survival throughout time have essentially undergone a process of adaptation to the switch from physical archiving to digital archiving.

Digital archiving or preservation, understood by the United Nations Educational, Scientific and Cultural Organization (UNESCO) as the ensemble of processes designed to ensure the accessibility of digital materials, is fundamentally based on finding ways to “*re-present what was originally presented to users by a combination of software and hardware tools acting on data*”.²⁰³ Given the widespread risks

²⁰⁰ Bellingcat, “How a Werfalli Execution Site Was Geolocated,” Bellingcat, October 3, 2017, <https://www.bellingcat.com/news/mena/2017/10/03/how-an-execution-site-was-geolocated/>.

²⁰¹ Yvonne Ng, “How to Preserve Open-Source Information Effectively,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 143–64.

²⁰² Columbia University Library, “Countering Impermanence | Columbia University Libraries,” library.columbia.edu, accessed January 19, 2024, https://library.columbia.edu/about/news/libraries/2018/2018-03-27_Web_Archiving.html.

²⁰³ UNESCO, “Concept of Digital Preservation,” UNESCO, March 28, 2019, <https://en.unesco.org/themes/information-preservation/digital-heritage/concept-digital-preservation>.

concerning means of access to digital materials the goal of managing and preserving them is to ensure their continuity throughout time and safeguard the capacity of users to retrieve the information in its original version. For this reason, preservation in the digital age entail a wider range of steps ranging from the identification of information producers to the categorization of the properties of information.

Unlike the landscape of traditional human rights fact-finding efforts, where the information was directly extracted from witness accounts or physical evidence like reports, statements, and letters, the digital realm is characterized by information that passes through the intermediary of online portals. Social media platforms and online newspapers represent therefore intermediaries between witnesses and investigators, fundamentally requiring the latter to engage them in the process of collection and preservation. Identified by the UNESCO as the first step in digital preservation, working with producers of information, whether through informal approaches or agreements, is crucial for investigators to define standards to guarantee the permanence of online data, identify means of access, and delineate the possibilities to employ said information for their own purposes.²⁰⁴ When working with content producers whose practices have been approved by the preserving entity, archives identify not only the specifics of the custody process, but also put in place additional evaluations of the authenticity of information, fundamentally enhancing preservation efforts, reducing the risks related to unreliable data, and ensuring a more comprehensive collection and examination of the submitted assets.²⁰⁵

Having potentially outlined an agreement with content hosting providers, and therefore having officially started the preservation of relevant information, the traditional labeling process seems to also be experiencing changes to adapt to the needs of the digital age. Indeed, digital assets and information are characterized by specific sets of properties that guarantee their capacity to reliably document alleged human rights violations. The maintenance of said properties somewhat mirrors the labeling process for what concerned the preservation of physical evidence, as it lays the groundwork to categorize the aspects of digital information that should be preserved, identify the potential threats to assess, and outline the ways to do so. Yvonne Ng, in *'Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability'*, echoed the findings of Sally Vermaaten, Brian Lavoie, and Priscilla Caplan in employing the Simple Property-Oriented Threat (SPOT) Model for Risk Assessment to categorize the properties of digital information that must be guaranteed by preservation efforts.²⁰⁶ Vermaaten, Lavoie, and Caplan stressed how the core function of a preservation repository is to *"ensure the availability, identity, persistence, renderability, understandability, and authenticity of digital objects over time"*, underlining how the key elements in current digital

²⁰⁴ Ibid.

²⁰⁵ Yvonne Ng, "How to Preserve Open-Source Information Effectively," in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 143–64.

²⁰⁶ Ibid.

preservation standards and strategies seem to drift away from the traditional methods to instead embrace approaches designed to secure the long-term survival of digital materials.²⁰⁷

Availability, understood as the property that guarantees the long-term use of a digital asset, represents the core requirement of preservation efforts, pertaining not only to the retrievability of the piece of evidence in question, but also to its stance in regards to intellectual property.²⁰⁸ Nonetheless, the availability of a piece of evidence is practically worthless if investigators are not able to distinguish it from other sources and retrieve it. In pre-digital times the identity of a source was often retrieved by browsing through thematic archives but, in the current day and age, such property, fundamentally referring to the ability of the source to be referenced, unfolds through metadata like its nomenclature, its date of creation, or its contributors.²⁰⁹

Presupposing that a source is both available and identifiable, the previous considerations have highlighted how the impermanence of the digital sphere can negatively affect the reliability of fact-finding efforts. For this very reason, the property of persistence, understood by Vermaaten, Lavoie, and Caplan as the capacity of “*a digital object [to] continue to exist in a usable/processable state, and [to be] retrievable/processable from the medium on which they are stored*” is essential to guarantee the serviceability of the retrieved information.²¹⁰

If persistence represented the capacity of sources to keep existing, renderability and understandability indicate, respectively, the ability of users to interact with the object and to comprehend it. Indeed, given the extensive and continuous developments in digital technologies, file formats, software, and hardware often become obsolete, requiring preservation technologies to keep up with their advancements through processes like migration to more modern software or the identification of complementary information.²¹¹ Finally, the importance of authenticity, the property that guarantees that a specific digital object is what it is presumed to be, represents a fundamental asset in the process of human rights fact-finding as the veracity and reliability of information is a primary aspect in the identification of human rights violations. As such, authenticity serves as a guarantee to users that “*the digital object managed and disseminated by the repository is a faithful replica of the digital object that was originally ingested*

²⁰⁷ Sally Vermaaten, Brian Lavoie, and Priscilla Caplan, “Identifying Threats to Successful Digital Preservation: The SPOT Model for Risk Assessment,” *D-Lib Magazine* 18, no. 9/10 (September 2012), <https://doi.org/10.1045/september2012-vermaaten>.

²⁰⁸ Ibid.

²⁰⁹ Yvonne Ng, “How to Preserve Open-Source Information Effectively,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 143–64.

²¹⁰ Sally Vermaaten, Brian Lavoie, and Priscilla Caplan, “Identifying Threats to Successful Digital Preservation: The SPOT Model for Risk Assessment,” *D-Lib Magazine* 18, no. 9/10 (September 2012), <https://doi.org/10.1045/september2012-vermaaten>.

²¹¹ Yvonne Ng, “How to Preserve Open-Source Information Effectively,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 143–64.

*into the repository; or alternatively, that any modifications to the original digital object that have occurred since ingest have been carefully documented”.*²¹²

The Reference Model for an Open Archival Information System (OAIS), created in 2005 to establish a comprehensive consensus on the archival prerequisites to ensure the long-term preservation of digital information and facilitate the development of further standards in the realm of digital preservation, represents an optimal attempt to infuse the safeguards to the properties defined by Vermaaten, Lavoie, and Caplan in a preservation methodology.²¹³ Employing a methodology capable of incorporating the aforementioned properties, the OAIS defined a functional model for archival and preservation in which various aspects like provenance, sources, file paths, rights information and identification data come together to guarantee effective preservation of the properties of availability, identity, persistence, renderability, understandability, and authenticity for digital assets.²¹⁴ Nonetheless, the ever-changing character of the digital sphere and the emergence of new technologies is proving to require an equally malleable working framework to guarantee adaptability and the capacity to evolve.

In the realm of human rights fact-finding, the preservation of collected evidence is paramount for the identification of potential violations and, because of how deeply it is embedded in the research process, guidelines have emerged over the years to inform practitioners on best practices and methodologies to guarantee a structured approach to the safeguarding of security and data integrity. Nonetheless, the emergence of the digital open-source research and the progressive switch from physical to digital evidence undoubtedly introduced new challenges related mainly to the impermanence of online content. The digital age has therefore gradually redefined how information is classified, stored, and preserved, creating the premises for the adoption of modernized preservation strategies that have brought to the forefront of the discussion the necessity to rethink traditional preservation in the face of digital challenges. Embodied by endeavors like those undertaken by the OAIS, such developments do not necessarily represent a parting point from traditionally established best practices, highlighting instead the need to ensure continuity with the original orienting principles, while still adapting them to the dynamic digital landscape. Employing a flexible approach to the ways in which traditional practices develop on the field would allow practitioners to adapt not only to emerging technologies and evolving standards, but also to mitigate the human rights implications and risks arising in digital open-source research.

²¹² Sally Vermaaten, Brian Lavoie, and Priscilla Caplan, “Identifying Threats to Successful Digital Preservation: The SPOT Model for Risk Assessment,” *D-Lib Magazine* 18, no. 9/10 (September 2012), <https://doi.org/10.1045/september2012-vermaaten>.

²¹³ OAIS Reference Model, “OAIS Reference Model (ISO 14721),” OAIS Reference Model (ISO 14721), accessed January 20, 2024, <http://www.oais.info>.

²¹⁴ Yvonne Ng, “How to Preserve Open-Source Information Effectively,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 143–64.

While commonly viewed as the means through which the international community pursues improvement in the realm of human rights, fact-finding processes have, since their onset, been scrutinized for their damaging potential to the human rights of those connected to the investigative process. Indeed, as capable as fact-finding efforts are in uncovering violations, if they are undertaken without proper due diligence measures, they can negatively impact the fundamental freedoms of witnesses, participants to the research, and of investigators themselves. For this exact reason the concept of due diligence, understood by the United Nations Development Program as the ensemble of processes to “identify, prevent, mitigate and account for how [to] address adverse human rights impacts” has progressively emerged in best practices frameworks as an essential step in identifying relevant human rights issues and groups potentially concerned by the investigation.²¹⁵ According to Taylor, Zandvliet, and Forouhar the due diligence process, in order to be successful, integrates the investigation of the facts and the evaluation of said facts in alignment with the pertinent standards of practice, requiring investigators to adopt an ad-hoc approach capable of understanding what information to seek and how to assess the disclosed facts.²¹⁶

As due diligence became prominent in the human rights landscape, best practices also started developing to systematize its application in investigative endeavors. As underlined by the Office of the Prosecutor of the International Criminal Court and EUROJUST, the preparative section of a human rights investigation should feature a thorough analysis of the operational environment with the objective of highlighting not only the alleged criminal activities, involved parties, and potential perpetrators, but also the vulnerabilities of the population, and relevant socio-cultural, political, religious factors that could negatively be impacted by the investigation.²¹⁷ In particular, the aforementioned guidelines stressed the importance of conducting risk assessment before - but also throughout - the investigation, with a particular focus on risks, preventative, mitigating, and reactive measures.²¹⁸ Among these risks, instances of intimidation or retaliation by oppressive governmental forces, political and economic pressure, as well as societal rejection or persecution represent some of the common consequences that inappropriate investigative practices could give rise to, requiring investigators to implement measures not only to mitigate them, but also to respond to them in the event they happen.²¹⁹

²¹⁵ UNDP, “Human Rights Due Diligence : An Interpretative Guide” (UNDP, 2022).

²¹⁶ Taylor, Mark B., Luc Zandvliet and Mitra Forouhar. 2009. “Due Diligence for Human Rights: A Risk-Based Approach.” Corporate Social Responsibility Initiative Working Paper No. 53. Cambridge, MA: John F. Kennedy School of Government, Harvard University.

²¹⁷ Office of the Prosecutor of the International Criminal Court, European Union Agency for Criminal Justice Cooperation, and The Genocide Network, “Documenting International Crimes and Human Rights Violations for Accountability Purposes - Guidelines for Civil Society Organisations” (EUROJUST, 2022).

²¹⁸ Ibid.

²¹⁹ Jay D. Aronson, “Mobile Phones, Social Media and Big Data in Human Rights Fact-Finding Possibilities, Challenges, and Limitations,” in *The Transformation of Human Rights Fact-Finding*, ed. Philip Alston and Sarah Knuckey (Oxford University Press, 2016), 441–62.

In the digital age, the principles on which the framework of best practices for human rights due diligence was built, among which the paramount idea of causing no harm to involved parties, undoubtedly remain the unvaried. What progressively evolved as open-source methods became embedded in human rights fact-finding were the actors and rights potentially endangered by investigations, and how investigators are to respond to these risks. Indeed, in the realm of digital open source investigations, a wider range of stakeholders - ranging from subjects of the data, to the producers and sharers of said data, as well as those receiving and engaging with the data - may be impacted.²²⁰ As underlined by Aronson, the advent of social media has provided repressive governments and groups with the tools to monitor, identify and persecute individuals documenting crimes and advocating for human rights through a form of digital surveillance that is facilitated by the security limitations of social media platforms.²²¹ In a context in which the security of witnesses could be compromised by the vulnerabilities of the digital sphere, the implications for human rights investigators therefore require the modification of workflows to collect and mainstream information according to informed consent and the respect for the privacy of individuals, especially in the face of potential risks stemming from governments or non-state actors.²²²

Privacy concerns do not pertain only to a specific section of the open-source human rights investigation, having instead an overarching influence on the success - or failure - of human rights due diligence processes. Indeed, from the moment of discovery of the information to the publication of the results of the analysis, investigators are tasked with carefully evaluating the risks to the actors captured in open-source evidence. If public exposure can lead to criminal adjudication for perpetrators, it can lead to further harm for others, highlighting the importance of a continuous evaluation of security and privacy risks, starting at the earliest stages of open-source investigations and developing through content assessment to evaluate whether there are risks being mitigated or consent to be obtained before publication.²²³

As previously underlined, lack of respect for witnesses' privacy and security could lead to violations of other forms of rights, among which the rights to freedom from torture, inhuman, or degrading treatment, to liberty and, in the most extreme cases, to life. Therefore, as open-source information is prepared and analyzed for future release to the public investigators have the agency to act to preserve these rights by, for instance, disassociating the data of the recorded from the final product, blurring out the distinctive

²²⁰ Sam Dubberley and Gabriela Ivens, "Outlining a Human-Rights Based Approach to Digital Open Source Investigations: A Guide for Human Rights Organisations and Open Source Researchers" (University of Essex - Human Rights Center, March 2022), <https://repository.essex.ac.uk/32642/1/Outlining%20a%20Human-Rights%20Based%20Approach%20to%20Digital%20Open%20Source%20Investigations.pdf>.

²²¹ Jay D. Aronson, "Mobile Phones, Social Media and Big Data in Human Rights Fact-Finding Possibilities, Challenges, and Limitations," in *The Transformation of Human Rights Fact-Finding*, ed. Philip Alston and Sarah Knuckey (Oxford University Press, 2016), 441–62.

²²² Sam Dubberley and Gabriela Ivens, "Outlining a Human-Rights Based Approach to Digital Open Source Investigations: A Guide for Human Rights Organisations and Open Source Researchers" (University of Essex - Human Rights Center, March 2022), <https://repository.essex.ac.uk/32642/1/Outlining%20a%20Human-Rights%20Based%20Approach%20to%20Digital%20Open%20Source%20Investigations.pdf>.

²²³ Ibid.

features of background bystanders, or seeking clarification concerning sources and consent.²²⁴ The rights to life and freedom from torture, inhuman, or degrading treatment in particular represent two of the foundational aspects of the human rights system that could be jeopardized by inappropriate investigative strategies that could escalate the risk to individuals' lives and integrities.²²⁵ Similarly, considerations surrounding the rights to liberty for individuals depicted in open-source content has progressively become paramount in the context of digital human rights investigations, requiring efforts to address and mitigate potential risks and underscoring the necessity for continuous due diligence processes in open-source investigations.

Taking the shape of comprehensive risk assessment before the beginning of the investigation and regular impact assessments for each research stage, these processes are indispensable in upholding ethical standards and ensuring the well-being of individuals involved in the documentation process.²²⁶ The ethical dilemmas faced by investigators, faced with ever-changing contexts and uncertainties surrounding the potential risks faced by individuals across the world created logistical challenges but also provided avenues for the development of novel adaptive and malleable approaches to consent acquisition and the respect of the fundamental freedoms of witnesses.²²⁷ Ad underlined by Rahman and Ivens in '*Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*':

“There are deep power disparities between the various actors engaged in open-source investigations, [that], combined with the responsibility that human rights practitioners have towards the people they work with— and for— sometimes result in serious ethical challenges”.²²⁸

Human rights investigations in the digital age find themselves having to employ traditionally-accepted ethical principles in a practical landscape that widely differs from the one where they were conceived. Adaptation and evolution therefore represent the only viable answers to the challenges posed by open-source information, requiring established best practices framework to develop alongside the growing pace of technology. Echoing these necessities, instruments like the Berkeley Protocol on Digital Open-Source Investigations have attempted to outline practical guidelines capable of upholding human rights

²²⁴ Zara Rahman and Gabriela Ivens, “Ethics in Open-Source Investigations,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 250–70.

²²⁵ Sam Dubberley and Gabriela Ivens, “Outlining a Human-Rights Based Approach to Digital Open Source Investigations: A Guide for Human Rights Organisations and Open Source Researchers” (University of Essex - Human Rights Center, March 2022), <https://repository.essex.ac.uk/32642/1/Outlining%20a%20Human-Rights%20Based%20Approach%20to%20Digital%20Open%20Source%20Investigations.pdf>.

²²⁶ Ibid.

²²⁷ Zara Rahman and Gabriela Ivens, “Ethics in Open-Source Investigations,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 250–70.

²²⁸ Ibid.

in the ever-changing context of the online sphere. Nonetheless, although adaptation strategies allowed practitioners to view novel challenges through the lenses of established mechanisms, the digital age has proven capable of presenting the human rights system with aspects that it was not prepared to face, at least until recently.

Uncharted Territories: Reformulation for Progress

In an era virtually defined by the pervasive presence of the digital age, the landscape of human rights fact-finding has undoubtedly undergone a deeply transformative evolution. From the advent of social media to the ever-present gaze of digital cameras, many elements have ushered in an unprecedented era of information accessibility, presenting investigators and prosecutors with novel challenges. Amidst this technological tsunami, practitioners have found themselves grappling with the complexities of open-source methods, for which the scaffolding of standardized procedures and well-defined practices is at times insufficient. Such deficiency is particularly pronounced in the experience of those who engage with investigative processes themselves, who often traverse the ocean of open-source data with self-taught competencies drawn from different fields of practice.

The previously-stressed dichotomy between the evolving digital landscape and traditional best practices underscores the need for transformative change in the very building blocks of the investigative process: the background training of practitioners. Indeed, the dynamics of open-source investigations fundamentally demand a paradigmatic shift in the approach of investigators to their very own practice. From the very foundational principles of human rights research to the intricacies of open-source fact-finding techniques, the training needs of investigators have evolved and require institutions, organizations, and training bodies to keep up with the pace of the technological terrain.

Indeed, given the overall novelty of social media platforms and camera enabled smartphones, investigators in different fora have underlined an overall scarcity in formal training to open-source research. Having to rely on competencies deriving from other fields of practice, human rights fact-finders have underlined the negative impacts of the absence of well-established formative processes for open-source research, stressing instead the ensuing vulnerabilities that render their research efforts susceptible to verification and authentication faults.²²⁹ Unlike for traditional investigative processes, the shift towards digital technologies in open-source investigations has required a recalibration of formative methodologies that goes beyond mere proficiency with digital tools, to instead encompass the interplay between technology and human rights.

²²⁹ Alexa Koenig and Lindsay Freeman, “Cutting-Edge Evidence: Strengths and Weaknesses of New Digital Investigation Methods in Litigation,” *UC Law Journal* 73, no. 5 (July 1, 2022): 1233, https://repository.uchastings.edu/hastings_law_journal/vol73/iss5/4.

As highlighted by Daragh Murray, Yvonne McDermott, and Alexa Koenig in ‘*Mapping the Use of Open Source Research in UN Human Rights Investigations*’, in the constantly-evolving landscape of digital investigations practitioners across diverse sectors have stressed the pressing need for comprehensive trainings in open-source techniques.²³⁰ Reflecting not only the overall deficiency of avenues to keep up with the dynamic nature of the field, but also the mission-specific and objective-related character of training efforts, such perspectives underscore how investigators tend to face relevant challenges in acquiring the necessary skills to conduct effective open-source investigations.²³¹ For instance, while missions operating under the umbrella of the United Nations might benefit from the Methodology, Education, and Training Unit (MET) of the OHCHR, which works to develop materials and resources to support human rights training efforts, practitioners within mission-specific contexts have underscored the need to integrate the knowledge they acquired in their objective-tailored trainings into wider education frameworks.²³² This limited capacity to guarantee the employability of knowledge and competencies across missions and contexts has been previously denounced by Mauhmoud Cherif Bassiouni, Egyptian-American jurist and emeritus professor of law at DePaul University, who underlined how:

*“No manual exists to describe how an investigation should be conducted and there is no standard, though adaptable, computer program to input collected data. Worst of all, there is no continuity. In short, there is nothing to guide, instruct, or assist the heads and appointees to these missions of how to better carry out their mandates.”*²³³

Looking back at Bassiouni’s reprimand, formalized and system-wide training opportunities are currently emerging, with organizations like Bellingcat, WITNESS and Amnesty International, as well as education facilities like the University of California Berkeley’s Human Rights Center offering capacity-building opportunities for investigators tackling open-source research.²³⁴ International institutions like the United Nations’ OHCHR have also echoed these commitments by taking commendable steps in addressing the aforementioned training gaps through attempts at systematizing

²³⁰ Daragh Murray, Yvonne McDermott, and Alexa Koenig, “Mapping the Use of Open Source Research in UN Human Rights Investigations,” *Journal of Human Rights Practice* 14, no. 2 (April 23, 2022): 554–81, <https://doi.org/10.1093/jhuman/huab059>.

²³¹ Ibid.

²³² Rob Grace and Claude Bruderlein, “Developing Norms of Professional Practice in the Domain of Monitoring, Reporting, and Fact-Finding,” in *The Transformation of Human Rights Fact-Finding*, ed. Philip Alston and Sarah Knuckey (Oxford University Press, 2016), 525–41.

²³³ M. Cherif Bassiouni, “Appraising UN Justice-Related Fact-Finding Missions,” *Washington University Journal of Law & Policy* 5, no. 1 (January 1, 2001): 035–49, https://openscholarship.wustl.edu/law_journal_law_policy/vol5/iss1/6.

²³⁴ See, Bellingcat, “Resources,” [bellingcat](https://www.bellingcat.com/category/resources/), accessed January 26, 2024, <https://www.bellingcat.com/category/resources/>. See also, WITNESS, “WITNESS Resources,” WITNESS, accessed January 26, 2024, <https://www.witness.org/resources/>. See also, Amnesty International, “Amnesty International Online Courses,” Amnesty International, accessed January 26, 2024, <https://www.amnesty.org/en/get-involved/online-courses/>. See also, University of California Berkeley’s Human Rights Center, “Trainings and Workshops | Human Rights Center,” [humanrights.berkeley.edu](https://humanrights.berkeley.edu/resources/trainings-and-workshops), accessed January 26, 2024, <https://humanrights.berkeley.edu/resources/trainings-and-workshops>.

capacity-building that engage the same NGOs and civil society bodies that pioneered digital open-source research.²³⁵

Nonetheless, although these capacity-building opportunities are progressively emerging in the field, their scale is still somewhat limited compared to its demand. Indeed, the element of continuity represents a fundamental steppingstone in developing novel methodological guidelines and training opportunities that are capable to keep up with the dynamic nature of the digital landscape.²³⁶ With the digital age requiring a holistic and multi-level approach to the training of investigators and practitioners, the overall underdevelopment of capacity-building avenues emphasizes the need for further development of educational approaches.

One of the aspects on which a good portion of training efforts have focused on throughout the years, and that has undoubtedly underlined how the digital age-imposed reformulation on established best practice frameworks revolves around the concept of ‘bias’. Defined by the Pennsylvania State University as “any thought or action that discriminates or disproportionately favors one person or group of people over another based on superficial or inaccurate perceptions of the person or group”, bias has been an aspect that characterized human rights fact-finding from its onset.²³⁷ Indeed, in the context of human rights fact-finding, biases could be linked to any distortion in the identification, collection, and analysis of data due to interfering factors or procedural elements, that could in turn affect the design, development, or outcome of an investigation.²³⁸ Mostly known as ‘cognitive biases’, these systematic errors in processing and interpreting information tend to inform and influence the decision-making process, leading to potential distorted conclusions due to the inaccurate perception of the investigator.²³⁹ As such, doctrine and practice started becoming aware of how these preconceived perceptions of facts, truths, and timelines of specific human rights situations could be informed by external factors like previous work experiences, assimilated data, and personal points of view.²⁴⁰ Instances like the ‘Unconscious Bias Training’ developed by Atewologun, Cornish, and Tresh for the Equality and Human Rights Commission or the American Bar Association’s guide on how to confront bias in the

²³⁵ Daragh Murray, Yvonne McDermott, and Alexa Koenig, “Mapping the Use of Open Source Research in UN Human Rights Investigations,” *Journal of Human Rights Practice* 14, no. 2 (April 23, 2022): 554–81, <https://doi.org/10.1093/jhuman/huab059>.

²³⁶ Ibid.

²³⁷ Pennsylvania State University, “Bias: The Basics | Addressing Bias,” www.knowyourrightsandresponsibilities.psu.edu, 2021, <https://www.knowyourrightsandresponsibilities.psu.edu/pages/bias/bias-the-basics>.

²³⁸ Yvonne McDermott, Alexa Koenig, and Daragh Murray, “Open Source Information’s Blind Spot: Human and Machine Bias in International Criminal Investigations,” *Journal of International Criminal Justice* 19, no. 1 (March 2021), <https://doi.org/10.1093/jicj/mqab006>.

²³⁹ Sergio Da Silva, Rashmi Gupta, and Dario Monzani, “Editorial: Highlights in Psychology: Cognitive Bias,” *Frontiers in Psychology* 14 (July 3, 2023), <https://doi.org/10.3389/fpsyg.2023.1242809>.

²⁴⁰ Risse Mathias. "Discrimination, Cognitive Biases and Human Rights Violations". Carr Center Discussion Paper Series. 2019006th ed. Cambridge: Carr Center for Human Rights Policy (2019).

criminal justice system, represent just a few examples of the global attempts to identify and control biases for the advancement of human rights.²⁴¹

Nonetheless, as the digital age impacted the realm of human rights investigations, traditional forms of cognitive bias have been supplemented by novel forms of bias that have prompted practitioners to rethink their investigative best practices. Identifying its foundational aspects in the identification, acquisition, and preservation of digital evidence, the landscape of open-source investigations presents unique sets of bias-related challenges wherein the pursuit of information has to necessarily pass through the lenses of technological means.²⁴² Identified by the National Center for Biotechnology Information as the types of bias that are unrelated to cognitive processes or analytical shortcomings, ‘technical bias’ is intricately linked to the characteristics and behaviors of tools, materials, and procedures employed in the research process.²⁴³ Often accompanying and intertwining with other cognitive biases, technical bias frequently result in overlapping effects whose consequences for the efficacy of the human rights investigation are detrimental.²⁴⁴

Open-source investigations entail, at every step of the way, a deep interconnection with external technical means, starting from the querying of internet search engines, social media platforms, and online databases. All these avenues for research, while offering a wide variety of sources and materials for investigators to draw from, also often operate on the basis of algorithms determining the priority of search results and of which sources are spot lit over others on the basis of the popularity of research terms, of the traffic of a given webpage, of the special and temporal location of the data, and even the investigator’s previous research patterns. The inherent biases of each platform’s algorithm, which at times can reproduce power imbalances based on gender, ethnicity, religion, sexual orientation and many other factors, could lead investigators to fundamentally overlook relevant information.²⁴⁵ As previously mentioned, technical bias often accompanies and intertwines with other forms of bias, namely cognitive bias, as the reliance of investigators on specific research approaches is firstly informed by their very

²⁴¹ See, Doyin Atewologun, Tinu Cornish, and Fatima Tresh, “Unconscious Bias Training: An Assessment of the Evidence for Effectiveness” (Equality and Human Rights Commission, March 2018), <https://www.equalityhumanrights.com/sites/default/files/research-report-113-unconscious-bais-training-an-assessment-of-the-evidence-for-effectiveness-pdf.pdf>. See also, American Bar Association, “How to Confront Bias in the Criminal Justice System,” Americanbar.org, December 2019, <https://www.americanbar.org/news/abanews/publications/youraba/2019/december-2019/how-to-confront-bias-in-the-criminal-justice-system/>.

²⁴² Yvonne McDermott, Alexa Koenig, and Daragh Murray, “Open Source Information’s Blind Spot: Human and Machine Bias in International Criminal Investigations,” *Journal of International Criminal Justice* 19, no. 1 (March 2021), <https://doi.org/10.1093/jicj/mqab006>.

²⁴³ Philip Hunter, “Technical Bias and the Reproducibility Crisis,” *EMBO Reports* 22, no. 2 (January 25, 2021), <https://doi.org/10.15252/embr.202052327>.

²⁴⁴ Ibid.

²⁴⁵ Yvonne McDermott, Alexa Koenig, and Daragh Murray, “Open Source Information’s Blind Spot: Human and Machine Bias in International Criminal Investigations,” *Journal of International Criminal Justice* 19, no. 1 (March 2021), <https://doi.org/10.1093/jicj/mqab006>.

own cognitive bias and secondly by the technical bias deriving from the platform they chose to employ for their investigation.

Selection bias in particular, which for the purpose of our discussion will be identified as the distortion in the research occurring when the relevance of actors or factors in a study drastically differ from the actual situation on the ground, optimally underscores the overlapping between cognitive and technical biases.²⁴⁶ Selection biases have been present in traditional human rights fact-finding for decades, where intermediaries like witnesses and victims somewhat shape and inform the discovery of alleged human rights violations and crimes by recounting the events as they perceived it.²⁴⁷ As such, selection bias in traditional forms of investigation could be grouped under the umbrella of cognitive bias but in open-source investigations, generally praised for their capacity to give echo to a wider variety of perspectives, selection bias re-emerges also as an example of technical bias. More ‘visible’ crimes like widespread destruction tend to have the primacy over more covert abuses like gender-based violence and torture on open-source platforms because witnesses are more prone to record and share their consequences and because technical algorithms might flag the latter as unsuitable for their platforms.²⁴⁸

As such, the traditionally-established frameworks of best practices, which ruled that fact-finders should actively prevent any perceptions of bias in their inquiry by making concerted efforts to gather testimonies from all segments of the population and through independence and impartiality, in the context of open-source investigations, such unbiased character remains a challenging objective.²⁴⁹ As such, in order to limit the impact of such biases, practitioners in the digital age have developed mitigation strategies to guarantee the impartiality of their search efforts. From the employment of private networks and ‘blank’ profiles to guarantee the absence of search history influences, to the incorporation of culture and language sensitive search approaches, passing through the deletion of cookies, these incorporations in the framework of best practices allowed practitioners to keep up with the continuous evolution of new technologies.²⁵⁰

Having identified a potential instance of human rights abuse, having taken all the necessary precautions against biases, and having collected all the testimonies and data required by the assessment process, investigators find themselves tasked with confirming the accuracy of the information they gathered.

²⁴⁶ D Nunan, C Bankhead, and JK Aronson, “Selection Bias,” Catalog of Bias, 2018, <https://catalogofbias.org/biases/selection-bias/>.

²⁴⁷ Yvonne McDermott, Alexa Koenig, and Daragh Murray, “Open Source Information’s Blind Spot: Human and Machine Bias in International Criminal Investigations,” *Journal of International Criminal Justice* 19, no. 1 (March 2021), <https://doi.org/10.1093/jicj/mqab006>.

²⁴⁸ Ibid.

²⁴⁹ Office of the High Commissioner for Human Rights of the United Nations, “Commissions of Inquiry and Fact-Finding Missions on International Human Rights and Humanitarian Law,” *OHCHR*, 2015, https://www.ohchr.org/sites/default/files/Documents/Publications/Col_Guidance_and_Practice.pdf.

²⁵⁰ Yvonne McDermott, Alexa Koenig, and Daragh Murray, “Open Source Information’s Blind Spot: Human and Machine Bias in International Criminal Investigations,” *Journal of International Criminal Justice* 19, no. 1 (March 2021), <https://doi.org/10.1093/jicj/mqab006>.

Such process, commonly identified as ‘verification’, is central to the fact-finding process and it “depends on corroborating the information provided by one source with that sought from other independent sources”.²⁵¹ As such, verification entails the evaluation of the reliability and validity of a specific piece of information for the purpose of fortifying the findings of a human rights fact-finding effort.

According to Office of the Special Representative of the Secretary-General for Children and Armed Conflict (OSRSG-CAAC), United Nations Children’s Fund (UNICEF) and United Nations Department of Peacekeeping Operations (DPKO), verification processes traditionally encompassed a threefold approach based on source identification, cross-checking, and the analysis of the veracity of the information.²⁵² The primary and paramount step in verification processes, the identification and weighting of sources, spotlighting primary sources such as witnesses, is often followed by the cross-checking of data through the collected recounts of other primary and secondary sources to provide a comprehensive and corroborated understanding of the incident in question.²⁵³ The third and final step in the traditional forms of verification usually entails the analysis of the veracity of the findings, through the interpretative judgement of the investigators that, using the findings of the research, put together the insights of the sources to guarantee the reliability of the results.²⁵⁴

Nonetheless, in the digital age, where evidence derives more and more from social media content, video frames, and website metadata, the verification phase often involves confirming the reliability of user-generated content, encompassing new details for which best practices had to rethink their very own procedural structure. From confirming details concerning time and location, to the evaluation of the veracity and originality of a photo or video, the challenges arising in verifying user-generated content are novel and diverse and, as of the time of writing, no universal approach has been identified to systematize the framework.²⁵⁵ In a context in which ad-hoc procedures seem to have primacy, the identification of general guidelines and standards, as well as the capacity of investigators to be creative in their use of technology, serve as starting points to rethink the traditional framework of best practices.

As underlined by the Berkeley Protocol on Digital Open Source Investigations, digital verification combines data from open-source and closed-source research, fundamentally comprising three key

²⁵¹ Navanethem Pillay, “Human Rights Investigations and Their Methodology - Lecture by UN High Commissioner for Human Rights,” United Nations, February 24, 2010, <https://www.un.org/unispal/document/auto-insert-197324/>.

²⁵² Office of the Special Representative of the Secretary-General for Children and Armed Conflict, United Nations Children’s Fund, and United Nations Department of Peacekeeping Operations, “FIELD MANUAL - Monitoring and Reporting Mechanism (MRM) on Grave Violations against Children in Situations of Armed Conflict,” 2014, https://childrenandarmedconflict.un.org/wp-content/uploads/2016/04/MRM_Field_5_June_2014.pdf.

²⁵³ Ibid.

²⁵⁴ Ibid.

²⁵⁵ Aric Toler, “How to Verify and Authenticate User-Generated Content,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 185–227.

elements: source analysis, technical analysis, and content analysis.²⁵⁶ The initial step, source analysis, involves the evaluation of the credibility and reliability of online data to discern between the relevant and irrelevant information and, most importantly, determining the source of the information and the potential users behind the content uploaded.²⁵⁷ While the analysis of the sources tends to look at the identifying characteristics of the information, the technical analysis instead focuses on examining the digital item itself to assess its integrity, reliability, and potential alterations in order to verify whether there have been any manipulation to its foundational structure.²⁵⁸ Lastly, content analysis wraps up the digital verification process, assessing the authenticity and veracity of information withing the images, digital documents, and videos.²⁵⁹

Entailing a wide variety of digital competencies, among which geolocation and time-stamping, content analysis situates potential evidence in the landscape of the investigation. Geolocation, which for the purpose of this study will indicate the use of technology in the identification of where digital content was recorded or uploaded, involves cross-referencing topographical details in open-source data with reference points such as satellite imagery to establish the reliability of the claims of the content.²⁶⁰ The crucial role of geolocation became particularly prominent in 2014, when a video depicting a boy allegedly saving a peer from crossfire was linked to the Syrian conflict and quickly went viral as the entire world turned to applaud the bravery of the child depicted in the frames. Yet, as McPherson underlines in *‘Digital Human Rights Reporting by Civilian Witnesses: Surmounting the Verification Barrier’*: “[...] in a shocking turn of events the BBC uncovered the video’s cinematic origins [...] Using funding from the Norwegian Film Institute and Arts Council Norway, a Norwegian director and his team shot the video in Malta on a set used in blockbuster films *Troy* and *Gladiator*.”²⁶¹

To verify user-generated content, locating the video in time as well represents a fundamental step for investigators, with timing being often fundamental to ascertain the timeline of events and potentially claim criminal responsibility for perpetrators. As underlined in the Berkeley Protocol on Digital Open Source Investigation, chronolocation involves validating the timeline of events depicted in data like videos and pictures through the analysis of shadow lengths created by sunlight, the position of the sun, the vegetation surrounding the scene and other relevant aspects.²⁶² Notably, in verifying the videos that

²⁵⁶ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

²⁵⁷ Ibid.

²⁵⁸ Ibid.

²⁵⁹ Ibid.

²⁶⁰ Aric Toler, “How to Verify and Authenticate User-Generated Content,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 185–227.

²⁶¹ McPherson, Ella. *Digital Human Rights Reporting by Civilian Witnesses: Surmounting the Verification Barrier*. (2015)

²⁶² Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human

eventually brought the ICC to put out an arrest warrant for Mahmoud Mustafa Busayf Al-Werfalli, the alleged commander of the Al-Saiqa Brigade of the Libyan National Army, the team of Bellingcat employed both geolocation and chronolocation, using the position of the sun and different stills from satellite imagery to identify not only the location of many execution sites but the timeline of the events as well.²⁶³ It therefore seems clear how the content analysis is often the most lengthy in the process as it involves the analysis of digital clues and their corroboration with external data, allowing investigators to truly comprehend the relevance of a specific piece of information in the environment of the investigation.

Human rights fact-finders in the digital age are tasked with evaluating user-generated content documenting alleged human rights violations but the very nature of such content, its user-generated character, introduces novel questions concerning its reliability and authenticity, prompting best practices frameworks to evolve in order to reign in the power of the online sphere without being overwhelmed by its drawbacks.²⁶⁴ Disinformation, misinformation, altered videos and photographs, as well as AI generated content and deepfakes, can drastically impact the health of fact-finding efforts, requiring careful verification on the basis of new and improved standards of practice that necessarily represent a parting point from the previously-established OSRSG-CAAC standards. Nonetheless, the novel requirements brought upon by the digital revolution do not pertain only to the efficacy of fact-finding efforts but also to their human rights implications to the actors involved.

Indeed, while the expansion in the technological capacities has revolutionized fact-finding, offering practitioners with a timely and global bird-eye view of the human rights situation of virtually any context, they also introduce risks to the individuals involved with the research, whether as witnesses or as investigators. The operational context of open-source investigations might have allowed researchers to track abuses in real-time, access remote locations, approach sources, and collect evidence in unprecedented ways but, as open-source investigators experiment with collecting, preserving, and disseminating information, there's a risk of inadvertently causing harm to ourselves and those around us. As underlined by Guay and Rudnick in *'Digital Witness - Using Open-Source Information for Human Rights Investigation, Documentation, and Accountability'*, contemporary open-source investigations are affected both by the malicious exploitation of communication networks and

Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

²⁶³ Bellingcat, “How a Werfalli Execution Site Was Geolocated,” Bellingcat, October 3, 2017, <https://www.bellingcat.com/news/mena/2017/10/03/how-an-execution-site-was-geolocated/>.

²⁶⁴ Aric Toler, “How to Verify and Authenticate User-Generated Content,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 185–227.

communication systems by threat actors, and by the unintended harms that might arise by inappropriate investigative efforts and the mishandling of sensitive information.²⁶⁵

Having already underlined the problematic aspects of conducting investigative efforts without taking into consideration the peculiarities of the digital sphere in the previous section, we will now turn our attention to the problematic exploitation of digital platforms by threat actors to surveil and intrude on investigators, as well as to weaponize information against researchers. The practice of the ICC underlined how, given the challenging environment in which many fact-finders operate, acknowledging potential risks and exercising the necessary due diligence to prevent exposing the staff, information providers, intermediaries, and other engaged actors to safety risks is of primary importance.²⁶⁶ Echoing the findings of the ICC, the United Nations OHCHR stressed the importance of preemptively assessing the security of the location, for instance by deploying a security team to the field ahead of fact-finding missions to:

“Establish preliminary contacts, identify victims, witnesses and other important sources of information, and examine the general security conditions [...], assess protection options and the extent to which the commission/mission may seek the cooperation of persons without jeopardizing their safety, and put in place safety arrangements for high-risk cases.”²⁶⁷

On the opposite end of the spectrum, open-source investigations do not usually have access to the area under inquiry and often begin their research from freely available sources online, therefore the analysis of potential threat actors and the identification of preventative measures can hardly follow the beaten path and has required a profound reformulation as digital sphere practitioners are exposed to a much wider range of risks that inevitably prompted traditionally-established best practices to evolve and morph. Indeed, digital investigators tend to engage in the scrutiny of digital platforms to ascertain the context of alleged violations, identify perpetrators and their interconnections, as well as to geolocate sites of presumed abuses and gain insights on situations of vulnerability. All these steps, which undoubtedly provide investigators with extensive amounts of information on the identify of perpetrators, victims, and potential witnesses to collect, store, and transmit inevitably transform investigators into targets for repressive governments, opposition groups, and perpetrators, that might

²⁶⁵ Joseph Guay and Lisa Rudnick, “Understanding Digital Threats, Risk, and Harm,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 292–313.

²⁶⁶ Office of the Prosecutor of the International Criminal Court, European Union Agency for Criminal Justice Cooperation, and The Genocide Network, “Documenting International Crimes and Human Rights Violations for Accountability Purposes - Guidelines for Civil Society Organisations” (EUROJUST, 2022).

²⁶⁷ Office of the High Commissioner for Human Rights of the United Nations, “Commissions of Inquiry and Fact-Finding Missions on International Human Rights and Humanitarian Law,” OHCHR, 2015, https://www.ohchr.org/sites/default/files/Documents/Publications/CoI_Guidance_and_Practice.pdf.

employ various methods, both intrusive and non-intrusive, to surveil actors engaged in open-source investigations.²⁶⁸

As underlined by the Berkeley Protocol on Digital Open Source Investigations, security threats are factors that fundamentally exploit vulnerabilities, whether intentionally or accidentally, to access, damage, or destroy relevant assets to the investigators.²⁶⁹ Threat actors often attempt to access the aforementioned vulnerabilities through Distributed Denial-of-Service (DDoS) and phishing attacks.²⁷⁰ Defined respectively as attacks aimed at disrupting the target's access to a network, and fraudulent attempts to obtain sensitive information by posing as a trustworthy entity, these security threats have been extensively documented and their implications are fundamentally paralyzing.²⁷¹ These malicious efforts possess the capacity to not only compromise the investigative efforts but to also compromise an investigator's identity and location, potentially putting at risk not only those involved with the fact-finding but also those they have been in contact with to recover information.²⁷² As many organizations handle information related to victims, witnesses, locations, and evidence, such attacks could endanger the safety and lives of those involved, as they would be exposed to potential reprimands or persecution.²⁷³

To contrast such threats, resources like the Berkeley Protocol have progressively identified avenues for the practice to develop and evolve that often take the shape of protection measures. Identified as actions implemented to reduce the aforementioned vulnerabilities, these measures encompass physical, technological and procedural guidelines to safeguard not only sensitive materials but also those involved with it.²⁷⁴ From simple encryption and multifactor authentication, to the implementation of access control and stabilized chains of custody, these approaches impact internal and external regulations that, although representing a definite step away from traditional risk assessment and management best practices, still allow the framework to live on while guaranteeing security.²⁷⁵

²⁶⁸ Joseph Guay and Lisa Rudnick, "Understanding Digital Threats, Risk, and Harm," in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 292–313.

²⁶⁹ Lindsey Freeman, Alexa Koenig, and Eric Stover, "Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law" (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

²⁷⁰ Ibid.

²⁷¹ Ibid.

²⁷² Joseph Guay and Lisa Rudnick, "Understanding Digital Threats, Risk, and Harm," in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 292–313.

²⁷³ Ibid.

²⁷⁴ Lindsey Freeman, Alexa Koenig, and Eric Stover, "Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law" (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

²⁷⁵ Ibid.

Navigating Change: Striking the Balance and Ways Forward

In the ever-evolving landscape of human rights fact-finding, the paramount need to strike the right balance between the need to adapt and the need to reformulate best practice frameworks to face the challenges posed by the digital age emerges as a consideration of primary importance. Indeed, the effectiveness of these frameworks, initially developed to guide the endeavors of human rights practitioners, now hinges not only on their capacity to adapt to the peculiarities of the digital age - where information is now preserved on digital archives and privacy concerns become paramount - but also on their contextual relevance, that progressively underlined a deep need for reformulation and evolution.

The surge in technological advancements, marked by the emergence of social media platforms and camera-enable phones, has ushered in a new era of information accessibility where open-source methods became instrumental in unraveling human rights abuses. Nonetheless, such advancements have also brought forth complexities that demand a nuanced and dynamic approach, capable of building upon the traditional scaffolding of standardized procedures, but also of looking into avenues for transformative shifts when such frameworks prove insufficient to tackle the various facets of the online sphere.

First and foremost, we stressed the drastic changes experienced by preservation and archival processes in the digital age. Indeed, as technology evolved, the traditional forms of preservation fundamentally became obsolete, pushing practitioners to develop new ingenious ways to guarantee the availability, identity, persistence, renderability, understandability, and authenticity of digital objects over time. Another critical aspect that has come under scrutiny as digital open-source methods became the prominent approaches to human rights fact-finding is the pervasive influence of bias. Defined not only by cognitive processes but also by technical elements, bias in the digital age poses unique challenges in open-source investigations as the well-established best practices for preventing bias in traditional fact-finding must be recalibrated to address the technical bias introduced by algorithms, social media platforms, and digital tools. Indeed, cognitive biases, albeit inherent to the human approach, found new dimensions in the digital realm as they intersect with technical biases introduced by the research engines chosen by investigators. Having understood the pressing challenge posed by biases, mitigation strategies have started to emerge, promoting the employment of private networks, 'blank' profiles, empty search histories, and the integration of culture and language-sensitive search approaches.

We have then moved to underline how the dichotomy between the evolving digital landscape and entrenched best practices underscored the profound need to reform the foundations of capacity-building for human rights fact-finding. As open-source research demands proficiency not only in the strictly technological aspects of digital tools but also in the delicate interplay between technology and human rights, the overall absence of formalized and systemic training in open-source methods fundamentally

left investigators to rely on competencies deriving from disparate fields and diverse experiences. While progress has been achieved with international organizations and institutions offering diverse capacity-building opportunities, the scale of these initiatives still falls short of the burgeoning demand for a systemic approach integrating mission-tailored trainings into wider education frameworks.

Further, one of the very cornerstones of fact-finding efforts, verification, has recorded a fundamental shift as the digital age came about. Indeed, the influx of user-generated content, primarily sourced from social media platforms, has introduced novel challenges that traditional verification processes were not designed to address. From disinformation and misinformation to AI-generated deepfakes, the reliability and authenticity of digital evidence progressively became the focal point of academic research, prompting a fundamental reevaluation of established verification methodologies. Converging data from open-source and closed-source research, modern-day verification focuses on source analysis, technical analysis, and content analysis, as well as geolocation and chronolocation, to assess the accuracy of digital evidence.

While the digital age has undoubtedly expanded the capacities of fact-finding efforts, it has also introduced unprecedented risks, particularly for investigators and involved parties. Indeed, the operational context of open-source investigations, characterized by remote research, exposes investigators and witnesses to a broader range of security risks, among which monitoring and persecution by repressive regimes, opposition groups, and perpetrators. The many attempts of these actors to exploit technical vulnerabilities through digital attacks, posing a severe threat to the safety and identity of investigators and their sources, have led to the emergence of growing efforts to develop preemptive risk assessment and due diligence processes for the safety of everyone involved in the fact-finding process.

As we navigate the waters of open-source research, one aspect that progressively became evident is that the effectiveness of best practices frameworks is intrinsically tied to the contextual nuances of each investigation. A one-size-fits-all approach is inevitably inadequate to address the diverse challenges presented by diverse contexts, investigative scopes, and technological landscapes. As each investigation unfolds within a unique set of circumstances, fundamentally demanding a contextualized application of best practices, the evolving complexities of open source-investigations identify a critical need to strike the right balance between adaptation and reformulation of traditional best practices frameworks. Indeed, the effectiveness of these frameworks lies in their ability to adapt to technological shifts while remaining attuned to the contextual intricacies of each investigation. As the digital landscape continues to shape the future of human rights investigations, a commitment to flexibility, continuous learning, and a nuanced understanding of context will be pivotal in ensuring the integrity and success of investigative efforts.

In the following Chapter we will therefore attempt to present a series of human rights-based strategies to tackle the challenges identified in the preceding sections, to then unveil a framework for digital evidence collection and documentation capable of ensuring the fundamental integrity and employability of evidence in digital investigations. Exploring the delicate balance of preserving rights while conducting thorough human rights investigations in the digital era, the Chapter will particularly emphasize the need for flexible and adaptable approaches, attempting to put forth methodological guidelines rather than procedural precepts.

Adaptive Strategies for Incorporating Digital Evidence in Human Rights Investigations

The unstoppable tsunami of technological advancements has undoubtedly reshaped the terrain of human rights investigations, fundamentally creating unprecedented complexities arising from the overwhelming amount of available data, the pervasive influence of social media platforms, as well as the revolutionary impact of new technologies. The ensuing paradigmatic shift in investigative methodologies has been discussed at length in the previous sections and we will now attempt to unveil a framework crafted to increase the capacity of conventional best practices in the collection, preservation, and analysis of human rights in the challenging realm of digital investigations.

While time-tested, traditional investigative methods now find themselves grappling with inadequacies when confronted with the sheer volume and dynamic nature of digital data, calling for responses that are simultaneously structured and adaptable. Indeed, a critical aspect underscored by the previous analysis is the delicate equilibrium required to preserve the core tenets of human rights while navigating the complexities introduced by the digital era. As such, our framework attempts to confront the challenge of striking this balance by employing the concept of structured flexibility.

Defined by Brinkerhoff and Ingle as an approach combining the positive features of both the blueprint and process model, structured flexibility represents an approach capable of avoiding dysfunctional rigidities to instead embrace the systematization of the fluidity of ever-changing processes.²⁷⁶ As such this blend of structure and adaptability represents an innovative approach to investigative methodologies, recognizing the dynamic nature of digital evidence and offering a roadmap that is both rooted in traditional principles and adaptable to the evolving challenges presented by the digital age.

As the advent of the digital age demands a response transcending the boundaries of conventional investigative practices, we attempt to build on recent literature to develop a comprehensive compass for investigators traversing the landscape of digital technology. Such framework would ideally serve a steppingstone towards what Alexa Koenig, adjunct professor at UC Berkeley School of Law and co-faculty director of the Berkeley Human Rights Center, identified as the next step in the doctrine of open-source methodologies for human rights research. As underlined by Murray, McDermott, and Koenig in *‘Mapping the Use of Open-Source Research in UN Human Rights Investigations’*, having focused until now on the development of minimum standards, benchmarks, and baseline expectations for open-source

²⁷⁶ Derick W. Brinkerhoff and Marcus D. Ingle, “Integrating Blueprint and Process: A Structured Flexibility Approach to Development Management,” *Public Administration and Development* 9, no. 5 (November 1989): 487–503, <https://doi.org/10.1002/pad.4230090503>.

research, the field is progressively turning to the development of best practices on the basis of the principles and minimum standards set down in instruments like the Berkeley Protocol.²⁷⁷

For this reason, as we delve deeper into the subsequent sections, we will attempt to unpack the orienting principles, preparatory steps, and investigative methodologies, putting together each facet of a framework aimed at providing practical guidance to ensure that human rights investigations remain resilient, ethical, and effective, in the face of evolving and intricate digital landscapes. By first outlining the foundational principles of effective and ethics-centered human rights fact-finding in digital landscapes we will identify how the heritage of traditional best practices has evolved to address the unique characteristics of digital evidence, such as those related to the interplay between technology and human rights.

Orienting Principles: Navigating the Intersection of Human Rights and Digital Evidence

The growing presence of openly-accessible online resources in international human rights proceedings, gradually echoed by local and international fact-finding missions, as well as courts, underlined a progressive acknowledgement by authorities and bodies of the need to tap into the potential of the digital sphere for the advancement of human rights.²⁷⁸ Such acknowledgement inevitably led to the development of practice by bodies all over the world attempting to identify the practices through which effectively turn to social media and user-generated content to advance their human rights documentation efforts. Ranging from the identification of novel research methods to the promotion of innovative preservation avenues, and the collection of testimonies, the interplay between human rights and digital evidence is becoming more and more prominent, underscoring the need for structural guidance.

As underlined by Koenig and Freeman in their contribution to ‘*Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*’, investigators traditionally collect information in three main categories when constructing cases: (1) physical evidence, encompassing items like murder weapons or soil samples, (2) testimonial evidence, including witness accounts and expert testimony, and (3) documentary evidence, such as contracts, written orders, photographs, statements, and videos.²⁷⁹ As digital communication channels are progressively overtaking traditional ones, practitioners all over the world are recognizing the value of digital open-source information to complement their investigative processes and, most importantly for our

²⁷⁷ Daragh Murray, Yvonne McDermott, and Alexa Koenig, “Mapping the Use of Open Source Research in UN Human Rights Investigations,” *Journal of Human Rights Practice* 14, no. 2 (April 23, 2022): 554–81, <https://doi.org/10.1093/jhuman/huab059>.

²⁷⁸ Alexa Koenig and Lindsay Freeman, “Open Source Investigations for Legal Accountability,” in *Digital Witness Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Daragh Murray, and Alexa Koenig (Oxford University Press, 2022), 331–42.

²⁷⁹ Ibid.

discussion, they are identifying a series of principles in which contemporary open-source research practices are grounded.²⁸⁰

Foundational principles have constituted the backbone of human rights action since the adoption of the Universal Declaration on Human Rights in 1948 and, although novel approaches are being implemented in the practice, some of the original foundations of human rights work still stand strong in light of digital human rights investigations. Indeed, as stressed by the *Berkeley Protocol for Digital Open-Source Investigations*, although the technologies, tools, and techniques employed in open-source investigations may undergo changes, certain overarching methodological and ethical principles should remain constant to guarantee the efficacy and ethical underpinnings of these efforts.²⁸¹ Identifying 3 families of principles, namely (1) professional principles, (2) methodological principles, and (3) ethical principles, the contributors to the Protocol particularly noted how the ensuing principles play a fundamental role in ensuring the quality of open-source investigations, enhancing not only their credibility, reliability, and capacity to ensure accountability, but also their capacity to move towards the professionalization of the field of open-source research.²⁸²

As previously discussed, the relative novelty of digital open-source research and the overall reduced scope of training opportunities for practitioners, has led many investigators to rely on self-taught competencies and skills deriving from disparate fields of work.²⁸³ Understood therefore as those principles identifying the fundamental characteristics of the ideal open-source practitioners, the professional principles outlined by the Berkeley Protocol serve as guidelines for the definition of the figure of the investigator. Among the wide variety of principles falling under the umbrella of ‘professional principles’, for the purpose of our analysis the principles of (1) impartiality, (2) accountability (2), and legality (3), should orient the work of practitioners engaging in open-source research.

‘Impartiality’, as emphasized by the International Committee of the Red Cross, is rooted in the ethical belief that all human beings possess equal rights despite differing circumstances.²⁸⁴ Acting without bias based on factors such as ethnicity, nationality, or political allegiance is therefore essential for

²⁸⁰ Ibid.

²⁸¹ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

²⁸² Ibid.

²⁸³ Alexa Koenig and Lindsay Freeman, “Cutting-Edge Evidence: Strengths and Weaknesses of New Digital Investigation Methods in Litigation,” *UC Law Journal* 73, no. 5 (July 1, 2022): 1233, https://repository.uchastings.edu/hastings_law_journal/vol73/iss5/4.

²⁸⁴ Marion Harroff-Tavel, “Neutrality and Impartiality—the Importance of These Principles for the International Red Cross and Red Crescent Movement and the Difficulties Involved in Applying Them,” *International Review of the Red Cross* 29, no. 273 (December 1989): 536, <https://doi.org/10.1017/s0020860400074878>.

investigators to maintain ethical standards and avoid prejudices.²⁸⁵ Applicable to all investigations, whether conducted in the physical or digital realm, the principle of impartiality pushes practitioners to recognize the potential impact of personal, cultural, and structural biases on their work, as well as to take any necessary measure to counter them.²⁸⁶ As previously explained, online investigations are extremely susceptible to bias deriving from the online sphere's inherent algorithm-based architecture, with factors such as search engines, research terms, user history and location, as well as information disparities potentially influencing the research process. In order for impartiality to be fully realized, open-source investigators should therefore employ diversified methodologies, such as running multiple search queries and using various search engines and browsers, to mitigate the potential influence of bias.²⁸⁷ For digital open-source investigations to be successful mitigation plans - which entail the employment of multiple working hypotheses, the collection of both incriminating and exonerating evidence, and the preemptive identification and mitigation of bias - prove to be fundamental.²⁸⁸

According to the UNESCO Digital Library, human rights and fundamental freedoms tend to have two facets, one referring to the "normative content owed to rights holders" and one to "the corresponding obligations of duty bearers".²⁸⁹ For this reason, 'accountability' refers to the rights holders' ability to "hold duty bearers to account according to their obligations".²⁹⁰ In the context of open-source investigations, the principle of accountability forms the bedrock for the evidentiary validity of the conclusions reached and it is based on the transparency of the methods employed to identify, document, and preserve data.²⁹¹ Fully realized once practitioners employ methods to maintain comprehensive records of their activities, covering every stage from identification of relevant material through collection, analysis, and reporting, the principle of accountability guarantees the existence of transparent procedures, fostering trust and credibility in the research process.²⁹²

²⁸⁵ Ibid.

²⁸⁶ Lindsey Freeman, Alexa Koenig, and Eric Stover, "Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law" (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

²⁸⁷ Alexa Koenig and Lindsay Freeman, "Open Source Investigations for Legal Accountability," in *Digital Witness Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Daragh Murray, and Alexa Koenig (Oxford University Press, 2022), 331–42.

²⁸⁸ Ibid.

²⁸⁹ Action AiAlexa Koenig and Lindsay Freeman, "Open Source Investigations for Legal Accountability," in *Digital Witness Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Daragh Murray, and Alexa Koenig (Oxford University Press, 2022), 331–42. d International, Right to Education Initiative, and UNESCO, "Accountability from a Human Rights Perspective: The Incorporation and Enforcement of the Right to Education in the Domestic Legal Order," *UNESCO Digital Library* (UNESCO, 2017), <https://unesdoc.unesco.org/ark:/48223/pf0000259560>.

²⁹⁰ Ibid.

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²⁹² See, Sam Dubberley and Gabriela Ivens, "Outlining a Human-Rights Based Approach to Digital Open Source Investigations: A Guide for Human Rights Organisations and Open Source Researchers" (University of Essex - Human Rights Center, March 2022), <https://repository.essex.ac.uk/32642/1/Outlining%20a%20Human-Rights%20Based%20Approach%20to%20Digital%20Open%20Source%20Investigations.pdf>. See also, Lindsey Freeman, Alexa Koenig, and Eric Stover, "Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective

Building upon the underpinnings of the principle of ‘accountability’, the principle of ‘legality’ focuses on the legal and jurisdiction-specific aspects of the investigation. As the purpose of most human rights fact-finding efforts is that of pursuing redress for alleged human rights abuses, open-source investigators often find themselves having to comprehend not only the legal context in which they operate, but also that in which the information they retrieve will be employed. Notably, as underlined by Koenig and Freeman, a notable challenge for open-source investigators lays in the potential violations of platform terms of service arising from improper investigative practices.²⁹³ Such practices, if in violation of laws, such as privacy regulations, may lead to the exclusion of critical information from national and international proceedings.²⁹⁴ In *Open-Source Research in Human Rights Investigations*, we particularly underlined developments in the ICC’s admissibility criteria, stressing how the process of identifying, collecting, and preserving digital information needs to adhere to the Court’s standards to not jeopardize the reliability of data or undermine the integrity of proceedings.

If ‘professional principles’ underscore the fundamental characteristics embodied by open-source investigators, ‘methodological principles’ instead define the foundations of the research process itself. Encompassing a wide range of procedural precepts, open-source methodologies should be oriented by the principles of (1) accuracy, (2) data minimization, and (3) preservation. ‘Accuracy’, understood as the need for investigators to prioritize truthfulness and precision throughout the investigative process, is fundamental to ensure the reliability and transparency of the research process.²⁹⁵ As such, the employment of rigorous methodologies, peer reviews, and bias minimization constitute the stepping stone to accurate, analytical conclusions.²⁹⁶ Yet, if ‘accuracy’ underscores the critical need for thorough and detail collection and analysis, ‘data minimization’ tends on the other hand to advocate for the judicious collection and processing of digital information, prompting investigators to align this process with the relevance and necessity for the purpose of the investigation.²⁹⁷ Therefore, building upon the methodological underpinnings of the principle of ‘accuracy’, ‘data minimization’ strives for meticulous approaches to prevent over-collection, a phenomenon that, although inherent to any investigative effort, is particularly present in digital ones given the almost-infinite pool of data to draw from.

Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

²⁹³ Alexa Koenig and Lindsay Freeman, “Open Source Investigations for Legal Accountability,” in *Digital Witness Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Daragh Murray, and Alexa Koenig (Oxford University Press, 2022), 331–42.

²⁹⁴ Ibid.

²⁹⁵ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

²⁹⁶ Ibid.

²⁹⁷ Ibid.

In *Adaptation or Reformulation: The Dilemma of Best Practices* we touched upon the critical relevance of preservation procedures for open-source investigations. Indeed, in the digital realm, storing information has progressively become a fundamental aspect of practitioners' work as content is more and more impermanent and accessibility is not always guaranteed.²⁹⁸ For this reason the principle of preservation, developed to ensure that potentially relevant pieces of evidence are not lost among the midst of the research, has emerged as a vital step in open-source research endeavors. To guarantee the accessibility and usability of data for future accountability efforts, digital material requires active and careful preservation in both the short and long term, underscoring the importance of a meticulous and timely approach to evidence preservation in open-source investigations, addressing ethical, legal, and technical facets to uphold the integrity and reliability of collected data.²⁹⁹

Yet, as much as open-source represents a powerful tool to uncover alleged human rights abuses, its employment also brings forward a spectrum of challenges related to the ethical underpinnings of the techniques it employs and the methodologies it applies. Aspects like socio-economic disparities, the gender divide, or differentiated power structures extend from the investigators themselves to the individuals represented in the data sets, often giving rise to intricate ethical dilemmas.³⁰⁰ In order to address these ethical challenges, comprehensive approaches like that employed by the Berkeley Protocol encompass the life-cycle of the investigation as a whole, shaping the behaviors of investigators through each step of the way and pushing for the identification of a balance between information seeking and the protection of human rights.³⁰¹ Among these, (1) independence, (2) equality, and (3) ethics contribute to orienting the work of investigators to credible and ethical human rights research.

As underlined by the contributors to the Berkeley Protocol, preserving the independence of the investigative processes emerges as a paramount ethical consideration for open-source investigators, fundamentally demanding practitioners to stay vigilant to shield investigations from inappropriate influences. Such process involves the identification, avoidance, or mitigation of any perceived conflict of interest and influence through transparency into methodological approaches, analytical connections and funding sources.³⁰² For non-governmental organizations, guaranteeing the independence of the

²⁹⁸ Yvonne Ng, "How to Preserve Open-Source Information Effectively," in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 143–64.

²⁹⁹ Alexa Koenig and Lindsay Freeman, "Open Source Investigations for Legal Accountability," in *Digital Witness Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Daragh Murray, and Alexa Koenig (Oxford University Press, 2022), 331–42.

³⁰⁰ Zara Rahman and Gabriela Ivens, "Ethics in Open-Source Investigations," in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 250–70.

³⁰¹ Ibid.

³⁰² Lindsey Freeman, Alexa Koenig, and Eric Stover, "Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law" (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

investigative process may involve judiciously scrutinizing and, if necessary, limiting or rejecting funding from entities with potential interests in the outcomes of cases under investigation or peer reviewing their work to preserve the legitimacy of their findings.³⁰³ Yet, if the principle of ‘independence’ plays a role in preserving the legitimacy of the investigation as a whole, the principle of ‘equality’ introduces a nuanced consideration for practitioners engaging in open-source investigations. As the reliance on online open-source methods might inadvertently amplify certain abuses while marginalizing others, a key concern centers around the need for investigation to attempt to adopt a bird-eye view of the context under analysis.³⁰⁴ Indeed, as investigators find themselves grappling with the risk of overlooking crimes against less visible or advantaged groups, the principle of equality ensures that their investigative focus remains broad and inclusive in terms of geographic scope, of the abuses analyzed, and of the societal discrepancies affecting open-source research.³⁰⁵ Nonetheless as underlined by Koenig in ‘*The New Forensics - Using Open Source Information To Investigate Grave Crimes*’, the entirety of the investigative process should be permeated by ethical practices.³⁰⁶ Commonly understood as the invisible string passing running through each step of any investigation, ethical practice pushes practitioners to approach every piece of information with a mindset that is sensitive to the vulnerabilities of those who experienced abuses for the information to be mainstreamed. Capable of considering how people's rights are impacted by both the procedural aspects and the ultimate outcomes of open-source investigations, such an approach has been identified by Rahman and Ivens as encompassing two underlying principles, namely “(1) *just because you can does not mean you should, and (2) the ends do not necessarily justify the means*”.³⁰⁷

Broadly speaking, each family of principles enumerated above shares a common commitment to the overarching principle of security. Indeed, as underlined in section 3.4, *Uncharted Territories: Reformulation for Progress*, security threats are factors that fundamentally exploit vulnerabilities, whether intentionally or accidentally, to access, damage, or destroy relevant assets to the investigators.³⁰⁸ For this exact reason, in gathering open-source information, addressing physical and

³⁰³ Alexa Koenig and Lindsay Freeman, “Open Source Investigations for Legal Accountability,” in *Digital Witness Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Daragh Murray, and Alexa Koenig (Oxford University Press, 2022), 331–42.

³⁰⁴ Yvonne McDermott, Alexa Koenig, and Daragh Murray, “Open Source Information’s Blind Spot: Human and Machine Bias in International Criminal Investigations,” *Journal of International Criminal Justice* 19, no. 1 (March 2021), <https://doi.org/10.1093/jicj/mqab006>.

³⁰⁵ Alexa Koenig and Lindsay Freeman, “Open Source Investigations for Legal Accountability,” in *Digital Witness Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Daragh Murray, and Alexa Koenig (Oxford University Press, 2022), 331–42.

³⁰⁶ Alexa Koenig, “THE NEW FORENSICS Using Open Source Information to Investigate Grave Crimes” (Human Rights Center, UC Berkeley School of Law, July 1, 2018), <https://humanrights.berkeley.edu/publications/new-forensics-using-open-source-information-investigate-grave-crimes>.

³⁰⁷ Zara Rahman and Gabriela Ivens, “Ethics in Open-Source Investigations,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 250–70.

³⁰⁸ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human

digital security concerns emerges as a cornerstone as approaching the digital sphere requires strategic approaches to avoid collateral damage to practitioners themselves, as well as all those actors involved with the investigative process. Even before getting to the point of collecting evidence, good practice requires organizations to meticulously contemplate potential security risks—physical, digital, and psycho-social—that may ensue from accessing, viewing, and handling such information and to train investigators with information security trainings.³⁰⁹

Preparatory Steps: Planning in the Digital Terrain

As the guiding precept overseeing the design and development of any human rights fact-finding effort, the principle of security represents the first of a series of steppingstones whose objective is that of safeguarding the well-being of investigators, sources, and data alike. In the intricate interplay between human rights fact-finders and the digital sphere, the first step is not the collection of evidence, but instead the meticulous definition of preparatory steps. Fundamentally serving as a trampoline for successful fact-finding, these steps lay the groundwork upon which digital investigators build their approaches, demanding a proactive and strategic approach to the distinctive challenges of the digital age.

Considering the teachings of the security principle, the adoption of a human rights-based approach (HRBA) to research could represent the first step for human rights organizations willing to anticipate and mitigate the potential adverse human rights implications of their endeavors. Entailing a detailed due diligence process, a HRBA approach to human rights fact-finding would first and foremost entail the identification of rights and groups potentially affected by abuses, to then delve into the prevention and mitigation of said abuses, and the creation of mechanisms for accountability in case these mechanisms failed.³¹⁰ As the initial step of any due diligence process, identification generally requires practitioners to acquire a nuanced understanding of vulnerable human rights and the potential impact of the research

Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

³⁰⁹ See, Alexa Koenig and Lindsay Freeman, “Open Source Investigations for Legal Accountability,” in *Digital Witness Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Daragh Murray, and Alexa Koenig (Oxford University Press, 2022), 331–42. See also, Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

³¹⁰ Sam Dubberley and Gabriela Ivens, “Outlining a Human-Rights Based Approach to Digital Open Source Investigations: A Guide for Human Rights Organisations and Open Source Researchers” (University of Essex - Human Rights Center, March 2022), <https://repository.essex.ac.uk/32642/1/Outlining%20a%20Human-Rights%20Based%20Approach%20to%20Digital%20Open%20Source%20Investigations.pdf>.

on diverse groups, helping them to align their work with the needs of those vulnerable to such abuses, such as victims, witnesses, colleagues, and bystanders.³¹¹

Within the digital realm this preemptive and identification-oriented phase of the investigation process entails an exhaustive digital threat assessment, fundamentally going beyond the identification of traditional physical risks to delve into the intricate domain of digital vulnerabilities. Indeed, as they approach the online sphere, investigators are tasked with examining potential threats related to data security, personal safety, and to the integrity of the investigative process.

Multifaceted in nature and ranging from direct cyber-attacks aimed at compromising sensitive information to more nuanced threats associated with the involuntary exposure of the identities of victims and witnesses, digital risks require the presence of cohesive digital risk assessments. Defined by the Berkeley Protocol as a process that mixes “elements of traditional threat analysis, such as identifying all potential threat actors, assessing the interests and capabilities of those threat actors” as well as novel and online-related elements like “the probability of attack, considering vulnerabilities and putting protection measures in place to minimize those vulnerabilities”, digital threat assessments embody a forward-looking perspective that is pivotal in fortifying the investigative process against the evolving landscape of digital threats.³¹²

Formulating strategies to mitigate risks, whether physical, digital, or psychosocial, involves a wide spectrum of online approaches, ranging from the continuous monitoring of sources and targets, to the progressive extraction of data from web pages and social media platforms, passing through the identification of the necessary cybersecurity-related steps for the protection of the investigator’s working space.³¹³ Notably, echoing the findings of the contributors to the Berkeley Protocol, the Office of the Prosecutor of the International Criminal Court and EUROJUST emphasized the necessity for digital investigators to conduct a security assessment of the digital landscape before embarking on any online activities. Entailing the definition and implementation of digital infrastructures capable to safeguard not only the researching entity, but also external sources, pertinent third parties, and the documentation process as a whole, this assessment is based on diverse recommendations.³¹⁴ Such recommendations include avoiding the use of personal equipment, considering virtual machines,

³¹¹ United Nations, “Guiding Principles on Business and Human Rights Implementing the United Nations ‘Protect, Respect and Remedy’ Framework” (United Nations, 2011), https://www.ohchr.org/sites/default/files/documents/publications/guidingprinciplesbusinesshr_en.pdf.

³¹² Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

³¹³ Ibid.

³¹⁴ Office of the Prosecutor of the International Criminal Court, European Union Agency for Criminal Justice Cooperation, and The Genocide Network, “Documenting International Crimes and Human Rights Violations for Accountability Purposes - Guidelines for Civil Society Organisations” (EUROJUST, 2022).

providing training to relevant personnel, operating under the assumption that online activities may be monitored by third parties, and striving for anonymity and non-attribution whenever possible.³¹⁵

Underscoring the overall need to secure the integrity of the investigative process in the digital sphere, these precautionary measures are often followed by efforts to understand the digital landscape in which the investigation will take place. These fundamentally build upon established international practices of traditional human rights fact-finding such as those defined by the OHCHR, which underline the importance in traditional forms of human rights fact-finding of gathering relevant preliminary information about:

*“The context in which the incidents or events under investigation occurred: history, Government and political structures, political parties, judiciary, economic issues, constitution and laws, structure of security forces and police, ethnic groups, culture and religion, position of women in society and information on influential actors, including foreign Governments. [...]”*³¹⁶

A landscape assessment, defined by the United States Agency for International Development as the process of “surveying the most relevant institutions, actors, and processes as well as the laws, policies, and strategies that make up the human rights landscape in a particular country” represents indeed a fundamental preparatory step to provide effective assistance to those in need and foster the well-being of human rights.³¹⁷ As navigating the digital sphere represents probably the most important aspect of a successful open-source research, ‘digital’ landscape assessments prove fundamental. Understood as the mapping of the terrain where the investigation will unfold, a successful digital landscape assessment would entail the identification of not only the major online platforms of communication and information sharing, but also of the dynamics and working mechanisms of online spaces.

Nonetheless, in the realm of open-source research, comprehending the working mechanisms of the online sphere requires an ad-hoc approach that can adapt to the diverse contexts of digital activity. As underscored by the contributors to the Berkeley Protocol, in investigations focusing on war crimes, practitioners might need to acquire conflict-related information by victims, witnesses, or even involved parties to properly understand aspects like the positioning of factions or the timelines of their actions.³¹⁸

³¹⁵ Ibid.

³¹⁶ Office of the High Commissioner for Human Rights of the United Nations, “Commissions of Inquiry and Fact-Finding Missions on International Human Rights and Humanitarian Law,” OHCHR, 2015, https://www.ohchr.org/sites/default/files/Documents/Publications/CoI_Guidance_and_Practice.pdf.

³¹⁷ United States Agency for International Development, “Human Rights Landscape Analysis Tool - Guidance on Identifying Key Issues and Entry Points for Human Rights Programming” (USAID, June 2016), https://pdf.usaid.gov/pdf_docs/PBAAE633.pdf.

³¹⁸ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

Moreover, in an era dominated by social media, investigators find themselves faced with the necessity to understand the demographics of online users and with the often-daunting realization that user-generated digital content, particularly on social media, might not capture the full scope of violations against all individuals and groups. As previously mentioned, factors like gender, ethnicity, religion, age, socioeconomic status, and geographic location can result in certain segments of society - and the abuses they experience - being invisible online.

It is precisely on these nuances that the attention of investigators focuses, with investigative teams attempting more and more to consider factors like frequently used search engines, popular social media platforms, websites, internet penetration, popular applications, and telecommunications providers to enhance their capacity to comprehend the contexts under analysis and designing online research strategies capable of addressing the limitations of online data.³¹⁹

Having exhausted the initial identification-oriented efforts, a HRBA to human rights fact-finding would then proceed to develop strategies to avert the potential human rights abuses and mitigate their consequences.³²⁰ In the specific context of digital open-source research such efforts would entail the consideration of how the investigative efforts can attend to their mandate while also minimizing the harm to those involved in the process. As underlined in section 3.2, *Overcoming Obstacles: Adapting Best Practices Frameworks to the Digital Realm*, and 3.3, *Uncharted Territories: Reformulation for Progress*, other than the privacy and security related concerns, investigators in the digital age need to be particularly careful about what concerns bias to avoid causing more harm than good in their efforts. Whether cognitive or technical, bias can deeply impact the effectiveness of open-source research, requiring efforts not only to identify them, but also to prevent them, address, and mitigate their consequences. Indeed, the mere recognition of the existence of inherent biases in the technological and human aspect of the research, while still representing a steppingstone to their eradication, is still insufficient to tackle their potentially damaging effects. Access bias and algorithmic bias, understood as some of the most common obstacle's investigators must face while researching alleged human rights abuses through open-source means, can indeed negatively affect the efficacy of the investigation, potentially shutting out relevant perspective and leaving victims without redress.

As underlined by McDermott, Koenig, and Murray, these limitations require investigators to overcome - or mitigate - informational gaps, which can be achieved by understanding the relevance of intersectional factors like gender, ethnicity, religion, and socio-economic conditions in influencing the visibility of certain actors and abuses in digital spaces, as well as by exploring alternative ways of

³¹⁹ Ibid.

³²⁰ Sam Dubberley and Gabriela Ivens, "Outlining a Human-Rights Based Approach to Digital Open Source Investigations: A Guide for Human Rights Organisations and Open Source Researchers" (University of Essex - Human Rights Center, March 2022), <https://repository.essex.ac.uk/32642/1/Outlining%20a%20Human-Rights%20Based%20Approach%20to%20Digital%20Open%20Source%20Investigations.pdf>.

documenting information to ensure a comprehensive representation of impacted communities.³²¹ Building upon the identification of biases in the digital landscape, investigators have started to embrace diverse sets of methodologies to address and mitigate the potential implications of bias. ‘Evidence review panels’ for instance represent an established form of peer review that, paired with the identification of diverse sources of review, could help practitioners analyze multiple working theories and test the most relevant hypotheses to ensure thorough analysis and effective scrutinization of the underlying facts of the matter.³²² Further, and with a particular focus on cognitive bias, McDermott, Koenig, and Murray suggest that investigators document and report any assumptions made during the collection of potential evidence to then verify it through the aforementioned steps of source analysis, technical analysis, and content analysis ensuring the accuracy and credibility of open-source materials.³²³

In his contribution to ‘*The Transformation of Human Rights Fact-Finding*’, Patrick Ball, Executive Director of the Human Rights Data Analysis Group, utilized the 1980s Salvadoran conflict to examine the impact of bias in the development of human rights oriented work.³²⁴ Comparing datasets from documentation efforts on the shares of killings among state agents, paramilitary groups, and the Farabundo Marti National Liberation Front (FMLN) by the Human Rights Commission of El Salvador (CDHES), the Catholic Church’s Legal Aid Office (Tutela Legal), and the UN’s post-conflict Truth Commission, Ball highlighted relevant discrepancies in the classification of many deaths.³²⁵ According to Ball, cognitive biases about the perpetrators, access biases about which fringes of the population each actor could reach, and procedural classifications all came into play to produce such varied results.³²⁶

Ball’s findings further underline how, to truly acquire a HRBA to fact-finding, practitioners find themselves having to employ strategies to counterweight the impact of bias, notably through peer review or preemptive measures, and always remain cautious about how their personal points of view could steer their judgement. In the digital age, embarking in open-source research is a journey characterized by numerous challenges that make preparatory measures like digital threat and risk assessments, digital landscape assessment, and bias mitigation procedures form the very foundations of the preparation. As it was previously show, the search for infallible independence and objectivity might be a utopist idea but, in order for practitioners to at least strive for it, there is a need to develop digital investigative plans

³²¹ Yvonne McDermott, Alexa Koenig, and Daragh Murray, “Open Source Information’s Blind Spot: Human and Machine Bias in International Criminal Investigations,” *Journal of International Criminal Justice* 19, no. 1 (March 2021), <https://doi.org/10.1093/jicj/mqab006>.

³²² Ibid.

³²³ Ibid.

³²⁴ Patrick Ball, “The Bigness of Big Data Samples, Models, and the Facts We Might Find When Looking at Data,” in *The Transformation of Human Rights Fact-Finding*, ed. Philip Alston and Sarah Knuckey (Oxford University Press, 2016), 426–38.

³²⁵ Ibid.

³²⁶ Ibid.

that not only encompass the previous aspects, but serve as guides for investigators throughout the collection, preservation, and dissemination process.

Charting the Course: Investigation Plans in the Era of Digital Evidence

Defined by the Office of the High Commissioner for Human Rights of the UN as the process aiming to identify “*the issues to be investigated, the methodology for gathering information and the field missions to be undertaken (if relevant), and define who will carry out the various tasks*”, the investigation plan represents the starting point for any human rights fact-finding effort, fundamentally defining the objectives, who should pursue them, and through which methodologies.³²⁷ Any successful investigative plan would provide practitioners with additional information on the violations to be investigated, the relevant facts, actors, and inquiries of the investigations, the potential sources of information and how to safely collect them without endangering victims, witnesses and staff, and finally the resources necessary to take on the mission.³²⁸ As such, investigative plans need to coherently integrate aspects deriving from the risk and landscape assessment to guarantee that the research process is not hindered by any external factor.

In the rapidly evolving landscape of human rights investigations, where digital evidence and open-source research have been developing at a faster pace than anyone could have predicted, a structured yet adaptive approach is crucial to navigate the complexities of the online sphere while identifying, collecting, preserving, and disseminating digital evidence in an ethical way. Investigative plans therefore serve as guiding frameworks for investigators to approach the specificities of online inquiries by distinctly outlining the objectives and priorities of the research, defining effective strategies to achieve such goals, and clarifying the scope of the inquiry.³²⁹ As underlined by Koenig and Freeman, investigators developing digital investigation plans should distinguish between different types of research that characterize each step of the digital investigation plan.³³⁰ Notably, preliminary background research, aimed at providing surface-level insights on a situation, populates the initial step of a digital investigation plan. Oriented to defining the investigator’s scope of action, articulating objectives that align with the overarching goals of the fact-finding effort, and outlining activities - notably online

³²⁷ Office of the High Commissioner for Human Rights of the United Nations, “Commissions of Inquiry and Fact-Finding Missions on International Human Rights and Humanitarian Law,” *OHCHR*, 2015, https://www.ohchr.org/sites/default/files/Documents/Publications/CoI_Guidance_and_Practice.pdf.

³²⁸ *Ibid.*

³²⁹ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

³³⁰ Alexa Koenig and Lindsay Freeman, “Open Source Investigations for Legal Accountability,” in *Digital Witness Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Daragh Murray, and Alexa Koenig (Oxford University Press, 2022), 331–42.

inquiries, the mapping of involved actors and preliminary assessments - this initial step sets the foundations the entire research will build upon.³³¹

For instance, investigative plans often start off by documenting initial research attempts based on context-specific terms, locations, types of violations, and digital platforms, to then identify the key actors and abuses involved in the investigation. Such characterization inevitably sets the tone for the investigation, as the mapping of other entities in the research context represents a pivotal step for investigators attempting to gather insights on their area of interest and the starting point for the allocation of staff and resources to specific research areas. Indeed, having scanned through the potential research environment, digital investigation plans often turn to the identification of resources - whether in the form of staff, tools, equipment, and infrastructures - for each research context.³³² As stressed by the contributors to the Berkeley Protocol, clearly defining the roles and responsibilities of investigators is vital in open-source investigations, where the coordination on the basis of the previously-identified focus areas allows the research team to avoid duplicative activities, overlapping tasks, and to tap into the most relevant tools for each area of inquiry.³³³

At the other end of the spectrum, digital investigation plans also engage with formal investigatory efforts aimed at identifying, collecting, and analyzing potential evidence for the fact-find efforts. As such, an effective digital investigation plan would delineate the processes and tools that would be employed in locating, collecting, preserving, and analyzing data, which may include mechanisms for secure browsing, collection procedures for visited resources, as well as the avenues for the secure sharing of relevant data and information.³³⁴ As documentation represents a cornerstone of any investigative effort, frameworks for its procedural organization constitute a fundamental aspect of successful digital investigation plans. Indeed, the efficient management and compliance with the principles of objectivity, impartiality, equality, and accountability constitute the starting points to guarantee robust investigative activities that can hold up against legal proceedings and public scrutiny.³³⁵

³³¹ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

³³² Ibid.

³³³ Ibid.

³³⁴ Alexa Koenig and Lindsay Freeman, “Open Source Investigations for Legal Accountability,” in *Digital Witness Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Daragh Murray, and Alexa Koenig (Oxford University Press, 2022), 331–42.

³³⁵ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

The digital investigation plan therefore lies at the very core of any human rights fact-finding initiative, constituting a foundational approach that fundamentally sets the trajectory for the entire investigative process. As such it plays a pivotal role in defining objectives, assigning roles and responsibilities, and establishing the methodologies that are to be employed to guarantee success. To be considered successful, a digital investigative plan goes beyond mere procedural guidelines to embrace its nature of comprehensive resource for practitioners seeking vital information about the abuses under scrutiny, the pertinent facts, and actors, as well as the processes to extract information safely. In the dynamic landscape of the digital era, characterized by the ever-evolving progress of technology and the proliferation of social media platforms, an approach capable of adapting to ad-hoc circumstances becomes fundamental to navigate the intricacies of the digital realm. As such, a successful investigative plan needs to be able to grow past traditional and static guidelines, instead embracing an iterative approach based on regular reviews and amendments of the strategy on the basis of progressively-emerging insights, arising challenges, and other external factors.³³⁶ Such integration is vital to ensure that the research remains resilient in face of potentially-damaging factors, fundamentally transforming the research in a living being, responsive to the nuances of the case-specific environment, and capable of adapting to challenges to shape the trajectory of human rights fact-finding in an ethical and human rights oriented perspective.

In the realm of human rights fact-finding, investigative plans have a history of defining the procedural aspects that direct the development of the research process attempting to develop, alongside guidelines for effective documentation, also practices protecting the safety of those directly engaged with the research efforts. In the case of digital open-source research, the traditional procedures of interviewing witnesses, visiting geographical sites or collecting evidence have been transported into the digital field, fundamentally removing investigator from the place where violations are taking place and therefore guaranteeing higher safety for their inquiries, but also giving rise to novel risks related to traumas connected to research in the digital sphere.³³⁷ Indeed, whereas physical evidence may be replaced by digital data, the scrutiny of potentially traumatic materials, including graphic images and videos, carries the potential of causing stress, burnout, secondary trauma, and post-traumatic stress disorder (PTSD), fundamentally requiring the development of robust resilience plans and self-care strategies.³³⁸

According to the United States International Development Agency, resilience is defined as “*the ability of people, households, communities, countries and systems to mitigate, adapt to and recover from*

³³⁶ Ibid.

³³⁷ Sam Dubberley et al., “Digital Human Rights Investigations Vicarious Trauma, PTSD, and Tactics for Resilience,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 271–91.

³³⁸ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

shocks and stresses in a manner that reduces chronic vulnerability and facilitates inclusive growth”.³³⁹ Therefore, for the purpose of our discussion, a resilience plan will be identified as a comprehensive approach instated at the beginning of an investigation to uphold the rights to health of the members of the research team against the backdrop of potential stressors deriving from the investigation and that could impact the investigation as a whole. As such, resilience plans fundamentally play a role in ensuring both physical and digital security, recognizing not only that the investigation could make researchers vulnerable to traumas, but also that vulnerable researchers create risks for the team’s safety, the security of information, and the overall quality of the work undertaken.³⁴⁰

As underlined by Dubberley, Satterthwaite, Knuckey, and Brown, the daily undertakings of open-source research might encompass tasks like sifting through databases of abuses and recounts of graphic violence to determine their viability as evidence.³⁴¹ This exposure can have substantial psychological impacts on investigators, exacerbating the already-existing traumatic effects of engaging with security-intensive protocols like those employed in many open-source human rights fact finding efforts. Although at a somewhat slower pace than expected academia and professionals in the field have recently started to acknowledge these risks and the pivotal necessity to mitigate their impact on the well-being of investigators. Notably, strategies for mitigating the potential negative impact of the engagement with graphic content have progressively emerged as multifaceted and diversified approaches to information gathering, often categorized as tactics for individual awareness, for minimizing exposure, and for community support.³⁴²

As practitioners become directly involved with the identification, collection, and analysis of potentially traumatizing materials, strategies based on the awareness of behaviors, patterns, and indicators of stress and trauma are fundamental to guarantee that researchers do not fall prey to their own work.³⁴³ In any case, a common practice in resilience plans across various investigative fora is represented by the policy of reducing exposure whenever possible. According to the Berkeley Protocol, minimizing exposure involves adopting strategies such as turning off audio when unnecessary, minimizing screen sizes, covering graphic material during analysis, flagging potentially distressing content, and promoting

³³⁹ See, United States Agency for International Development, “Livelihoods for Resilience Activity Resilience Strategy,” 2018, https://pdf.usaid.gov/pdf_docs/PA00TCZ8.pdf.

³⁴⁰ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

³⁴¹ Sam Dubberley et al., “Digital Human Rights Investigations Vicarious Trauma, PTSD, and Tactics for Resilience,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 271–91.

³⁴² Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

³⁴³ Ibid.

communication among team members to avoid unnecessary exposure that could impact the well-being of viewers.³⁴⁴ Finally, as investigative efforts find their strength through the collaborative nature of their very core, fostering a sense of community somewhat acts as a protective measure that disseminates the burden of research among different actors, lightening the psychological and emotional burden among a wide range of practitioners involved with the analysis.³⁴⁵

Fundamentally empowering individuals to take on research through the lenses of a ethical approach, resilience plans build upon the initial investigative plan by adopting a perspective that puts at the forefront the well-being of those involved in the investigations. Such perspective is more than ever becoming central in human rights fact-finding and represents a fundamental resource in the digital age where the sheer vastity of available materials can quickly show its more gruesome facets at the expense of those seeking to bring upon justice.

Nonetheless, as we have discussed in the previous sections, the digital age has undoubtedly brought upon challenges that were unheard of before technology started taking the world of information communication technologies by storm. As such, investigative planning could not stop anymore at the identification of the procedural aspects of the investigation but had to also develop methods and mechanisms to adapt to the ever-increasing amount of information and data available through open-source platforms. As such, in the context of a digital open-source investigation, the design, implementation, and adherence to policies for data collection, management, and destruction are imperative for organizations and actors engaged in fact-finding processes. Such policies first and foremost involve the establishment of ‘retention’ policies to determine the process of acquisition of data and the length of time they will be stored for on the basis of the forum in which they could potentially be employed.³⁴⁶ Notably, the ingest phase within the OAIS System represents a prime example of the principles underscoring effective data retention policies as it pertains to the process of collecting content and preparing it for storage and management in an organization’s archive.³⁴⁷ As such the ingest procedure substantially transforms content, starting from the raw data acquired from the research and transforming it into preserved information through a process of extraction of the necessary datasets and the verification of its availability, identity, persistence, renderability, understandability, and authenticity.³⁴⁸

As underlined by Ng, data retention policies would therefore start with the collection of relevant materials by the open-source researcher, who would then verify the safety of the assets from viruses

³⁴⁴ Ibid.

³⁴⁵ Ibid.

³⁴⁶ Ibid.

³⁴⁷ See, section 3.2 - Overcoming Obstacles: Adapting Best Practices Frameworks to the Digital Realm

³⁴⁸ Yvonne Ng, “How to Preserve Open-Source Information Effectively,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 143–64.

and potential malware before cross-checking for their integrity and completeness compared to the original source file.³⁴⁹ To guarantee the correct insertion of new data in pre-existing systems practitioners then attempt to validate the formats and metadata structures with the adopted submission and data policies, identifying which files and assets collected can be inserted in the preservation structure and exporting the technical metadata for future preservation and data management.³⁵⁰ In this phase, approaches to data deletion are equally essential to manage the flows of information effectively. Indeed, even the deletion of data within a dataset should be executed in adherence to preestablished data policies, maintaining detailed logs of what, when, and by whom data was deleted, guaranteeing the safeguarding of processes handling potentially vital information.³⁵¹

Finally, clear policies on data access and sharing are vital for organizations collecting and processing information related to alleged human rights abuses, fundamentally constituting another core tenet of data policies at large.³⁵² As the name suggests, these policies define the actors who have access to the data and the processes through which they can be disseminated inside or outside the researching entity. Indeed, if the preservation of evidence represents a fundamental step in guaranteeing accountability and redress for human rights violations, the ability to easily retrieve data's existence, nature, location, and characteristics is also paramount to guarantee the effectiveness of fact-finding. As such, data access and sharing policies fundamentally shape the hierarchy of the researching entity, identifying actors, requirements, and procedures for the handling of archived documentation.

From Inquiry to Insight: The Investigative Process in the Digital Age

Having established the methodological basis for the acquisition and preservation of any piece of relevant digital evidence through investigative plans and data policies, practitioners engaging in human rights fact-finding would then be faced with the need to concretely begin investigating alleged human rights violations. If traditionally human rights investigators, whether under the auspices of international fact-finding missions or as part of independent and NGO-sponsored research teams, were bound to physically access the area in which the alleged human rights abuses were taking place, in today's day and age a considerable portion of the investigative process is undertaken through a computer screen. As such open-source investigators are tasked with attentively observing and systematically inquiring the online sphere to establish verifiable facts on the matters researched and develop theses and conclusions. For this reason, the ability to navigate digital landscapes and critically assess the content it features is

³⁴⁹ Ibid.

³⁵⁰ Ibid.

³⁵¹ Lindsey Freeman, Alexa Koenig, and Eric Stover, "Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law" (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

³⁵² Ibid.

pivotal to the success of the investigation and starts with the implementation of a structured approach to querying the internet with a particular focus on avoiding bias, inequalities, and potential distortions, in short, an ‘online inquiry’.

Adopting the definition of Kiili et al., we will define an ‘online inquiry’ as any form of “*question-driven investigation, in which readers seek information and learn from multiple online resources [...] to address a problem or question using information found online*”.³⁵³ As such, an online inquiry for human rights fact-finding refers to the process through which investigators and practitioners, after having identified a question that they strive to answer, search and monitor various online resources to develop a cohesive and reliable analysis of the situation under scrutiny. Particularly focusing on the procedural phases of an online inquiry for human rights fact-finding, Koenig and Freeman underlined how investigators tend to commonly employ three distinct discovery methods while engaging with an online inquiry process: (1) exploring, (2) monitoring, and (3) information gathering.³⁵⁴ Each constituting a fundamental building block in the identification of potentially crucial data, these steps are not necessarily consequential or hierarchical and instead develop according to the previously-mentioned principle of adaptability according to the necessities of each investigative effort. Building upon Koenig’s and Freeman’s findings, for the purpose of our discussion we will also mention the importance of setting up the researcher’s working platform as discussed by Dubberley and Ivens in ‘*Outlining a Human-Rights Based Approach to Digital Open Source Investigations: A guide for human rights organizations and open source researchers*’.³⁵⁵ Indeed, as stressed by Dubberley and Ivens, in the realm of open-source investigations the foundational step of an online inquiry involves the establishment of a secure research environment for the investigators and those involved in the research.³⁵⁶ Embodying adherence to the aforementioned principle of security, this step entails choosing and assessing which tools are better suited for the purpose of the investigation through a vetting process involving consultation with tech companies and designers.³⁵⁷

Nonetheless, having established the researcher’s workspace, online searching (or exploring) has been identified as the core process aiming to discover novel pieces of data relevant to the research question of the practitioners involved. Serving as some form of preparatory step to the actual collection of data from the online sphere, online searching builds upon a research question, employing parameters,

³⁵³ Carita Kiili et al., “Sourcing on the Internet: Examining the Relations among Different Phases of Online Inquiry,” *Computers and Education Open* 2, no. 2 (December 2021): 100037, <https://doi.org/10.1016/j.caeo.2021.100037>.

³⁵⁴ Alexa Koenig and Lindsay Freeman, “Open Source Investigations for Legal Accountability,” in *Digital Witness Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Daragh Murray, and Alexa Koenig (Oxford University Press, 2022), 331–42.

³⁵⁵ Sam Dubberley and Gabriela Ivens, “Outlining a Human-Rights Based Approach to Digital Open Source Investigations: A Guide for Human Rights Organisations and Open Source Researchers” (University of Essex - Human Rights Center, March 2022), <https://repository.essex.ac.uk/32642/1/Outlining%20a%20Human-Rights%20Based%20Approach%20to%20Digital%20Open%20Source%20Investigations.pdf>.

³⁵⁶ Ibid.

³⁵⁷ Ibid.

keywords and syntax-related aspects to navigate various search engines, social media platforms and databases.³⁵⁸ As such, in the searching phase investigators are tasked with complementing the creative navigation of online platforms with attentive and systemic documentation of any finding, known fact, assumption, and research approach in order to guarantee the objectivity and accountability of the investigative process.³⁵⁹ As underlined by Myers, embarking on the process of discovering information online, human rights researchers dedicate particular attention to the refinement of keywords, acknowledging that the selection of keywords that are distinct to the subject and likely to link to the desired outcome are the most relevant in the search among the often-overwhelming amount of available results on the internet.³⁶⁰ As researchers incorporate refined keywords into their search queries, attempting to balance precision with a wide-enough perspective to avoid excluding a priori potentially useful data, the results will gradually align with their objective.³⁶¹

Yet, the ephemeral nature of the internet implies that content is bound to evolve, morph, and potentially even disappear from the platforms it was initially uploaded to. The same videos that eventually led to the publication of the arrest mandate for Mahmoud Mustafa Busayf Al-Werfalli were removed from YouTube and Facebook as the investigations of the ICC were taking place. For this exact reason the monitoring phase, entailing real-time tracking of topics, actors, or variables over a period of time, represents a pivotal step in online inquiries.³⁶² This activity often employs a list of online sources, platforms and search queries related to a subject or actor to guarantee the oversight of the potential developments on the matter.³⁶³ For instance, in the case of evolving conflict, maintaining a focus on hashtags and keywords proves fundamental to guarantee that the investigators keep up with the latest developments and inform their analysis accordingly.

As the online inquiry stage comes to a close, the open-source investigation enters a crucial phase – preliminary analysis. This is where investigators delve into the gathered results and ask crucial questions as they navigate towards their ultimate decision. Some key inquiries include scrutinizing satellite imagery for possible human rights abuses, assessing online videos capturing potential crimes, and

³⁵⁸ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

³⁵⁹ Ibid.

³⁶⁰ Paul Myers, “How to Conduct Discovery Using Open Source Methods,” in *Digital Witness Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 108–42.

³⁶¹ Ibid.

³⁶² Alexa Koenig and Lindsay Freeman, “Open Source Investigations for Legal Accountability,” in *Digital Witness Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Daragh Murray, and Alexa Koenig (Oxford University Press, 2022), 331–42.

³⁶³ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

analyzing available datasets to determine their investigatory value.³⁶⁴ Indeed, before delving into the collection of content, a preliminary assessment becomes a prerequisite as this step helps investigators prevent over-collection on the basis of data-minimization policies and evaluate the technical assets of each potential piece of evidence before collecting it.³⁶⁵ As underlined by the contributors to the Berkeley Protocol, investigators assessing a potential piece of evidence online should evaluate first and foremost its (1) relevance as not every element encountered throughout the online inquiry is of primary importance in the development of investigative theories.³⁶⁶ Further, relevant content should be evaluated on its (2) reliability and (3) safety before being collected through a careful examination and review of its contextual information, embedded metadata, source history, and potential risk factors.³⁶⁷ Finally, as stressed above, the unstable nature of online services, which can be active and thriving one day, and swiftly removed the next, requires investigators to anticipate the potential (4) removal of a digital item and plan the collection starting from the most time-sensitive pieces of content.³⁶⁸

Laying the foundations for a secure database of potentially-useful content, preliminary analysis sets the stage for the systematic gathering of information: the ‘collection’ stage. Such process can take many different forms, from narrow inquiries expanding with the accumulation of information or broader explorations that gradually narrow down the conclusions, on the basis of the approach chosen by the specific research entity.³⁶⁹ Nonetheless, in any instance data collection represents a process that focuses on obtaining online data through methods like forensic downloads and digital capturing to collect information that can inform the development of theories and conclusions.³⁷⁰ As such, the methods of collection are inherently contingent on the nature of the investigation and the expected use of the data and they can range from manual collection procedures based on, for instance, PDF conversion of webpages, to automated through tools employing artificial intelligence to browse through millions of webpages in search of relevant content.³⁷¹ Notably, as underlined in the above sections, providing evidence for international legal proceedings is profoundly different from the information gathering

³⁶⁴ Sam Dubberley and Gabriela Ivens, “Outlining a Human-Rights Based Approach to Digital Open Source Investigations: A Guide for Human Rights Organisations and Open Source Researchers” (University of Essex - Human Rights Center, March 2022), <https://repository.essex.ac.uk/32642/1/Outlining%20a%20Human-Rights%20Based%20Approach%20to%20Digital%20Open%20Source%20Investigations.pdf>.

³⁶⁵ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

³⁶⁶ Ibid.

³⁶⁷ Ibid.

³⁶⁸ Ibid.

³⁶⁹ Alexa Koenig and Lindsay Freeman, “Open Source Investigations for Legal Accountability,” in *Digital Witness Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Daragh Murray, and Alexa Koenig (Oxford University Press, 2022), 331–42.

³⁷⁰ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

³⁷¹ Ibid.

pursued by international NGOs and their advocacy efforts, fundamentally informing the choice of collection approaches and requiring ad-hoc methodologies to be developed.³⁷² Regardless of the approach chosen, open-source researchers often strive to safeguard any piece of relevant information in its native format or in a state that is as close to it as possible, striving to guarantee its authenticity, an aspect that becomes fundamental when evidence is brought in front of national or international courts.³⁷³

Although data collection is extremely important, it can also pose a significant threat to human rights, including the right to privacy, the right to life, and the right to freedom of expression. As such, the investigation of online content, for instance through social media platforms, inevitably raises questions in informed consent. As outlined in section 3.2 - *Overcoming Obstacles: Adapting Best Practices Frameworks to the Digital Realm*, social media platforms tend to lack mechanisms for users to express preferences concerning how their data will be used, leading to the implicit assumption of consent by practitioners.³⁷⁴ Nonetheless, in order for a human rights fact-finding process to be truly adherent to the respect of individual and collective privacy, before collecting open-source information investigators should first and foremost evaluate the capacity of those producing the relevant piece of information to give their informed consent in a voluntary and competent manner through the transparent and open disclosure of the investigation's nature, purpose and of its potential risks.³⁷⁵ Such an approach to data collection encompasses the need for consent-gathering to be adaptable and flexible to truly safeguard human rights. Indeed, consent acquisition procedures need to be tailored to the specific needs of the investigation, morphing alongside the scope of the research itself and embodying an iterative approach that might have to be repeated, modified, or amended throughout the investigative process.³⁷⁶ Nonetheless, obtaining informed consent is not always possible and, in those cases, it becomes imperative for investigators to guarantee the safety of the content creator and of all those actors depicted in the piece of content if consent could not be obtained.³⁷⁷ This entails protecting their identities by

³⁷² Federica D'Alessandra and Kirsty Sutherland, "The Promise and Challenges of New Actors and New Technologies in International Justice," *Journal of International Criminal Justice* 19, no. 1 (June 7, 2021), <https://doi.org/10.1093/jicj/mqab034>.

³⁷³ Lindsey Freeman, Alexa Koenig, and Eric Stover, "Berkeley Protocol on Digital Open Source Investigations: A Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law" (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

³⁷⁴ Zara Rahman and Gabriela Ivens, "Ethics in Open-Source Investigations," in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 250–70.

³⁷⁵ Rahman, Z. and Ivens, G. as cited in Sam Dubberley and Gabriela Ivens, "Outlining a Human-Rights Based Approach to Digital Open Source Investigations: A Guide for Human Rights Organisations and Open Source Researchers" (University of Essex - Human Rights Center, March 2022), <https://repository.essex.ac.uk/32642/1/Outlining%20a%20Human-Rights%20Based%20Approach%20to%20Digital%20Open%20Source%20Investigations.pdf>.

³⁷⁶ Sam Dubberley and Gabriela Ivens, "Outlining a Human-Rights Based Approach to Digital Open Source Investigations: A Guide for Human Rights Organisations and Open Source Researchers" (University of Essex - Human Rights Center, March 2022), <https://repository.essex.ac.uk/32642/1/Outlining%20a%20Human-Rights%20Based%20Approach%20to%20Digital%20Open%20Source%20Investigations.pdf>.

³⁷⁷ Ibid.

blurring out faces, excluding and identificative elements, or even keeping certain pieces of data private until the moment consent can be acquired.

Presuming that consent has been acquired through a process that is adherent to the ethical principles of a HRBA to fact-finding, the Berkeley Protocol has outlined a comprehensive set of guidelines for the collection of generic forms of digital evidence. Applicable to a wide range of data, the guidelines emphasize the importance of solid methodological underpinnings in the development of effective documentation. As such, the contributors to the Protocol claimed that, in order for any collection effort to be successful, researchers should gather (1) the web address - or URL - of the relevant element, (2) the source code - or HTML - of the webpage, and (3) a screen capture of the entire web page indicating time and date of the recording.³⁷⁸ Fundamental to sketch out a stable and fixed record of the information researched, these steps should be followed by a meticulous collection of (4) any embedded media file, (5) embedded metadata associated with the digital item like authors and the upload data, as well as (6) contextual data like comments and upload information to situate the element in the wider framework of the research.³⁷⁹ Finally, (7) ‘collection data’ - understood as the record of the researches assigned to the task and the researching machine’s IP address - and the (8) ‘hash values’ of the content - the aspects providing confirmation of the content’s uniqueness and integrity since the moment of collection - complete the picture of effective and methodological collection.

Having collected the necessary characterizing elements of a piece of information, preserving them has progressively become a paramount challenge in open-source research, especially as the ephemeral nature of digital data has become more and more a pressing issue in fact-finding work. To address such challenge, best practices have emerged to guarantee the proper preservation of digital information into the researching entity’s archival system and, as underlined by Dubberley and Ivens, two main branches can be used to categorize the general approach to preservation.³⁸⁰ While some entities prefer to adopt a mass preservation approach, involving the automatic preservation of any piece of data matching keywords or hashtags, others selectively evaluate the content before preservation. Each presenting advantages and disadvantages, these approaches have both experienced limitations as the former may pose the risk of over-archiving, fundamentally complicating the verification process, while the latter

³⁷⁸ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

³⁷⁹ Ibid.

³⁸⁰ Sam Dubberley and Gabriela Ivens, “Outlining a Human-Rights Based Approach to Digital Open Source Investigations: A Guide for Human Rights Organisations and Open Source Researchers” (University of Essex - Human Rights Center, March 2022), <https://repository.essex.ac.uk/32642/1/Outlining%20a%20Human-Rights%20Based%20Approach%20to%20Digital%20Open%20Source%20Investigations.pdf>.

might potentially exclude relevant pieces of information because of the technical bias of selection procedures, or the cognitive bias of the practitioner assigned to the task.³⁸¹

Whether choosing an approach based on mass preservation or one based on selective preservation, information is often preserved in researching entities' archival storages with the objective of guaranteeing the integrity of a set of properties that render digital assets a viable option to document alleged human rights violations. As previously detailed, drawing from the Simple Property-Oriented Threat (SPOT) Model for Risk Assessment developed by Vermaaten, Lavoie, and Caplan, many best practice frameworks for the preservation of digital evidence consider of primary importance to ensure the availability, identity, persistence, renderability, understandability, and authenticity of digital objects over time.³⁸² Having previously discussed in detail each of the aforementioned properties, it will suffice to underline that preserving digital objects is an active process involving ongoing tasks ranging from the monitoring of the potential degradation and obsolescence of the objects and of the tools through which investigators can access their content, to the progressive and timely refreshing and updating of archival mechanisms to guarantee that content can be recovered and retained for as long as needed.³⁸³

Nonetheless, the process of preservation does not necessarily stop at the safeguarding of the aspects. Indeed, as technology progresses and fact-finding efforts become diversified, more complex and, at times, cooperative, with human rights groups and institutions coming together to pursue common objectives, investigators must also consider how to safeguard the integrity, accessibility, and reliability of digital information at all stages of the investigation. For instance, as an investigation unfolds, the recorded piece of information extrapolated from the social media accounts of a witness might be handled by a wide variety of practitioners. The sequence of custodians that take ownership of materials, more commonly known as the chain of custody of a digital object, should be detailed and documented to guarantee a traceable journey of the element in question and the eventual changes applied to its characteristics.³⁸⁴ In this regard in particular the Berkeley Protocol underlines that, if the handling of the digital object requires any form of change to be applied, working copies - duplicates of the digital item created specifically for analysis - need to be used to minimize handling risks and alterations.³⁸⁵

³⁸¹ Ibid.

³⁸² Sally Vermaaten, Brian Lavoie, and Priscilla Caplan, "Identifying Threats to Successful Digital Preservation: The SPOT Model for Risk Assessment," *D-Lib Magazine* 18, no. 9/10 (September 2012), <https://doi.org/10.1045/september2012-vermaaten>.

³⁸³ Yvonne Ng, "How to Preserve Open-Source Information Effectively," in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 143–64.

³⁸⁴ Lindsey Freeman, Alexa Koenig, and Eric Stover, "Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law" (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

³⁸⁵ Ibid.

The collection and preservation of digital items is routinely followed by efforts to thoroughly verify the accuracy and reliability of the information potentially presented by the digital asset. A procedure that is inherently part of fact-finding methodologies since their onset, in the digital age it has acquired an even greater importance as, with the exponential growth in user-generated content emerging as evidence of potential human rights abuses, practitioners more and more often find themselves tasked with assessing the trustworthiness of open-source materials. Indeed, while user-generated content is often not intentionally misleading, its verification is imperative for human rights fact-finders striving to ensure the accurate reporting of information and preventing the unintentional spread of misinformation and disinformation.³⁸⁶ Indeed, with the emergence of AI generated deepfakes and the ever-present danger of disinformation campaigns on social media platforms, each piece of evidence must undergo thorough verification processes before being implemented into a human rights analysis.

As such, verification constitutes the cornerstone of any human rights fact-finding effort and, whether integrated into an all-source analysis - including confidential data - or developed only through open-source methods, it tends to encompass three dimensions that contribute to the comprehensive evaluation of each piece of information: (1) source analysis, (2) technical analysis, and (3) content evaluation.³⁸⁷ Taking into consideration the creators of potentially relevant content, (1) source analysis evaluates the credibility and reliability of the sources questioning, for example, the belonging of a specific account posting recounts of militias reprisals to a certain opposing military group.³⁸⁸ Focusing on shedding light on the prevalently-anonymous nature of the online environment, source analysis first and foremost strives to attribute the information to its original source, fundamentally focusing on searching for the earliest version of the examined piece of content to then evaluate the credibility of its creator.³⁸⁹ Scrutinizing the source's posting history and online activities investigators can understand potential biases deriving from political affiliations and connections to the parties involved in a specific incident, fundamentally coming closer to either including or crossing out a specific resource.³⁹⁰

³⁸⁶ Aric Toler, "How to Verify and Authenticate User-Generated Content," in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 185–227.

³⁸⁷ Lindsey Freeman, Alexa Koenig, and Eric Stover, "Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law" (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

³⁸⁸ Sam Dubberley and Gabriela Ivens, "Outlining a Human-Rights Based Approach to Digital Open Source Investigations: A Guide for Human Rights Organisations and Open Source Researchers" (University of Essex - Human Rights Center, March 2022), <https://repository.essex.ac.uk/32642/1/Outlining%20a%20Human-Rights%20Based%20Approach%20to%20Digital%20Open%20Source%20Investigations.pdf>.

³⁸⁹ Lindsey Freeman, Alexa Koenig, and Eric Stover, "Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law" (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

³⁹⁰ Ibid.

If with source analysis investigators tended to focus on the people behind the digital content, (2) technical analysis instead shifts the gaze of practitioners to the examination of the digital item itself and its more characterizing elements like its metadata - encompassing details like the creation date or file format - and its source code which can notably expose additional layers of information and potential manipulations pertaining to the coding of web pages and software.³⁹¹ Finally, (3) content analysis represents a critical process attempting to evaluate contextual elements as they appear within various digital assets like photos, videos, or documents in order to assess its authenticity and the accuracy of the information it reports on.³⁹² Unique identifiers such as flora and fauna, symbols or insignia, as well as buildings and landmarks constitute the central elements that, during a process of content analysis, are cross-referenced against stable and verifiable variables to ensure the reliability and accuracy of the content recorded.³⁹³ Geolocation, more commonly understood as the use of technology for the identification of where digital content was recorded or uploaded, is a valuable technique in content analysis as it involves the cross-referencing of topographical details in open-source content with reference points such as satellite imagery to establish the reliability of the claims of the content.³⁹⁴ For instance Bellingcat, while attempting to conduct content analysis on the video evidence of the brutal executions mandated by Mahmoud Mustafa Busayf Al-Werfalli in July 2017, made extensive use of visual clues deriving from the numerous videos of the executions, eventually identifying “*similarities between the vegetation, sand tracks, buildings, fence and spots on the exact location where the twenty individuals were executed*”.³⁹⁵

While constituting a significant aspect of the overall verification process, geolocation is not the only tool in the belt of open-source practitioners. Indeed, in the realm of user-generated content, the determination of the timing of a depicted event also becomes crucial. Despite presenting more challenges than geolocation, many approaches and methods have been developed throughout the years to create guidance practices for chronolocation. For instance, weather emerges as one of the primary indicators in the chronolocation process as cross-referencing weather information from official

³⁹¹ Ibid.

³⁹² Sam Dubberley and Gabriela Ivens, “Outlining a Human-Rights Based Approach to Digital Open Source Investigations: A Guide for Human Rights Organisations and Open Source Researchers” (University of Essex - Human Rights Center, March 2022), <https://repository.essex.ac.uk/32642/1/Outlining%20a%20Human-Rights%20Based%20Approach%20to%20Digital%20Open%20Source%20Investigations.pdf>.

³⁹³ Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

³⁹⁴ Aric Toler, “How to Verify and Authenticate User-Generated Content,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 185–227.

³⁹⁵ See, Bellingcat, “How a Werfalli Execution Site Was Geolocated,” Bellingcat, October 3, 2017, <https://www.bellingcat.com/news/mena/2017/10/03/how-an-execution-site-was-geolocated/>.

forecasts with the weather conditions of open-source evidence can prove to be fundamental.³⁹⁶ Further, the identification of temporary details like advertisements and construction sites, as well as the position of the shadows of building or people can place in an increasingly accurate manner the events in a pre-determined timeline.³⁹⁷ Circling back to the work of Bellingcat in verifying the Al-Werfalli mandated executions in 2017, researchers of the Bellingcat team were able to employ chronolocation by analyzing the direction of the shadows in the videos and verifying that it had been filmed either in the early morning or late afternoon.³⁹⁸

The previously-listed approaches represent the baseline guidelines for verification processes but, as Toler underlined in ‘How to Verify and Authenticate User-Generated Content’, a verifier should refrain from depending solely on a limited array of online tools and methodologies as other elements, like for instance regional knowledge of the area depicted in the user-generated content, might still require further analysis. Indeed, while serving as guiding approaches to effective and functional verification, these methods should always complement expertise and knowledge of the area, context, and violations investigated, to guarantee that the underlying human rights related aspects of the recorded violations are not overlooked in favor of methodological intricacies.³⁹⁹

Having established the accuracy and reliability of digital information, the investigative analysis phase represents the culmination of the open-source workflow as investigators review, evaluate, and interpret the collected and verified information on the basis of their research mandate to formulate substantive theories that answer their initial research question and accomplish the investigation plan’s objective.⁴⁰⁰ According to Koenig and Freeman the assessment of the final datasets should address a series of key questions, ranging from the identification of the relevance of each piece of evidence to the dispute under investigation, to the probative value of the information, passing through an assessment of its completeness, authenticity, and credibility.⁴⁰¹ Further, as underlined by the Berkeley Protocol, open-source information might require processing - including for instance translation, data aggregation, and formatting - before being analyzed and transformed into input for analytical works like reports, charts, glossaries, or mapping exercises.⁴⁰² Indeed, with the wide variety of outputs being created by fact-

³⁹⁶ Aric Toler, “How to Verify and Authenticate User-Generated Content,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 185–227.

³⁹⁷ Ibid.

³⁹⁸ See, Bellingcat, “How a Werfalli Execution Site Was Geolocated,” Bellingcat, October 3, 2017, <https://www.bellingcat.com/news/mena/2017/10/03/how-an-execution-site-was-geolocated/>.

³⁹⁹ Aric Toler, “How to Verify and Authenticate User-Generated Content,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 185–227.

⁴⁰⁰ Alexa Koenig and Lindsay Freeman, “Open Source Investigations for Legal Accountability,” in *Digital Witness Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Daragh Murray, and Alexa Koenig (Oxford University Press, 2022), 331–42.

⁴⁰¹ Ibid.

⁴⁰² Lindsey Freeman, Alexa Koenig, and Eric Stover, “Berkeley Protocol on Digital Open Source Investigations a Practical Guide on the Effective Use of Digital Open Source Information in Investigating Violations of International Criminal, Human

finding entities, publications can take many forms, from individual reports to aggregated collections of data helping to give an accurate representation of specific human rights situations.⁴⁰³

Rights and Humanitarian Law” (OHCHR and University of California, Berkeley, School of Law, 2022), https://www.ohchr.org/sites/default/files/2022-04/OHCHR_BerkeleyProtocol.pdf.

⁴⁰³ Sam Dubberley and Gabriela Ivens, “Outlining a Human-Rights Based Approach to Digital Open Source Investigations: A Guide for Human Rights Organisations and Open Source Researchers” (University of Essex - Human Rights Center, March 2022), <https://repository.essex.ac.uk/32642/1/Outlining%20a%20Human-Rights%20Based%20Approach%20to%20Digital%20Open%20Source%20Investigations.pdf>.

Reigning in the Power of Digital Technologies: Conclusions and Ways Forward

The practice of international human rights fact-finding (IHRFF) has translated into concrete terms the efforts of international organizations, civil society groups, and local entities since the very inception of the human rights system, as its extensive history reaches back in time and embraces a diverse range of organizations and entities. Nonetheless, the recent decades have recorded a considerable increase in the number of efforts geared to responding to alleged human rights violations across regions and focus areas. This has inevitably awarded IHRFF with growing prominence and a considerable global impact, as well as renewed attention from scholars, academics, and practitioners, who were prompted to undertake novel examinations of its praxis. Particularly, in the dynamic landscape of IHRFF, discussions on its operational aspects and its established frameworks of best practices have become subjects of active debate, notably in relation to the emergence of digital technologies progressively revolutionizing the way potential evidence is identified, gathered, preserved, and employed.

The ever-increasing developments in technological advancements, taking the form of globally-available camera enabled phones and social media platforms, have imposed a profound shift toward digital open-source methods as the primary research methodologies in IHRFF. Marking an undoubtedly paradigmatic shift, a progressive systematization of routine assessments of the global state of human rights have been facilitated by technological developments that have prompted innovation and the improvement of investigative techniques of IHRFF mechanisms proliferating worldwide. In the digital age, where a significant portion of information exchange occurs on the online sphere, investigators, practitioners, and lawyers are progressively turning to open-source methods, with an increasing number of professionals being trained to identify, capture, preserve, and verify digital content.

In the current day and age, organizations like WITNESS, Amnesty International, Human Rights Watch, as well as groups like Bellingcat and Lighthouse Reports, and academic institutions like the University of California are developing opportunities to train the next generations of practitioners in open-source research skills ranging from the safe and accountable collection of data to the effective verification and preservation of evidence.⁴⁰⁴ Further, as practice develops, new guidelines to systematize the approach to technology have emerged, with particularly admirable examples being the Berkeley Protocol on Digital Open-Source Investigations developed by Berkeley's Human Rights Center in collaboration with the OHCHR, or the Guide for Human Rights Organizations and Open-Source Researchers drafted by the Human Rights Center of the University of Essex alongside the Economic and Social Research Council. Although still walking their initial steps, such efforts constitute the representation of a wider

⁴⁰⁴ Alexa Koenig, "Open Source Evidence and Human Rights Cases a Modern Social History," in *Digital Witness: Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 32–47.

trend geared towards the standardization and systematization of methodologies and best practices for open-source research in human rights fact-finding.

Indeed, while traditional forms of human rights fact-finding had the opportunity of progressively developing a structure of established best practices to guarantee the systematization of its methodologies and the promotion of human rights oriented and ethical approaches to information gathering, the rapid developments in information technologies have skyrocketed open-source research amid IHRFF. Due to this consideration, the international community has progressively recognized the critical need for practical guidelines and frameworks of best practices capable of ensuring both the effectiveness and the ethical underpinnings of the human rights system while embarking in open-source research, big data analysis, and information sharing. However, as Aronson emphasizes, significant challenges persist concerning which set of standards would be most suitable to address diverse digital challenges and how to adapt them to the various levels of human rights fact-finding without running the risk of adopting excessively conservative and elitist approaches to the practice.⁴⁰⁵

The current landscape of IHRFF is therefore grappling with determining which aspects of its practice necessitate adaptation to meet the challenges presented by the digital age and which aspects instead require a fundamental reformulation of best practices in their entirety. In section 3 - *Adapting and Reformulating Traditional Best Practice Frameworks in the Digital Age*, we established that while adaptation entails the simple refinement of existing best practice frameworks to accommodate the complexities of the digital age, reformulation instead demands a profound restructuring of the framework itself and, potentially, a reconsideration of its underlying principles. As such both these processes - albeit at different scales - entail a significant departure from traditional approaches in light of the recognition that the very nature of digital evidence requires a transformative shift in the design and development of investigations.⁴⁰⁶ Yet, in the ever-morphing realm of IHRFF, the imperative becomes to strike the delicate balance between adaptation and reformulation of best practices frameworks in order to guarantee the capacity to overcome the challenges of the digital age while, at the same time, mainstreaming the underlying principles of the human rights system.

Indeed, the frameworks, initially designed to guide the efforts of practitioners in a closed-world environment, now face a dual challenge whose complexities necessitate the employment a nuanced and dynamic approach. Such approach fundamentally builds upon the traditional scaffolding of standardized procedures to then explore novel avenues for transformative developments if existing frameworks prove insufficient in navigating the various facets of the online sphere. Closing on section 3.4 - *Navigating*

⁴⁰⁵ Jay D. Aronson, "Mobile Phones, Social Media and Big Data in Human Rights Fact-Finding Possibilities, Challenges, and Limitations," in *The Transformation of Human Rights Fact-Finding*, ed. Philip Alston and Sarah Knuckey (Oxford University Press, 2016), 441–62.

⁴⁰⁶ Rhett Larson, "Adapting Human Rights," *Duke Environmental Law & Policy Forum* XXVI, no. I (2015): 2–7, https://www.researchgate.net/publication/295955506_Adapting_Human_Rights.

Change: Striking the Balance and Ways Forward, we clarified how in the digital age the effectiveness of best practice frameworks is intricately linked to the contextual nuances of ad-hoc analysis, rendering one-size-fits-all approaches inadequate to adapt to the challenges, investigative scopes, and technological needs of diverse research contexts. As the digital landscape continues to shape the future of IHRFF, requiring a commitment to flexibility, continuous learning, and to a nuanced comprehension of contextual elements, we set out to define our very own set of adaptive strategies for incorporating digital evidence in human rights investigations.

Attempting to build on recent publications like the Berkeley Protocol, our framework strived to identify a compass capable of providing guidance to investigators integrating digital technologies in their fact-finding efforts. Ideally contributing to the development of practical guidelines beyond the establishment of minimum standards, benchmarks, and baseline expectations for open-source research, the presentation of the outline and practical implementations of the framework allowed us to discuss the specificities of adapting and reformulating the established frameworks of best practices to fit the requirements of the digital age. As such, starting from the principles ideally underlying every IHRFF effort and closing on the procedural steps in successful open-source investigations for human rights, we attempted to chart the course of fact-finding in the online sphere.

As underlined by Edwards, engaging with a precise prediction of trends and upcoming developments is inherently challenging, especially regarding the forecasting of the trajectory of open-source methods in IHRFF.⁴⁰⁷ Nonetheless, scholars and academics have recently started identifying some discernible trends whose implications could potentially shape the future of human rights implications and for which the aforementioned framework could provide guidance and perspectives for adaptation. First and foremost, the ever-growing amount of data available on the online sphere, which is expected to further increase as our societies become more digitally interconnected, inevitably raises questions concerning the capacity of the demand to keep up with the offer.⁴⁰⁸ For this exact reason, as underlined in section 4.3 - *Charting the Course: Investigation Plans in the Era of Digital Evidence*, the identification of clear investigative plans before delving head first into the often-overwhelming amount of information available on the internet will prove to be a progressively important aspect of IHRFF. Further, building upon the human-designed approaches to identify information of interest, the development of algorithmic tools for the automatic identification of features of interest will inevitably enhance the specificity of discovery efforts, emphasizing once more the necessity for best practices frameworks to seamlessly blend human and technical.⁴⁰⁹

⁴⁰⁷ Scott Edwards, “Open Source Investigations for Human Rights - Current and Future Challenges,” in *Digital Witness - Using Open Source Information for Human Rights Investigation, Documentation, and Accountability*, ed. Sam Dubberley, Alexa Koenig, and Daragh Murray (Oxford University Press, 2022), 87–104.

⁴⁰⁸ Ibid.

⁴⁰⁹ Ibid.

Further, the impermanence of information in the open-source environment, and the growing presence of misinformation and disinformation, will inevitably persist as fundamental challenges in the development of effective investigative efforts. In this context, the thresholds for effective preservation and verification will undoubtedly keep increasing, requiring intensive efforts by the international human rights community to discern between what is real and what is fake in the diverse landscape of user-generated content. As such, the guidelines defined in instruments like the Berkeley Protocol, the Guide for Human Rights Organizations and Open-Source Researchers, or even our very own framework, will necessarily have to undergo a process of evolution, expanding on the familiar source analysis, technical analysis, and content evaluation to implement novel methods and technologies to overcome novel challenges.

Nonetheless, despite such potential challenges and avenues for growth, what remains paramount is the need for the practice to maintain a malleable approach to development, attempting to grow alongside the precocious child that is technology rather than constraining it. As we currently envision it, humanity finds itself in front of a unique threshold offering insights into a world where global connectivity and digital technologies could provide societies across the entire world with the capacities and the means to document and denounce abuses. Technology could help empower individuals from every path of life to document their experience, share their culture, and advocate for their fundamental rights. From women protesting oppression in Iran, to the streets of Europe taken by storm by young environmental activists, to the cruelest and often-overlooked aftermaths of conflicts, technology could offer us novel and unpaved pathways to justice. It is precisely in today's world, where information travels faster than any other means of communication, that each one of us could become an advocate for a greater good. And it is precisely in this world that open-source research become crucial in contributing to the global pursuit of justice. For me, for you, and for all of those whose voices routinely go unheard.

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