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Research Working Paper Series

May 2025

HRP 25-001

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Pattern Analysis as a Tool for Human Rights Investigations: A Practice-Oriented Reflection

Camilo Eduardo Umaña Hernández

While the concept of *patterns* is frequently invoked in human rights discourse, a clear and systematic approach to their identification and analysis remains elusive. Various human rights initiatives have identified patterns in diverse analyses with different purposes, but a comprehensive methodological framework is still needed.

This paper approaches this problem from a methodological perspective, using human rights violations as the unit of analysis. This paper discusses and incorporates practical reflections, along with a review of the international human rights literature, aiming to address this gap. We will explore how human rights organizations have historically utilized pattern analysis and delve into key considerations for conducting pattern analysis of human rights violations.

By providing a structured approach for methodological reflection on pattern analysis, this paper aims to offer a tool for researchers to identify systemic violations, enhance advocacy efforts, and ultimately contribute to the pursuit of justice and accountability.

Key words: pattern analysis, investigation methodology, human rights violations

Uses of Pattern Analysis in Human Rights Investigations

Pattern is a term frequently used in the work of human rights organizations. However, there are few clarifications on how patterns are drawn. The potential of using this terminology to explain complex violations increases when it is employed as part of an explicit, intended, data-driven, and cautious methodological analysis. It is less useful if used without an analytical framework that lacks methodological clarification, thereby hindering deeper descriptions of complex settings involving human rights violations.

After detecting the pattern, making sense of it requires an account and visualization capable of capturing how the information is structured, the form of the pattern, its key components, and the typology of interrelation, allowing them to interact with each other.

While the use of patterns serves different purposes, Pattern Analysis (PA) can be leveraged by these institutions to enhance their findings, increase public awareness about the situations they evaluate, and ultimately deepen their understanding of complex human rights violations.

Amnesty International's search engine yields 1,720 results for "pattern," referring to numerous annual reports that document widespread abuses, including the repression of activists, targeted violence, impunity, and systemic injustices. In contrast, Human Rights Watch has 3,732 entries for the same term, with similar uses indicating recurring and systematic attacks. These and other human rights organizations have used patterns as an expression for detecting widespread and

systematic violations, democratic decline and authoritarian backsliding, gender-based violence, impunity, and other forms of attacks on civil society.

In these reports, sometimes, patterns are amalgamated with systematic violations. With the expression “systematic pattern of violations”¹ Organizations, such as the Inter-American Commission on Human Rights (IACHR), have denounced the weakening of the rule of law in the face of the grave human rights crisis in the Americas, often without clarifying what specific patterns are drawn from which central factors and with what degree and quality of data accumulation. Several declarations focus merely on the repetition of events and the planning of the events relying on other possible forms of patterns, or disregard the existence of systematic violations that may not be detected or even take the form of patterns – “not all system crimes relate to patterns of events”².

International tribunals have also progressively used patterns for describing systematic violations. The International Criminal Court (ICC) refers to crimes against humanity when committed as part of a widespread or systematic attack directed against any civilian population, meaning by “systematic” the “organised nature of the violent acts, referring often to the existence of ‘patterns of crimes’ and the improbability of their random or accidental occurrence”³. As well as the inference of a policy from the existence of a recurrent ‘pattern of violence’ referring to “repeated actions occurring according to a same sequence”⁴ or “non-accidental repetition of similar criminal conduct on a regular basis”⁵

In this sense, the UN War Crimes Commission established that crimes against humanity required “either by their magnitude and savagery or by their large number or by the fact that a similar pattern was applied at different times and places, endangered the international community or shocked the conscience of mankind, warranted intervention by States other than that on whose territory the crimes had been committed, or whose subjects had become their victims”⁶. ICC has not only used patterns to define systemic violations, but also to group and explain the repetition of violations identifying whether: “(i) identical or similar criminal practices can be identified; (ii) the same modus operandi was used; or (iii) victims were treated in a similar manner across a wide geographic area”⁷.

The International Criminal Tribunal for Rwanda (ICTR) has also employed patterns weighting responsibility of gross violations, considering the concept of ‘systematic’ defined as “thoroughly

¹ Inter-Am. Comm’n H.R., IACHR Denounces the Weakening of the Rule of Law in the Face of Violence and Repression in Nicaragua, Press Release No. 006/19 (Jan. 25, 2019), https://www.oas.org/en/iachr/media_center/PReleases/2019/006.asp; Inter-Am. Comm’n H.R., Report on the Situation of Human Rights in Haiti, OEA/Ser.L/V/II.88, doc. 10 rev.1 (Feb. 9, 1994), <https://cidh.oas.org/countryrep/EnHa94/enha94in.htm>

² United Nations. Office of the High Commissioner for Human Rights. (2006). *Rule-of-law Tools for Post-conflict States: Prosecution Initiatives*. United Nations Publications.

³ *Prosecutor v. Dominic Ongwen, Case No. ICC-02/04-01/15, Judgment (Trial Chamber IX), Int’l Crim. Ct., Feb. 4, 2021*

⁴ *Prosecutor v. Bosco Ntaganda, Case No. ICC-01/04-02/06, Judgment (Trial Chamber VI), Int’l Crim. Ct., July 8, 2019.*

⁵ *Prosecutor v. Bosco Ntaganda, Case No. ICC-01/04-02/06, Judgment (Trial Chamber VI), Int’l Crim. Ct., July 8, 2019.*

⁶ United Nations War Crimes Commission (2019), *History of the United Nations War Crimes Commission and the development of the laws of war* (London: H.M.S.O., 1948), Doc A/74/10.

⁷ Case of the Prosecutor v. Al Hassan Ag Abdoul Aziz Ag Mohamed Ag Mahmoud No. ICC-01/12-01/18

organised and following a regular pattern based on a common policy involving substantial public or private resources”, using the International Criminal Tribunal for the former Yugoslavia assertion around the specific intent of the crime of genocide that may be inferred from several events “which demonstrates a consistent pattern of conduct”⁸.

In the case of the Prosecutor's Office against Zdravko Tolimir,⁹ the Tribunal for the former Yugoslavia established that the killings of 5,749 Bosnian Muslim men from Srebrenica by Bosnian Serb forces in just a few days “followed a pattern.” It reached this conclusion by assessing not only the number of victims and the short time frame but also the fact that Serbian forces were deployed to remote locations specifically selected to carry out the killings.

In the case of confirmation of charges by a Pre-Trial Chamber of the ICC in the Ntaganda case, the attack was found to be systematic as it followed a “regular pattern” with a “recurrent modus operandi, including the erection of roadblocks, the laying of land mines, and [the] coordinated ... commission of the unlawful acts ... in order to attack the non-Hema civilian population”¹⁰. In Gbagbo, an International Criminal Court Pre-Trial Chamber found that “preparations for the attack were undertaken in advance.”¹¹ Revealing a “clear pattern” involving the attack to be systematic.

In this line, the International Court of Justice has established the *actus reus* of genocide to determine a genocidal intent a policy to that effect or “a pattern of conduct from which the only reasonable inference to be drawn was an intent on the part of the perpetrators of the acts to destroy a substantial part of the group”¹² signifying by a pattern of conduct “a consistent series of acts carried out over a specific period of time”¹³.

Regional Human Rights courts have also employed patterns to determine the existence of violations within frequent human rights practices. The European Court of Human Rights (ECtHR) has, in several cases, identified and condemned patterns of human rights violations by member states. The Court has addressed the concept of patterns, establishing that those violations consisting of “an accumulation of identical or analogous breaches which are sufficiently numerous and interconnected to amount not merely to isolated incidents or

⁸ *Prosecutor v. Jean-Paul Akayesu*, Case No. ICTR-96-4-T, Judgment (Trial Chamber), Int'l Crim. Trib. for Rwanda, Sept. 2, 1998.; Tribunal for the former Yugoslavia, Decision of Trial Chamber 1, Radovan Karadzic, Ratko Mladic case (Cases Nos. IT-95-5-R61 and IT-95-18-R61), Consideration of the Indictment within the framework of Rule 61 of the Rules of Procedure and Evidence, paragraph 94.

⁹ *Prosecutor v. Zdravko Tolimir*, Case No. IT-05-88/2-T, Judgment, Int'l Crim. Trib. for the Former Yugoslavia, Dec. 12, 2012.

¹⁰ In *Prosecutor v. Bosco Ntaganda*, Case No. ICC-01/04-02/06, Decision Pursuant to Article 61(7)(a) and (b), Int'l Crim. Ct. (Pre-Trial Chamber II), June 9, 2014, in United Nations War Crimes Commission (2019), *History of the United Nations War Crimes Commission and the development of the laws of war* (London: H.M.S.O., 1948), Doc A/74/10.

¹¹ *Prosecutor v. Laurent Gbagbo*, Case No. ICC-02/11-01/11, Decision on the Confirmation of Charges, Int'l Crim. Ct. (Pre-Trial Chamber I), June 12, 2014. In United Nations War Crimes Commission (2019), *History of the United Nations War Crimes Commission and the development of the laws of war* (London: H.M.S.O., 1948), Doc A/74/10.

¹² *Application of the Convention on the Prevention and Punishment of the Crime of Genocide (Croatia v. Serbia)*, International Court of Justice, Judgment of 3 February 2015, February 3, 2015.

¹³ *Application of the Convention on the Prevention and Punishment of the Crime of Genocide (Croatia v. Serbia)*, International Court of Justice, Judgment of 3 February 2015, February 3, 2015.

exceptions but to a pattern or system”¹⁴ are a practice incompatible with the Convention. Sometimes it allowed the Court to assess the extent of the effects of a violation when assessing figures as the chilling effect in the *Navalnyy v. Russia* case where it established a pattern that “could be discerned from the series of episodes: the applicant had been arrested seven times in a relatively short period and in a virtually identical manner, while exercising his Convention right to freedom of assembly”, which, therefore, “had the effect of preventing and discouraging him and other opposition supporters from attending demonstrations and, more generally, from participating in open political debate.”¹⁵

The Inter-American Court of Human Rights has employed patterns to refer to contextual factors in assessing the status of violations in a particular context. In the *Case of the Indigenous Communities of the Xingu Basin v. Brazil*, the Court identified a "pattern of negligence" in addressing the rights of indigenous peoples, including violations related to land and environmental protection. This was linked to a broader pattern of state actions undermining indigenous autonomy and survival. The use of patterns has also been linked to determining crimes against humanity, as in the *Case of Almonacid-Arellano et al v. Chile*¹⁶ Which established that “the extra-legal execution committed by State agents in detriment of Mr. Almonacid-Arellano, who was a member of the Communist Party, a candidate to preside the party and Union Leader -all of which was considered a threat to the dictatorship - was committed following a systematic and generalized pattern against the civilian population, and thus, it is a crime against humanity”. Deriving the conclusion of the impossibility of granting amnesty for crimes against humanity.

In the case of *Cepeda vs. Colombia* the Inter-American Court established that “due diligence in investigations involved taking into account the patterns of action of the complex structure of persons who committed the extrajudicial execution, since this structure remains after the commission of the crime and, precisely to ensure its impunity, operates using threats to cause fear in those who investigate and in those who could be witnesses or have an interest in the search for the truth, as is the case of the victims' families” (par. 116).

The Court’s jurisprudence has endorsed PA as a form of conducting effective investigations. Thus, it has ascertained that “certain lines of inquiry, which fail to analyze the systematic patterns surrounding a specific type of violations of human rights, can render the investigations ineffective”¹⁷.

Different human rights institutions employ patterns to detect repeated violations that are not merely isolated practices, but involve a shared logic, often without clarifying the amount of information and the interconnection established. Besides the argumentation about the repetition and similarity, the methodological strategy employed remains elusive.

¹⁴ Ireland v. United Kingdom, 25 Eur. Ct. H.R. (ser. A) at 5 (1978).

¹⁵ *Navalnyy v. Russia*, App. Nos. 29580/12 et al., Eur. Ct. H.R. (Nov. 15, 2018), <https://hudoc.echr.coe.int/eng/?i=001-177665>.

¹⁶ Inter-Am. Ct. H.R., *Almonacid-Arellano et al. v. Chile*, Judgment (Prelim. Obj., Merits, Reparations, and Costs), Sept. 26, 2006, Series C No. 154.

¹⁷ Inter-Am. Ct. H.R., *González et al. (“Cotton Field”) v. Mexico*, Judgment (Prelim. Obj., Merits, Reparations, and Costs), Nov. 16, 2009, Series C No. 205; Inter-Am. Ct. H.R., *Rochela Massacre v. Colombia*, Judgment (Merits, Reparations and Costs), May 11, 2007, Series C No. 163

The technique used with this purpose is sometimes similar to crime trends, which is a different analytical task than PA: “A trend is a persistent long-term increase or decrease in time- based data.for [...] Since crime trend analysis does not examine shared similarities between specific crime incidents, a crime trend is not a crime pattern.”¹⁸. Trends show variations, patterns emphasize similarities. Trends and patterns can be combined for the analysis of protracted conflict and widespread violations, but they should not be confused, avoiding the risk of weakening the methodological foundations of the findings.

For example, the Atlas of the Regional Impact of the Armed Conflict in Colombia establishes that a “pattern that can be highlighted is that while in the nineties the activity of the FARC and/or the ELN was dynamic and in certain circumstances surpassed the actions initiated by the Military Forces, in the new millennium and particularly around 2002, the correlation of forces changed significantly; the military initiative was in the hands of the Military Forces and the dynamism of the military activity of the FARC declined; the takeover of towns and attacks on military and police installations disappeared, and attacks on infrastructure increased, accompanied by harassment of the Public Forces” (p. 308).

The above examples highlight how "pattern" is used in international legal analysis to establish systemic behavior or to differentiate between isolated incidents and coordinated actions indicative of broader crimes or violations.

Recently, this problem was confronted in the work of the Colombian Truth Commission, the institution tasked with clarifying the complex web of human rights violations and breaches of international humanitarian law (IHL) that were perpetrated during the nation's armed conflict that began in 1964. A critical component of its mandate was identifying and analyzing *patterns* within these violations. Yet, at the outset, there was a dearth of literature providing a robust methodological framework for such an endeavor. As part of the research team of the Truth Commission, I was committed to developing a methodological strategy that could support its challenging work.

The use of PA can be leveraged by human rights institutions, showing structures and forms of patterns and giving further clarification on the analytical approach adopted to draw them.

Pattern Analysis: A Tool for Understanding Interrelations between Human Rights Violations

In human rights, we are often confronted with limited resources and a vast amount of data for producing complex reports. Although it is not the cure for many constraints of the human rights work, PA is an effective investigative tool to move beyond atomistic understandings of broader social events and develop a more nuanced understanding of the underlying factors of violations.

¹⁸ Bruce, C., & Santos, R.B. (2011). Crime Pattern Definitions for Tactical Analysis. Standard Method and Technology, SMT Committee. Page 2

The most heinous human rights violations occur under a veil of chaos, misinformation, and denial. Human rights investigations require the development and improvement of investigative tools to document, memorialize, expose, and hold accountable those responsible for violations. PA is one of these tools, instrumental in the context of massive, systematic, widespread, or simply recurring violations. Furthermore, PA informs evidence-based advocacy and policy interventions that can contribute to the prevention of future human rights violations and promote justice and accountability.

Conducting PA, the human rights researcher draws analytical comparisons and composes clusters of interrelating elements extracted from relevant events. This operation enables an overview of how the data around human rights violations relate to each other, allowing us to understand the sense in which violations are not isolated incidents or exceptions.¹⁹ Using PA for human rights investigations, we seek to move from the question of *what happened in a specific event?* to the question of *is there a common feature that allows us to depict the form in which a series of events are correlated and the structures this reveals?*

The systemic nature of violations requires a research strategy that allows us to integrate multiple data sources to produce sound interconnections and further knowledge about scenarios of violence. Different violations, especially in the context of protracted conflicts, condense multiple connections and correlations. PA is about discovering/uncovering “a framework of meaning”²⁰ of widespread violence focusing on non-random correlations. This does not entail depicting identical violations, but instead involves grouping similar elements of the violations under scrutiny, allowing the observer to detect that they exceed a random realm.

PA is a research tool applicable to social phenomena based on constructing analytical relationships that can draw on large datasets. PA aims at moving from an episodic description to an analytical one to generate knowledge through the interrelation of data. “The value of data explodes when it is integrated.”²¹ PA is the opposite of a case-by-case analysis focusing on units of analysis isolated from each other²². A lot of research on human rights, especially those from the criminal system, focuses on specific cases omitting information about the way in which data of widespread violations tells us a lot about what happened. PA analysis is about looking at the information differently.

Patterns may be achieved by several techniques employed to accumulate information. A diversity of theoretical approaches may assist to group the information around sensible clusters.

¹⁹ inspired by the Eur. Ct. H.R., Ireland v. United Kingdom, Judgment, Jan. 18, 1978

²⁰ Leonard J. Waks, Donald Schön’s Philosophy of Design and Design Education, 11 Int’l J. Tech. & Design Educ. 37 (2001).

²¹ Renée J. Miller, The Future of Data Integration, Proc. KDD 2017, at 3 (2017).

²² According to the United Nations Special Rapporteur on the Promotion of Truth, Justice, Reparation, and Guarantees of Non-Recurrence, “The case-by-case approach renders it difficult to establish links between the different cases, identify patterns of violations and ascertain chains of command, all of which are essential precisely wherever violations are not isolated occurrences but the result of systems of crime. This approach, therefore, is not an effective means for disabling the structures that enabled the violations to occur in the first place, one of the most urgent aims of a transitional prosecutorial strategy.” United Nations Human Rights Council. (2014). Report of the Special Rapporteur on the human right to safe drinking water and sanitation, Catarina de Albuquerque (A/HRC/27/56). <https://digitallibrary.un.org/record/780937>

Data scientists have often focused on the statistical recurrence of data when referring to PA. However, the social complexities of human rights abuses involve more than simply accumulating data. We argue that PA for human rights violations requires employing a mixed-methods approach, combining quantitative and qualitative analysis in the form of interdisciplinary understandings of complex data sets. The development and application of PA have evolved in tandem with advancements in data science, statistics, and computational methods. However, human knowledge is fundamental, bringing together domain knowledge, an understanding of the context and a cultural background essential to have the data make sense in a specific arrangement of violence.

There are countless strategies for correlating human rights information. Some investigations draw interrelations of violations inductively (selecting a relevant case or situation and adding others that share certain characteristics of interest to the investigation), while others take a deductive perspective (starting from a specific research hypothesis or a particular characteristic attracting other cases or situations). Others adopt inductive-deductive strategies. In a past work²³, I referred to a ‘pincers maneuver’ (opération en pince) (Bateson 1972) by which researchers use empirical observations and the domain knowledge as axes of research in constant exchange.

Many disciplines undertake such strategies. Economic sciences²⁴, sociology²⁵, political science²⁶, and law (most of them limited to criminal investigation²⁷), among others, have

²³ UMANA, C. (2017) Impunity: in the search of a socio-legal concept Elucidations from a State Crime case study. Ottawa, Canada. In <https://dam-oclc.bac-lac.gc.ca/eng/8e2959f9-5f93-4d46-b3cb-5f811c08926c>

²⁴ “[E]conomists have used the concept of a “pattern,” which is defined as a set of variables that are significantly associated. In this way, economists think of patterns of behavior as statements that must be translated into numerical measurements or statistical analysis, since these should serve as tools for making decisions about economic policies [...] [T]o test the existence of significant associations between variables (that is, to test the existence of patterns). One of the most widely used techniques is “cluster analysis.” With this technique, cases are grouped according to the degree of similarity or difference that the variables have within a criminal group. [...] The important thing here is that the researcher can analyze data based on similarities or differences in the behavior of each variable within the criminal group. This allows, a posteriori, to identify which variables are most associated with youth violence.” Superior Court of the Judicial District of Bogotá, Justice and Peace Chamber. Judgment of September 1, 2014. Rad. 11001-22-52000-2014-00019-00 Internal Rad. 2319, page 525.

²⁵ “In sociological theory, it has been argued that patterns operate at the level of social, political, or economic structures that pursue a purpose, and not at the level of isolated individuals. This means that the social (class, ethnicity, or race), economic (money and possession of property), and political (ideological beliefs) roles of individuals operating in a coordinated manner within a structure must be identified [...] To identify the role that an individual occupies within the social structure, and to establish language codes, sociologists have opted for qualitative methodologies such as ethnography, in-depth interviews, and case studies.” (Superior Court of the Judicial District of Bogotá, Justice and Peace Chamber. Judgment of September 1, 2014. Rad. 11001-22-52000-2014-00019-00 Rad. Internal 2319, p. 535).

²⁶ “The impossibility of determining laws in the political world (due to the complexity of the individual and the frequent changes in strategic situations at the national and international level), made a new current of political scientists and political economists reduce their scientific pretensions of formulating general laws, and instead, proposed the concept of patterns and causal mechanisms as a way of finding regularities in political phenomena. [...] In political science, several methodological strategies can be used to identify patterns of behavior. Elster, for example, recommends the use of comparative methods (comparative case studies), historiographical and statistical methods. Recently, the professor of sociology at the University of California, Charles Ragin, built a methodology that considered the issue of patterns and causal mechanisms, and which he named “Fuzzy Set Theory.” This methodology has been used by political scientists due to the deficiency of regression models (univariate and multivariate) and the limitations of simple case studies when dealing with problems of multicausality.”

Sala de Justicia y Paz del Tribunal Superior de Bogotá [Superior Court of Bogotá, Justice and Peace Chamber], Sentencia de 1 de septiembre de 2014, Rad. No. 11001-22-52000-2014-00019-00, Rad. Interno 2319, at 525.

developed different approaches for establishing patterns. These definitions, applied to human rights investigations, coincide in the objective of facilitating the determination of criminal involvement in the violations and the determination of relevant facts.

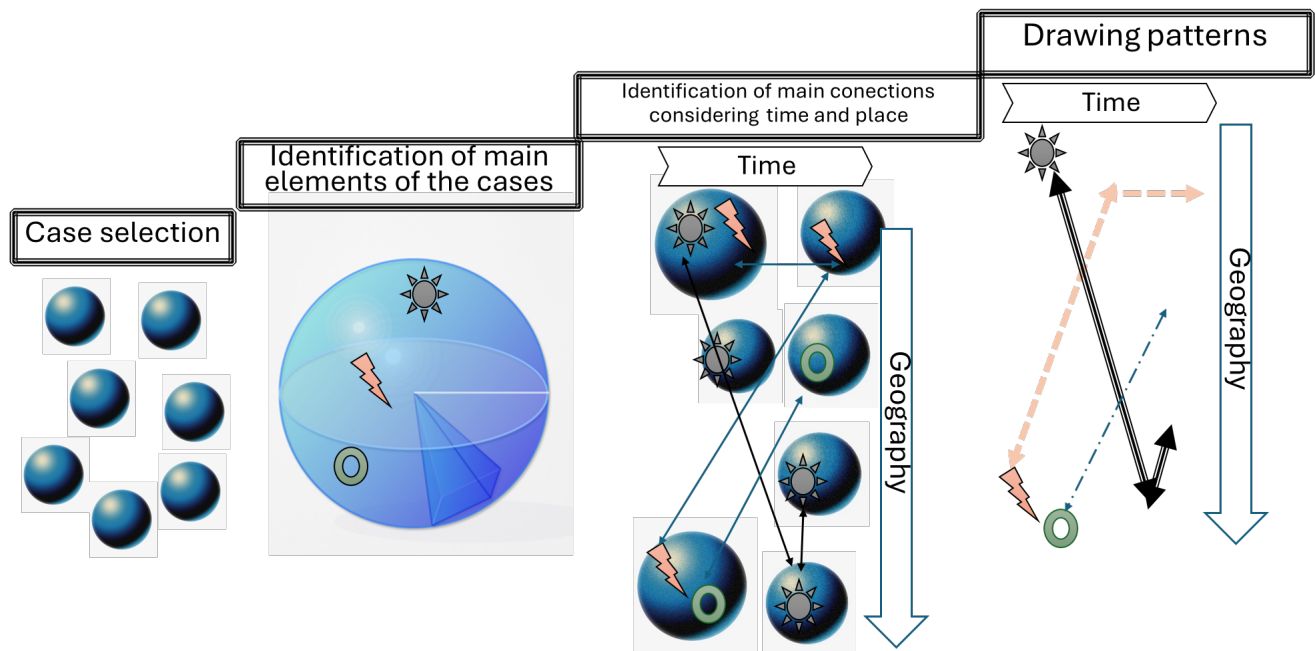
Rather than relying too heavily on one discipline over others, I argue that it is essential to use an interdisciplinary approach, considering the different developments applicable to studying social phenomena. This integrative approach allows us to integrate more nuanced and solid observations across complex data sets. “Not taking into account the way in which the issues of pattern construction have been approached by other disciplines prevents having a broad perspective on how analysis models work in other areas of scientific and social knowledge, which ultimately results in biased analyses lacking conceptual and epistemological breadth”²⁸.

In PA, the researcher draws analytical interrelations between descriptive factors to provide a comprehensive overview of complex empirical information, capable of identifying shared features that express a specific form of violence. PA seeks to provide a longitudinal observation to what happened based on a common logic by virtue of “the similarity in some of the characteristics of a set of events”²⁹. A visualization of this idea for human rights investigations translates into this:

²⁷Law 1592 of 2012 was designed with two main objectives: (i) to definitively transform the approach to investigation, prosecution and judicialization that had been applied in the Justice and Peace processes to ensure the concentration of efforts on the investigation of those most responsible and on the disclosure of macro-criminality patterns; and (ii) to articulate these processes with the other instruments of transitional justice to ensure the effective satisfaction of the rights of the victims. According to article 16 of decree 3011 of 2013, which regulated Law 1592, patterns can be understood as “the set of criminal activities, practices and modes of criminal action that are repeatedly developed in a given territory and during a given period of time, from which the essential elements of the policies and plans implemented by the organized armed group outside the law responsible for them can be deduced. The identification of the macrocriminality pattern allows the investigation efforts to be concentrated on those most responsible for the development or execution of a criminal plan and contributes to revealing the structure and *modus operandi* of the illegal armed group, as well as the relationships that made its operation possible.” Based on the aforementioned Law 1592, the Attorney General’s Office issued Directive 0001 of 2012, in which it clarified that it understood the patterns to be “[...] the set of activities, logistical and communication means and criminal *modus operandi*, developed in a specific area and period of time, from which conclusions can be drawn regarding the various levels of command and control of the criminal organization. Its determination helps to establish the degree of criminal responsibility of its members and is a fundamental part of the construction of the context.”

²⁸Sala de Justicia y Paz del Tribunal Superior de Bogotá [Superior Court of Bogotá, Justice and Peace Chamber], Sentencia de 1 de septiembre de 2014, Rad. No. 11001-22-52000-2014-00019-00, Rad. Interno 2319, at 525.

²⁹Jurisdicción Especial para la Paz [Special Jurisdiction for Peace], Grupo de Análisis de Información – GRAI. Marco Conceptual y Metodológico 18 (2018).

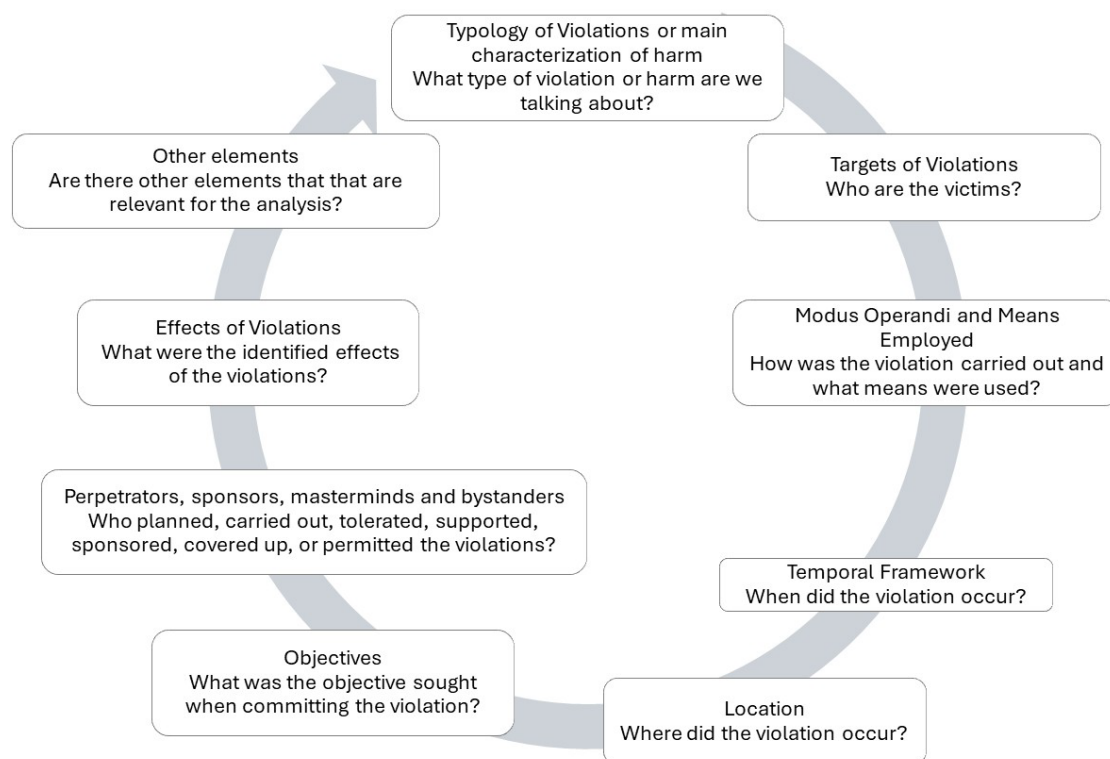


Every pattern depicts *key components* as relevant factors in the violations that uphold a specific type of interrelation, setting the connection points and detecting the arrangement of violence: the *form*.

“A pattern is a form in which particular features recur recognizably and regularly, if not identically or symmetrically”³⁰. Just as nature boasts an array of patterns in the form of fractals, spirals, waves, and ripples, as well as spots and stripes, social patterns are manifested in different forms that point to a deeper understanding of the structures acting around a particular violation. A form expresses one specific array of violence, showing a connection between the elements that are under analysis, enabling further questions around accountability, reparations, harm, victimization, and non-recurrence. Understanding the forms and exploring these further questions allow us to maximize the investigative effect of PA.

To create an appropriate analytical process with a view to capturing the complexity of human rights violations it is important to gather basic elements such as the following or, in their absence, most of them:

³⁰ Peter Ball, *Nature's Patterns: A Tapestry in Three Parts* (Oxford Univ. Press 2009).



The characterization of harm is essential. Several forms of harm may be translated into human rights terminology. Sometimes these categories can be insufficient to capture the arrangement of violence in a specific setting. Either way, due to the possible broad categorization of harms, information should be structured around a shared reference—either legal, sociological, criminological, or other—allowing the investigator to stabilize the selection, observation, and analysis. As clarified by the European Court of Human Rights when referring to patterns, it is necessary to deal with “violations of an identical or similar nature, which are sufficiently numerous and interrelated so as not to be reduced to isolated or exceptional incidents and thus form a pattern or system” ³¹.

Characterizing the violations must acknowledge the victims’ perspective. Victims are catalyzers of memorialization around their histories of harm. Their perspective on what happened offers a more profound understanding, incorporating factual, emotional, political, psychological, and spiritual dimensions of what happened. Using the wording of the UN Guiding principles for the search for disappeared persons: “Their input, experiences, alternative suggestions, questions and doubts should be taken into account”. PA researchers should consider integrating victims not only as a source of information, but also as analysts contributing to the investigation and to assess the conclusions. The interpretation given to the description requires a background, chronology and multiplicity of other elements such as the idiosyncrasy, attitudes, identities and roles of actors, specific details around the facts and the impacts according to the lived experience

³¹European Court of Human Rights, case of Ireland v. the United Kingdom, par. 159.

of survivors of violence who often are better equipped to analyze how data across multiple violations in a specific context is interconnected.

Complex human rights violations are often recorded in multiple materials, documents and testimonies. Sometimes there is no proper account of the events and indirect elements need to be taken into consideration such as contextual observations. Legal analysts tend to rely on judicial procedures. Social analysts are more inclined to conduct field work and observe community produced materials. Complementarity of sources is ideal.

Conducting research about organized criminal activity, especially when State agents are involved, may hinder the possibilities of finding new information or obtaining basic relevant factual elements. Improving evidence to confirm the facts is a significant challenge: the complementarity of sources, the account of witnesses, in situ observation, and the testimonies of victims are especially relevant to describing the events and further contextualizing the information gathered.

The standard of proof that every event needs to meet depends on the type of investigation, its institutional framework and the focus of the research. However, it is essential that a minimum standard of evidence is set from the outset of the study. Contrasting sources, complementary evidence and diversity of information help to strengthen the gathering of data. It is crucial to establish a minimum level of verification, allowing us to incorporate the data into the analysis. Pattern analysis requires a trustful, verifiable and contrastable data set of information. As long as data is credible, relevant and appropriate it may be integrated. Conducting a validity test is applicable for the PA:

“... this means developing at least a prima facie analysis of the information, based on the degree of relevance (i.e., importance), veracity (i.e., truth), accuracy (i.e., precision) and the methodology used to gather it. A commonly applied test of validity is to assess whether the information is logical in itself or to compare it with other known facts, according to the commonly applied principle that information should be consistent with material collected from at least three independent sources. Validity can also be assessed by the degree to which a particular piece of information fits in with other materials which have been amassed. Hence, HROs [human rights organizations] must consider not only the specific piece of information gathered, but also their sense of whether all the pieces of the jigsaw puzzle put together actually yield a credible story. In their analysis of information, HROs should be careful to distinguish between the validity of the information and the credibility of the source. Even a credible source can provide inaccurate information and vice versa.”³²

³² UN, Manual on Human Rights Monitoring, Chapter 07 Gathering contextual information
<https://www.ohchr.org/sites/default/files/Documents/Publications/Chapter13-MHRM.pdf>

In the presence of a variety of valid elements for analysis we are halfway because detecting elements of violations in isolation does not complete the task of PA -“Good data won’t guarantee good decisions”³³.

Based on the basic elements described, it is necessary to draw analytical connections between them, so that they allow the patterns to be formed. “The identification of patterns is more than just counting and grouping crimes that are similar in characteristics and/or location. A crime pattern is not simply a list or count of all crimes within a defined date range, nor is it simply a group of incidents on a map. A crime pattern is identified through a systematic analytical process”³⁴.

As a strategy that enables us to gain knowledge about human rights violations, especially those that are not isolated occurrences or clearly exceptional, PA must be completed with enough rigor, caution and precision not to artificially correlate factors that have no link whatsoever, nor to draw patterns where the interrelation does not exceed a mere coincidence. The analytical relationship should ideally link the largest possible number of factors. The more elements interrelated, the greater the probability of observing a pattern. The task is to avoid simplifying the facts to mere coincidences and, at the same time, verify or contrast the sources of information for each element.

More than just why a human rights violation occurs, PA explains how violations manifest in a particular form, based on a set of **key components**. The primary function of this strategy is to respond to the question of understanding how the violations occurred.³⁵

PA is about correlations not necessarily about causality. Patterns do not automatically allow us to determine a causal path, since there are many possible connections between causes – events – consequences. Especially when we are talking about a highly complex context, causal connections may be highly misleading, since there are too many contingencies to determine with certainty the violations under cause-and-effect logic through drawing patterns. PA allows us to know more about the 'why' question by replying to the 'how' question. It is not that it doesn’t tell us anything about the why, it is just that it doesn’t tell us everything.

Responding to the why question involves not only addressing recurring logic evidenced by shared characteristics across multiple events, but also weighing the impact of exceptional events, non-linear relations, and more isolated factors enabling violence to take place. In contexts of widespread violence, an adequate understanding of what happens requires concepts and models that consider both the non-randomness and the irregularities of harmful events.

³³ S. Shah, A. Horne & J. Capellá, Good Data Won’t Guarantee Good Decisions, Harv. Bus. Rev., Apr. 2012, at 90.

³⁴ Bruce, C., & Santos, R.B. (2011). Crime Pattern Definitions for Tactical Analysis. Standard Method and Technology, SMT Committee. Page 2

³⁵ An interesting parallel between the why and the how can be drawn from nature patterns studies: “We’ve only really understood how snowflakes get these branched formations since the 1980s even though people have studied and thought about that question for several hundred years. Yet even now it is a bit of a mystery why every arm of the snowflake can be pretty much identical. It is almost as though one arm can communicate with the others to make sure they grow in a special way. That is still surprising”

Fessenden, M. (2016, May 10). The science behind nature’s patterns. Smithsonian Magazine. <https://www.smithsonianmag.com/science-nature/science-behind-natures-patterns-180959033/>

Pattern analysis is particularly fruitful for addressing multicausal phenomena, as it emphasizes connections to visualize a factual convergence analytically. As such, PA does not automatically result in establishing causal relations, but rather in identifying mutual factors that enable consistent explanations of complex human rights violations. However, the identification of patterns can allow, through the reduction of complexity, to elucidate explanatory contexts and impacts of violations.

Patterns, for example, allow us to visualize networks and interests through nodes of information connecting the participation of perpetrators, bystanders, sponsors, and masterminds.³⁶ “[T]he investigation of patterns can be crucial in determining the responsibility of those behind the scenes. This issue is significant in situations where responsibility may be based on omission, rather than commission. Reconstructing patterns can help build a framework that implies that those behind the scenes knew or had reason to know that the events were occurring or were likely to occur and failed in their duty to prevent them.”³⁷

Building a pattern involves caution in not homogenizing empirical data; nor exhausting the knowledge of a particular event around understanding its distinctiveness, as zebra's stripes “everyone can recognize that as a pattern, but no stripe is like any other stripe”³⁸.

The goal of the researcher is to bridge information, highlighting the interconnection between different data. We gain little knowledge if we reduce everything that happened in the context of widespread violence to identical, homogeneous, or regular.

Not every human rights breach is better understood as a pattern. In protracted conflicts, for instance, while multiple connections between violations may be observed, there are also exceptional events that cannot be ascribed to a unified logic with other units of analysis. Patterns may emphasize the shared features of data taken into consideration, obfuscating any particularities of the violations. Investigative efforts invested in interrelations should not replace in-depth knowledge of events, which can lead to misplacing singularities that may be especially relevant for victimized communities or for developing an integral analysis.

The work of Remhi in Guatemala, a project that investigated human rights violations during the Guatemalan armed conflict under the project Never Again, concluded that it needed a strategy of

³⁶ “Mass violations usually require not just complex organization of the “armed” operations that immediately cause the violations, but the coordination of those operations with supportive political and economic actors, and even with social and cultural entrepreneurs, capable of mobilizing large groups and resources. A prosecutorial strategy at the domestic level which seeks to have long-term impact should therefore target the “nodes” in this web of actors. Clearly, this requires a particular prosecutorial focus that emphasizes patterns of violations, helps discover chains of command, links between armed actors and other groups, as well as financial and other support, including arms trade and smuggling. The challenge here is not only to establish individual criminal accountability for isolated violations, but to zero in on the structures or networks that enabled the various actors to jointly make the horrific violations happen. To target those enabling connections could contribute to the dismantlement of the whole criminal set-up” United Nations Human Rights Council. (2014). Report of the Special Rapporteur on the promotion of truth, justice, reparation and guarantees of non-recurrence, Pablo de Greiff (A/HRC/27/56). <https://undocs.org/A/HRC/27/56>

³⁷ United Nations. Office of the High Commissioner for Human Rights. (2006). *Rule-of-law Tools for Post-conflict States: Prosecution Initiatives*. United Nations Publications.

³⁸ Fessenden, M. (2016, May 10). The science behind nature's patterns. Smithsonian Magazine. <https://www.smithsonianmag.com/science-nature/science-behind-natures-patterns-180959033/>

investigation different than PA: “Shortly after beginning the preparatory work, we were confronted with the limits of conventional approaches to human rights work, particularly when it comes to collecting, analyzing, and understanding the experiences of war-affected populations. The categories commonly used, such as patterns of violation or the concepts of International Humanitarian Law, were in crisis from the outset. In what category does the obligation to kill a brother fall? (Chiché, 1983). What concept can be applied to public ceremonies where everyone was forced to beat the victim on the head with a stick until he died? (Chichupac, 1982)

Thus, we abandoned a series of complex patterns and forms based on the human rights model (torture, murder, rape, assault, kidnapping, torture, as isolated and individual categories) to move toward a more open methodology.”.

However, the *'how' question for collective, systematic, massive, or repeated violations*, by accumulating similarities and weighting their analytical relevance, does enable information about the singularities of a breach in contrast with others—singularity among patterns. Such a process can be summarized as an observation of the singularity vis-a-vis the pattern, allowing the investigation to draw replications, modifications, additions, and subtractions, as Zavoleas puts it for nature patterns³⁹.

PA can be used to predict future interactions, especially when they are part of macro-patterns⁴⁰; however, not every set of information operates in a regular path seeking way, human rights violations take different forms that may change due to unexpected factors or unintended effects of regular factors, “after a few iterations a diverse system is set whose future state is not easily predictable.”⁴¹. This is also related to the dynamism of social conflicts and widespread violent expressions. “To explain why a social pattern keeps reappearing is not necessarily the same as explaining how it initially came into being. The forces that sustain a pattern may differ from those that made it emerge in the first place. According to Max Weber, for example, a certain type of religion helped modern capitalism to come into being, but has not played a role in its continuing existence.”⁴².

PA may also enable broad levels of analysis, thereby hindering the detection of other patterns at a subset level. “Studies focusing on the domestic and international determinants of violence often use cross-national qualitative and quantitative evidence to highlight broad patterns in wartime violence against civilians, pointing to correlations that hold across many cases of civil war. However, these studies often overlook subnational variation in violence and thus risk minimizing the role of local-level factors and organizational dynamics in contributing to

⁴⁰ Patterns are not only used on a fact-pattern-fact scale. Macro-patterns can also be created by trying to relate two or more patterns on a second analytical level. If we find that patterns uphold an interrelation that do not nullify their own distinctiveness, there might be a macro-pattern. This exercise can be particularly useful for giving a broader understanding of conflicts.

⁴¹ Yiannis Zavoleas, *Patterns of Nature: Bio-Systemic Design Thinking in Meeting Sustainability Challenges of an Increasingly Complex World*, 7 Dev. Built Env't 100048 (2021).

⁴² Hamed Mondani & Richard Swedberg, *What Is a Social Pattern? Rethinking a Central Social Science Term*, 51 Theory & Soc'y 543 (2022).

violence”. Thus, macro levels with a national or international focus may obscure the exploration of local-level factors.

Patterns of human rights violations are not universal: transplanting patterns from one set of information to another may result in inadequate assessments. All violations need to be understood within a broader context.

In this regard, for PA, constructing a rigorous and specific timeline is necessary to historicize what happened. The analysis needs to be ascribed to the most precise timeline possible. Each time measured in days, months, or years belongs to a historical context; therefore, the patterns must be able to recreate a set of shared characteristics according to a specific historical moment.

The chronology of events is essential for providing an overview of the geographic patterns of the violations, which, when combined with a timeline, can offer clues about trends and other responsible agents.

For example, the Atlas of the Regional Impact of the Armed Conflict in Colombia, when analyzing the Bajo Cauca, Nordeste Antioqueño, Nudo de Paramillo, Urabá Antioqueño and Chocó regions, concludes that “[a]n aspect that emerges very clearly from the analysis is the pattern of homicides in the region that describes an advance from north to south, that is, from the flattest areas to the most mountainous ones. In summary, paramilitary groups consolidate territories and control populations in flat areas, then advance to more mountainous regions. To this end, the analyses of the different subregions are presented below.” (p. 284).

The location of spatial patterns is not always limited to geographic coordinates (georeferencing). Still, it can refer to places (like schools, churches, illegal settlements), physical environments (for instance: underground sites, jungles, low-income neighborhoods, forests) or even virtual environments (for example, in cases of threats and harassment, the use of email, virtual publications, WhatsApp) in which the violations take place.

For example, in the publication “What are the patterns? Murders of social leaders in the post-agreement” by various human rights organizations and the National University⁴³, it is stated that at least 106 leaders and defenders were murdered in their homes, that is, 41.24% of the total. This, concludes the NGO, “evidences a pattern of planning concerning homicidal violence against leaders and defenders, since at least 91 (86.67%) of the murders were committed in homes.”

The possibility of establishing a pattern may also depend on the location of the violations. For example, if we were to say that torture occurred in City1, Town2, and Municipality3 by official agents, we would be in a gradually different scenario than if we were to say that torture occurred by official agents in these sites’ prisons.

Contextual knowledge, while fundamental for building human rights patterns, should not be reduced to PA. Patterns serve to complement efforts in the contextual analysis of human rights

⁴³Ascamcat et al., ¿Qué son los patrones? Asesinatos de líderes sociales en el postacuerdo, CINEP/PPP et al. (2019).

violations, but are not concerned with drawing conclusions about contexts. For instance, extrajudicial killings in a particular society may be perpetrated in different territories, years, and by other actors. Still, patterns may arise when analyzing the *modus operandi* and the typology of victims. In this case, pattern analysis does not provide a final picture, but rather complementary information to help grasp the context of different violations. PA comes from “an intimate conversation with the data and with the context of the data, based on domain knowledge.”⁴⁴.

PA is a data-driven process that addresses complex phenomena, translating them into large datasets, as it points to connections within the universe of information to analytically visualize not merely coincidental convergence. For this reason, this analytical tool can be particularly useful for studying complex phenomena, such as human rights violations.

Practice-oriented considerations for Pattern Analysis



There is no single method that allows us to understand every aspect of complex conflicts. Therefore, PA is one effective tool to be used along with others to explain widespread violence, translating complex datasets into sound, systematic descriptions. Some practice-oriented considerations may be helpful when conducting PA for human rights violations:

- PA should be explicitly enunciated, but mentioning it is not enough. Analysts need to explicate:
 - the data that was processed: the amount of information, the sources, and its limitations
 - the elements around which the observation focused and its justification: the compilation of elements must have specific features that allow their characterization and enable a subsequent analysis
 - the evidence standard, clearly indicating what the grounds of the integration of data are
 - the type of interrelation drawn, in statistical or qualitative terms
- PA is based on verifiable data and precise interrelations. Researchers must obtain clear and accurate information to allow interrelations to be drawn with scientific certainty and structure the material gathered into a database, reconfirming data consistency.
- PA is often the result of teamwork. Researchers can foster collaboration between investigators and create opportunities to bridge different areas of expertise and experiences.
- PA should enable stable observations of large datasets. Analysts should share descriptive parameters and definitions to conduct such observations. This can be improved by creating a lexicon of categories (harms, violations, infractions) or referring to an existing

⁴⁴ M. Muller et al., How Data Science Workers Work with Data: Discovery, Capture, Curation, Design, Creation, in Proc. of the 2019 CHI Conf. on Human Factors in Computing Sys. 10 (2019).

one to analyze the different harms that can be expressed in a code for the detection and classification, as well as a rigorous criterion, for linking the described harms with the situation under analysis.

- PA requires a multiplicity of elements of analysis from multiple events, representativeness, and reliability are crucial to conduct PA. Researchers need to choose a sample of cases that is representative of the amount and quality of events, bringing to light the missing elements to improve the information.
- PA seeks to generate analytical connections from a partially disaggregated universe of violations. Researchers need to select an adequate analysis strategy to map interrelations, allowing cross-readings between multiple elements with an emphasis on observing coincidences. A pattern emerges when the evidence consistently indicates a regularity of elements, suggesting that violations are not isolated. Researchers can test the consistency of the PA by adding new events to the analysis without the pattern falling apart.
- PA does not dictate one specific method over another. However, the particular case may require a greater effort in one type of analysis, giving preference to either qualitative or quantitative approaches, which allows for greater consistency in analytical relationships. Methods can be combined, such as when the modus operandi of a group of violations is qualitatively analyzed and then quantified by coding the dataset to determine the most recurrent characteristics of how violations are planned, executed, or covered up.
- PA can be conducted from two starting points, inductively or deductively. However, this has been progressively abandoned by some social scholars, starting with a research question adopting an inductive-deductive approach, combining both hypotheses and cases as the first step to build your patterns.
- PA should allow acknowledging harm and dignifying communities that have suffered violations. It is essential that the characteristics of the victims are intersectional, meaning that they encompass the qualities of the victims in a way that best understands the diverse conditions of their subjectivities. Ensure information security throughout the process and, if possible, allow victims' participation in the analysis.
- PA takes time and resources. It is hard to accomplish. Researchers should calculate in detail the resources that they will need to carry out the analysis and, thus, to calculate their feasibility (in human rights we always have little time!).
- PA involves an amount of effort that may enable actionable recommendations. The resources and capacities required to complete such a demanding task may enable the investigation to propose insightful and actionable recommendations.

- Ideally, the pattern should be clear and allow for its identification and observation. However, “[o]nce the pattern is detected, the need to explain it remains!”⁴⁵. No matter how clear it may appear to the investigator, the analysis requires elucidating supporting evidence and explaining the analytical process in detail.

⁴⁵ Reed, M. (2015) Notes on complex crime research and pattern analysis. Presentation at Yale University, New Haven, CT USA, October 31, 2015