Engaging Science, Technology, and Society

THEMATIC COLLECTION: PEDAGOGICAL INTERSECTIONS ORIGINAL RESEARCH ARTICLE

Teaching the Politics of Numbers with EthnoData: Ethnographic Experimentations through Statistics in Ecuador

MAKA SUAREZ
UNIVERSITY OF OSLO & KALEIDOS
UNIVERSITY OF CUENCA
NORWAY & ECUADOR

JORGE NÚÑEZ
UNIVERSITY OF AMSTERDAM & KALEIDOS
UNIVERSITY OF CUENCA
THE NETHERLANDS & ECUADOR

MAYRA FLORES
DARTMOUTH COLLEGE & KALEIDOS
UNIVERSITY OF CUENCA
UNITED STATES & ECUADOR

Readers should be aware that the abstract, paper, and keywords include descriptions of violent deaths, including femicides and murders. The article also presents specific data and examples of graphic violence related to the production of official statistical evidence on violent deaths in Ecuador.

Abstract

This essay discusses the development and use of EthnoData, a multimodal and multimedia digital platform designed to critically engage different publics with data production and circulation in Ecuador. Created by Kaleidos, a research center at the University of Cuenca, EthnoData combines ethnography and large datasets on violent deaths, femicides, hate crimes, and missing people to analyze and challenge the conventional authority of official statistical evidence. EthnoData is also a pedagogical tool to disrupt linear narratives of violent deaths. It provides a collaborative learning space that enables users to generate their own theorizations and stories, highlighting the politics of classification and the socioeconomic inequalities embedded in the quantification of violence. The paper illustrates the platform's capacities through three examples: an interactive classroom exercise, an ethnographic essay on data reclassification, and its use in a deportation hearing in the US. These examples underscore EthnoData's role in exposing the power dynamics in knowledge production and the real-life consequences of statistical categorizations. By democratizing access to data, EthnoData engages users in a critical reflection to question and better understand the politics and limitations of data, pushing for deeper and more nuanced comprehensions of statistical realities and their political implications.

Keywords

critical pedagogies; data ethnography; critical data studies; Ecuador; STS statistics; violent deaths

To cite this article Suarez, Maka, Jorge Núñez, and Mayra Flores. 2024. "Teaching the Politics of Numbers with EthnoData: Ethnographic Experimentations through Statistics in Ecuador." *Engaging Science, Technology, and Society* 10(1–2): 206–220.
https://doi.org/10.17351/ests2023.1595.

To email contact Maka Suarez: maka.suarez@sai.uio.no.

Introduction: Teaching the Politics of Numbers with EthnoData

One of the biggest challenges in designing a multimodal and multimedia digital platform is providing different publics a means of engaging critically with data production and circulation. Numbers, and statistical data in particular, often elicit a sense of certainty in what they communicate. The resulting datasets are assumed accurate and presented with epistemic authority by scholars and policy makers. A growing literature critically examines this assumption by looking at the expansion of data production and questioning how data are designed, produced, appropriated, governed or utilized by different publics and expert bodies (Feinberg 2017; Dalton and Stallmann 2018; Pavlovskaya 2018; Liboiron 2021; Traweek 2021). In this short essay we offer our own practice for unsettling data through the creation of EthnoData, a collaborative digital platform that combines large datasets and ethnographic material on violent deaths, femicide, hate crimes, and missing people in Ecuador. The platform was designed by Kaleidos, a research space at the University of Cuenca, a public university in southern Ecuador.

We think of EthnoData as a pedagogical tool for disrupting linear narratives of data concerned with violent deaths and as a site of experimentation where learning occurs through STS practices. This means that the platform is a collaborative space to produce collective hermeneutics and bottom-up political strategies. In EthnoData users create their own theorizations and stories through a variety of numerical evidence and qualitative data—including official statistics, legal archives, curated images, and ethnographic essays, videos, podcasts, and other forms of material. Following a growing body of literature theorizing critical interventions in data practices, particularly looking at how different types of data are produced (Sadre-Orafai 2020; Crawford 2021; Kang 2023), in this essay we focus on how the digital platform we designed engages numerical evidence and classification practices regarding violent deaths as a matter of political concern for both government and civil society organizations. We use three examples to illustrate the politics of classification enacting context-specific biases and socioeconomic inequities. In this sense, EthnoData enables novel ways of examining and learning how statistical facts are entangled in worldbuilding processes in which numbers become the center of gravity of institutional knowledge. These, in turn, have real life consequences as our examples will show. In this essay we illustrate the backstage of data production and circulation. We will first offer a brief description of the making of EthnoData speaking to its possibilities and limitations, then we present three examples of the uses of the platform as a pedagogical tool for understanding the politics of categorization in: a virtual scavenger hunt with undergraduate students, one of the ethnographic essays of the platform, and a deportation hearing in the US where EthnoData provided key context for understanding the real-life dangers for a potential Ecuadorian deportee. Together, these examples challenge positivistic forms of objectivity while making visible power dynamics in knowledge production, different forms of expertise, and the politics of technology.

Building EthnoData

In November 2020 we launched EthnoData, a collaborative digital platform that combines large datasets and ethnographic material on violent deaths in Ecuador. In collaboration with three public institutions — National Police, General Council of the Judiciary, and Attorney's General's Office—and one civil society organization, we collected, anonymized, and organized four different datasets on violent deaths in Ecuador before making them publicly available through our platform. We also collaborated with a local advocacy

group in the development of six short documentaries about missing people. A core team of eight people that included anthropologists, data engineers, environmental engineers, and economists worked to organize and classify thousands of records from databases given to us by collaborating institutions. Two engineering students also collaborated in organizing the databases, particularly in identifying missing data and standardizing it (for instance, from using singular rather than plurals in ethnic categories, or accounting for the same city when it was misspelled, etc.). The students provided their labor for school credit as an internship, which they were required to complete before graduating as engineers. As part of their training, they were included in all team conversations and participated in our reading group on critical data studies, a topic they had not learned in their engineering major. We have also written elsewhere about some of the specifics behind the design of the platform (Núñez and Suarez 2023). A much larger team (30 people in total) including many families from the Asociación de Familiares y Amigos de Personas Desaparecidas en Ecuador ASFADEC, a civil society organization advocating for missing people in Ecuador, worked together in the making of the short documentaries for the platform.

The original datasets were long Excel® sheets with hundreds of rows of information, difficult to read for the inexperienced user and especially difficult to analyze in combination with other data. These records (the Excel® sheets) were, in theory, openly accessible to the public, but there were many ways in which bureaucratic loopholes made it nearly impossible for regular citizens to secure access. The negotiations with government institutions to acquire the datasets need to be framed in the broader ethnographic work Jorge Núñez has conducted for nearly twenty years in prisons and security in Ecuador (Núñez 2006; Herrera 2015; Núñez et al. 2021). In those conversations, the institutions that collected the data and generated each dataset —National Police, General Council of the Judiciary, and Attorney's General's Office— agreed to participate in a broader study around violence in Ecuador.

To make the data easily accessible to different publics, especially those who don't often use large data sets, the challenge was to make it visually attractive for "seeing" data beyond pure numbers—for instance, by mapping them[1] or by telling stories about it that went beyond the numerical evidence. One of the main components of EthnoData is a visualization tool for plotting data onto regional maps that can be modified through various filters. Figure 1 is an example showing the total number of violent deaths filtered by type of death (homicide, murder, contract killing, or femicide) and sex of the victim (understood only as male or female in the original database).

[1] Though not directly the conversation in this essay, there is a decade's long debate on critical GIS. See for instance the special issue by: Thatcher, Bergmann, and O'Sullivan 2018, and Kwan 2002.

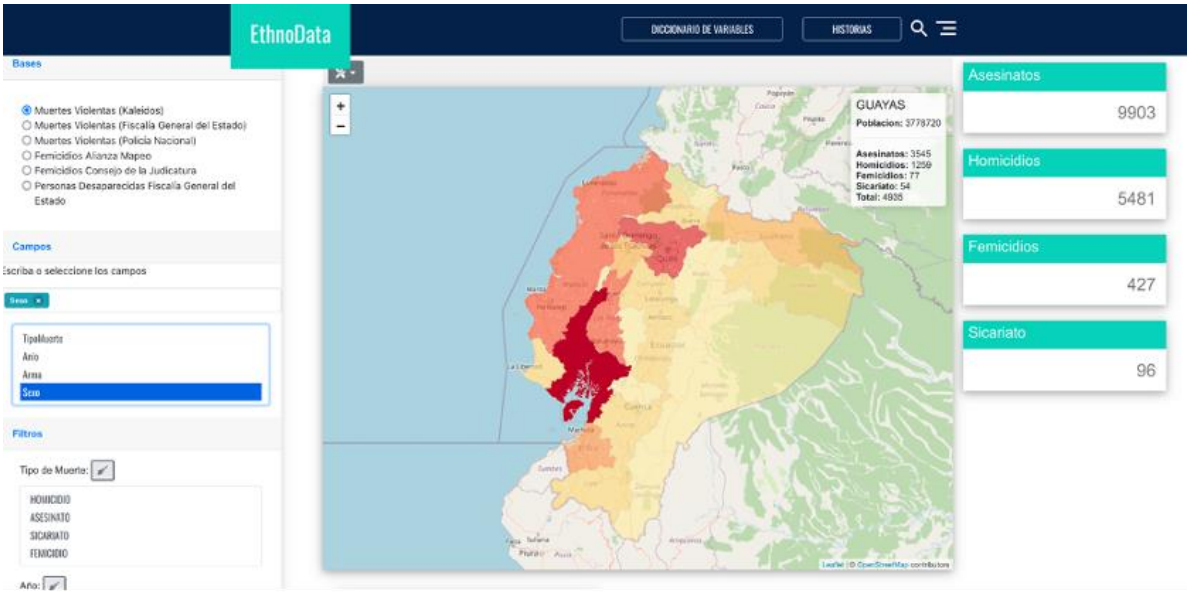

Figure 1. Example of EthnoData's visualization showing the total number of violent deaths filtered by type of death and sex of the victim on a map of Ecuador with the province of Guayas highlighted. See figure 2 for charts produced from the selections made in this example (Source: EthnoData, compiled by authors, 2023).

Generating those categories was based on the available data we originally had as well as long conversations about which filters to add or reduce to make the visualizer usable but not impossible or daunting to navigate. In deciding what web content manager to use, EthnoData went for a paid, pre-designed WordPress® template as the "backbone" of the platform. It was then adapted to our specific needs. Though our team was directly inspired by the team behind PECE—the Platform for Experimental and Collaborative Ethnography which uses the free and open-source Drupal™ web management system (Poirier et al. 2020; Khandekar et al. 2021), our decision to use WordPress® was made for two main reasons. First, due to the challenges of finding Drupal™ developers in Ecuador who could work with our team within the timeframe of the project. Second, Kaleidos was, at the time, part of the Engineering school at the University of Cuenca but none of our colleagues there (who were part of the team) knew how to use Drupal™ but were very knowledgeable of other web content managing languages. Thus, given our team's specific professional capabilities and our project's constraints (time and resources), using paid software was more time effective than using a free, open-sourced language that very few people on our team knew how to use. Like other scholars engaging in varying forms of data activism, we "use data to address the vast informational asymmetry" (Currie, Paris, and Donovan 2019, 973) data being made openly accessible (by the Ecuadorian government in this case) and data being understandable and usable by the general public. Our design decisions were also made in response to this reality.

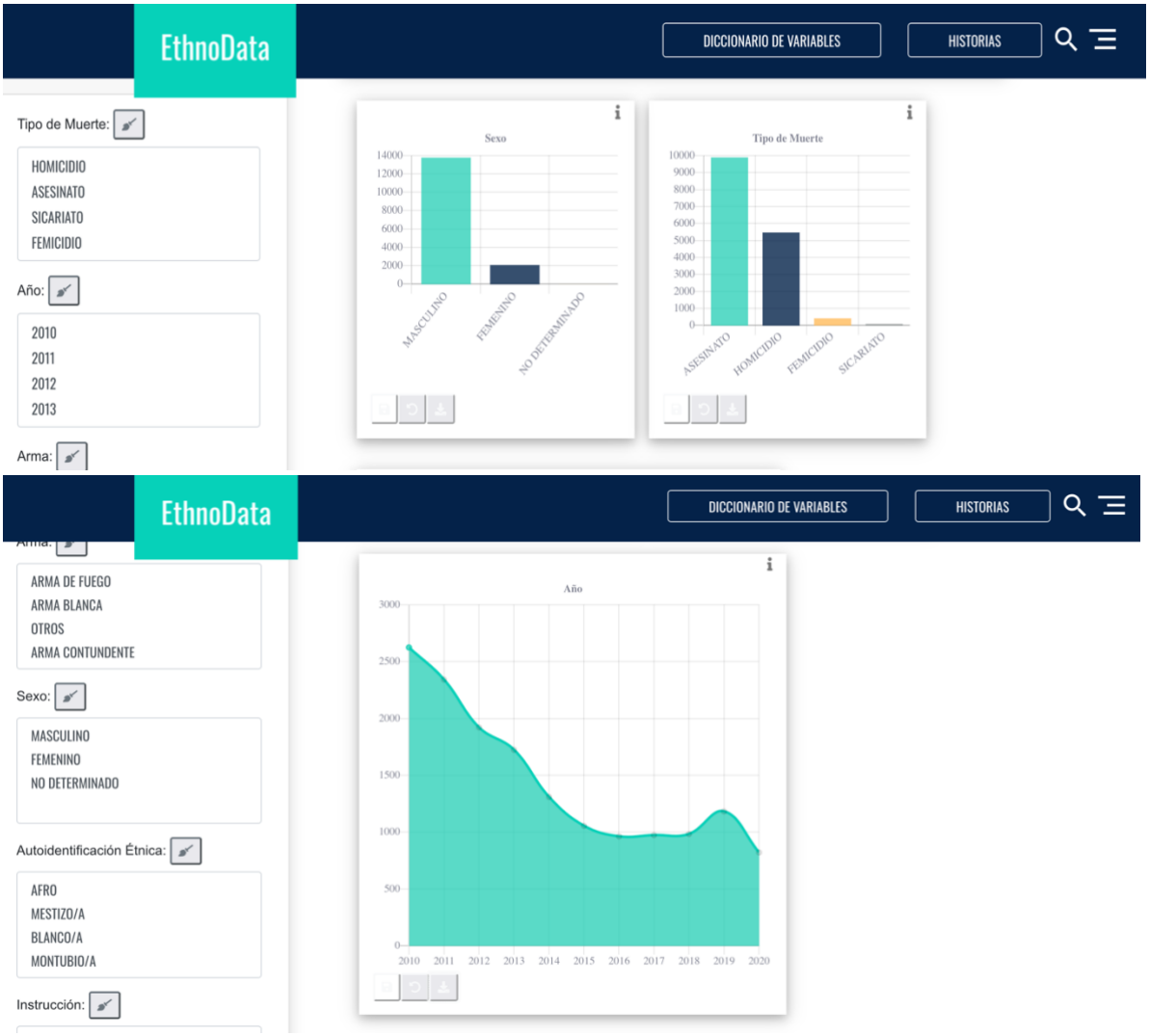

Figure 2a and b. The charts produced from the selections made in figure 1. The data visualizer automatically produces them for any selection made on the map. These charts can be downloaded as graphs. This last feature was particularly useful for journalists and students who needed ready-made information to illustrate their own data analysis. (Source: EthnoData, compiled by authors, 2023).

EthnoData also includes a series of essays based on ethnographic material on violent deaths as well as on critical data analysis that present the construction of the platform in conversation with STS literature. One example is the essay "Politics of data on violent deaths," which can be accessed through EthnoData (2020) to the text (in Spanish only). Other main modules include a series of short crime(s) narratives, a curatorial data exhibit, six short documentaries on missing people co-produced with their families, and national level reports on the state of prison systems produced with EthnoData. There are several other texts, podcasts, and short data visualizations used throughout the platform. The best way to learn about EthnoData is to saunter through the platform and discover the various approaches to the more complicated reality of violent deaths in Ecuador.

Part of our effort in building this digital platform was to display the interconnectedness of data production and its social understandings and governance, which we learned was not evident to the institutions that produced them. At the same time, we found that the social stories behind the lives lost as well as the possibility of interpreting data in different ways, was absent in a purely-numerical analysis. To redress this, we built a multimodal and multimedia platform that tells many stories behind these numbers, their conflicted production, their varied social understandings, and their political potential. Thus, EthnoData was also a critical intervention into how numerical realities are created within Ecuador and a contribution for making "better numbers," as Elizabeth Roberts (2021) put it, meaning more complex histories about those numbers as much as how the numbers come to be and what kinds of knowledges they (can) produce. We approached the making of EthnoData as an STS-inspired process that considers the pedagogical aspects of practices that occur beyond the formal space of a classroom and college students' learners (although it also includes them as intended public), by bringing together different actors to engage critically with data production, understanding, and dissemination. As others argue, we highlight the importance of generating good and different questions as a way of thinking with critical STS pedagogies, how research methods are designed and what possibilities they open up (Fortun et al. 2014; Dumit 2017). In thinking specifically about work with datasets, we also used the following invitation to critically examine datasets: "as cultural artifacts that emerge from always already power-laden semiotic systems" (Poirier 2021, 2). In the next section we show this in three examples.

Investigation-by-Exploration: A Digital Scavenger Hunt

A month after the launch of EthnoData, we used an experimental pedagogical approach to the platform. We were interested in how people, particularly students of political science and sociology, would engage with and use EthnoData. For instance, what sorts of information they found, what attracted their curiosity, which unexpected analyses were derived, and how they reacted to the critical readings of data presented in essay-format in the platform. We invited a group of students enrolled in a research methods course at a public university in Quito to a digital scavenger hunt inside EthnoData. The activity consisted of a series of riddles that could be solved by searching the platform's different modules. The first students were undergraduate sociology majors taking classes online due to social distancing and lockdown measures implemented in Ecuador during 2020 and 2021 due to the Covid-19 pandemic. Students were given a series of clues that would help them solve each puzzle by visiting, reading, and listening to the different multimedia materials within EthnoData (see figure 3 for a sample of clues used in class, in Spanish). Hints for solving each problem were hidden in the essays, statistical curatorial galleries, podcasts, short documentaries, or data visualizers following a specific order of instructions. The journey through EthnoData ends when one participant reaches the final quest and solves it successfully.

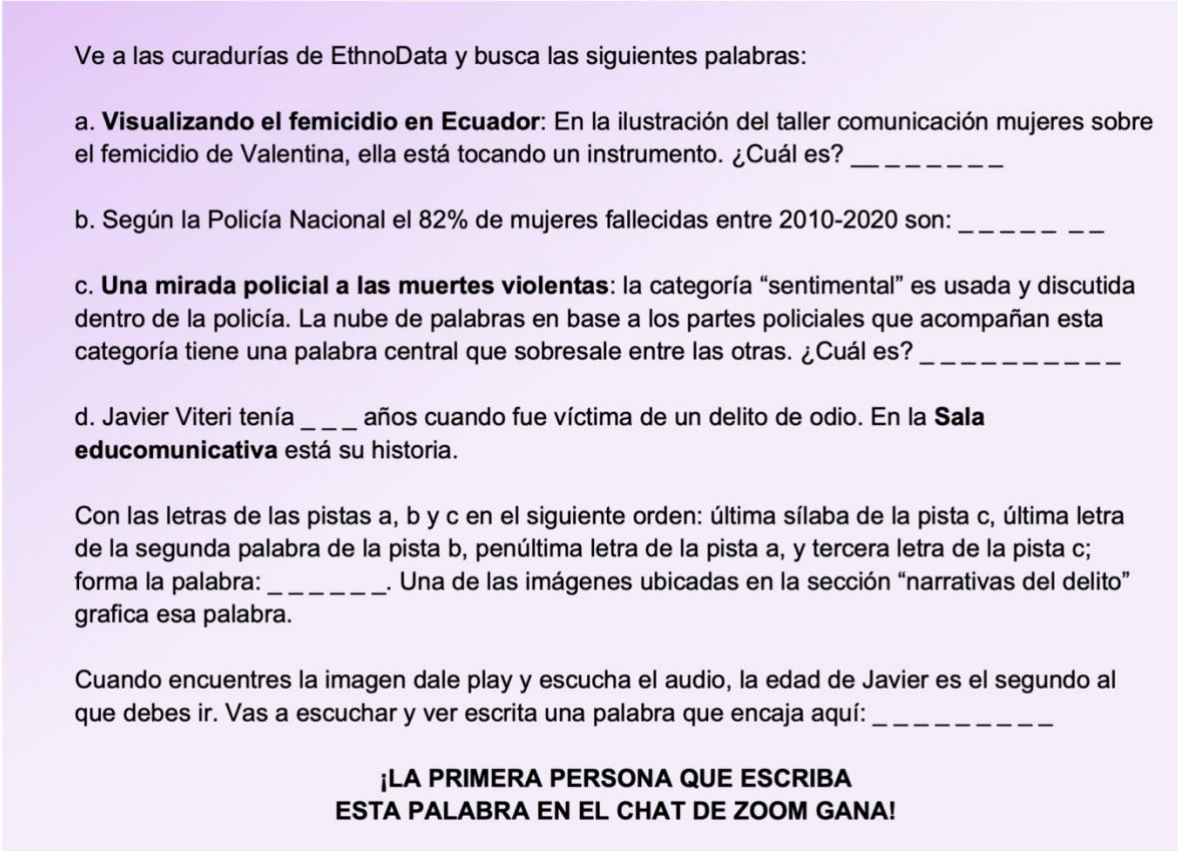

Figure 3. Sample clues from the digital scavenger hunt originally in Spanish. The list of six questions asks for specific details from the stories within EthnoData. For example, one question might be: *What instrument is Valentina playing in the illustration of the women-led communication workshop?* Some questions require you to complete missing data by searching through the platform, such as, "According to the National Police, 82 percent of women who died between 2010-2020 are: [fill in the blank]." By piecing together letters from different answers, you create a keyword that takes you to the final step. Using this keyword, you need to find an audio file on the platform, listen to the story, and write down the word that fits the textbox. The first person to find and submit the correct word wins the scavenger hunt (Source: created by EthnoData team members Mayra Flores and Sofia Carpio 2020).

The lively online interaction between students added the possibility to gather reactions through the chat function of virtual teaching platforms like Zoom® or Microsoft Teams®. Although we named the activity "scavenger hunt," rather than being presented as a game, the activity was introduced as a quest for information—a metaphor of the real complexities and nuances of navigating data on violent death or missing people in Ecuador. The activity allowed students to imagine new ways to explore digital formats to serve both purposes: explaining the politics of data and using multimedia tools for theorizing violence. Likewise, the written essays, curatorial galleries, or podcast-style narratives hooked students' attention as these were seen as innovative forms of communicating research results and broadening academic conversations. The clues given to students were designed to challenge common knowledge about violent deaths and force participants to ask questions about the graphics or the analysis the platform offered. For instance, one of the clues was an explanation of the reclassification of the category "femicide" in our

databases to discuss how different institutions produce this classification when documenting violent deaths based on gender. By analyzing original police reports drafted at the crime scene and provided in the platform as audio files read and recorded by EthnoData's team, students were challenged to legally classify women's violent deaths. The reports not only failed to account for these deaths as femicides, but they also reproduced many forms of gender violence by describing them as "crimes of passion" (crímenes pasionales) or "sentimental deaths" (delitos sentimentales), which, in addition, are not actual legal categories. When comparing the number of femicides in the datasets collected by public institutions and those of civil society organizations—students learned-by-doing—by reviewing the differences in statistical classifications that EthnoData highlighted and critically analyzed throughout the platform. This activity was followed by a discussion with students about the legal and social consequences of these different numerical representations. For instance, how lawyers and judges approached rulings around femicides, or how political discussions around sexuality were framed by various actors directly involved in safety and security (i.e. police officers).

While initially the scavenger hunt had a more playful tone fostering competition and fast paced exchanges, it soon took on a more somber and reflective tone as it brought students' attention to real cases of violent deaths and missing people. For example, one of the tasks was to look for the musical instrument Valentina used to play. She was an 11-year-old girl murdered in her school after being sexually assaulted. The classification of Valentina's case as something other than a femicide not only changed the legal response to her death, but it also obscured the institutional violence her mother was put through in her search for answers. As Valentina's mother recalled, her daughter used to play the flute at the National Music Conservatory. The day she was murdered, Valentina was supposed to be at her flute lessons. This example opened a broader class discussion around gender violence in Ecuador. The topic was not new to students, but the scavenger hunt helped them better situate *how* the legality of violent deaths is produced in Ecuador, and the stories that statistics allow them to understand and what remains hidden behind numbers. Some of the questions that arose were: why do numbers vary among public institutions? What kind of policies have these numbers produced? Which are the discussions around interoperable data systems? Can justice be improved?

As the discussion expanded following the scavenger hunt, many students reported being deeply moved and concerned about the reproduction of violence in the way the state quantifies violent deaths. They also expressed the ease with which EthnoData elucidated the multiple layers of gender violence —many of which they were unaware of before this exercise. Others were curious about the collaborative process between Kaleidos' team and social organizations during the development of EthnoData. By unpacking the politics of violent deaths categorization and the cultural grammar of data (Poirier 2021), students learned about multiple ways of critically approaching quantification as well as the politics behind the making of statistical representations. At the end of our discussion, rather than limiting their reflections to producing technical solutions for having "better" numbers, many of them were interested in understanding the epistemic limitations and power dynamics embedded in data production, and the stakes that needed to be considered for numbers to be truly improved.

Reclassification: Statistics, Politics, and the Governance of Data

In the databases we received from the National Police and Attorney's General Office, the category "street fight" was a common label for defining the "motivation" behind a violent death. This qualification of homicides in the databases hides much more complex dynamics around violence—such as drug connections, domestic and gender violence, poverty induced indebtedness, among others. Upon closer examination of the category "street fight," we discovered that it often acted as a black box for missing information or unknown circumstances surrounding violent deaths. We decided to analyze a sample of cases under this category to complicate the explanation of a violent death due to a "street fight" and trouble the simpler narrative used by government institutions to report on these crimes (see figure 4). To do this, our eight-person team conducted a close reading of the circumstances behind violent acts in 1,300 police reports cataloged as "street fight" in 2019. We contrasted the information on the databases with tabloids and press releases, news coverage, and social media reporting, as well as information posted on open social media channels by family members, neighborhood associations, churches, and even private funeral service providers.

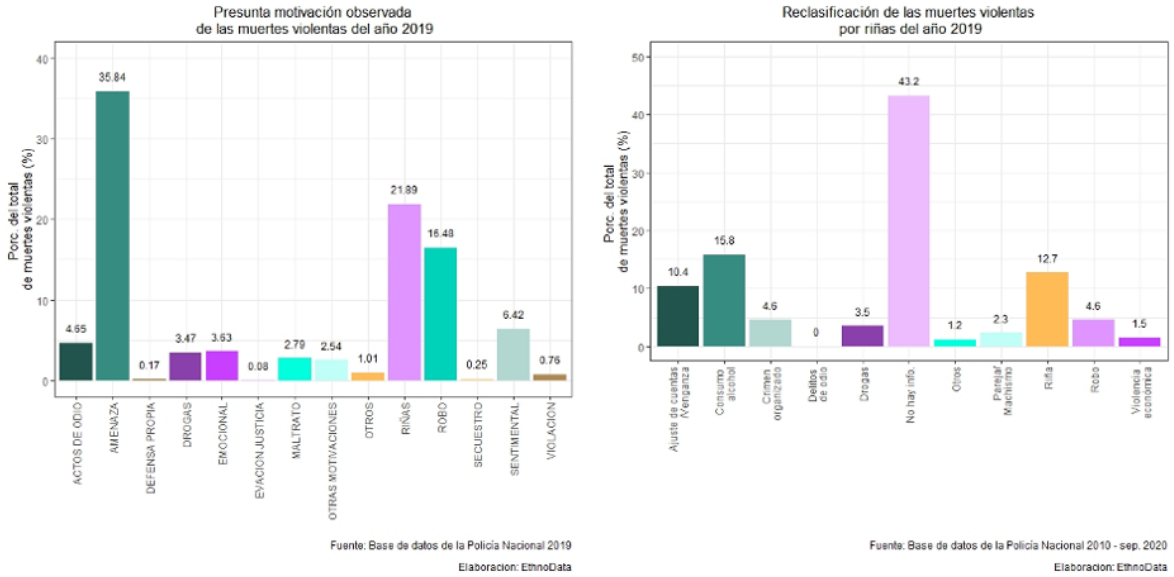

Figure 4. The image shows two bar graphs displaying data on violent deaths in Ecuador for the year 2019. The graph on the left shows the "Observed motivations for violent deaths in 2019," which includes categories and percentages for acts of revenge, riots, robbery, self-defense, and kidnapping. The second graph displays the "Reclassification of violent deaths by Kaleidos for the year 2019" with new percentages for the same categories based on a critical study of the data. Both graphs include percentages of total violent deaths and are based on data from the Ecuadorian National Police and EthnoData's reclassification. (Source: National Police database 2010–2020; created by EthnoData's team, 2021).

This extensive case-by-case examination revealed two things; first, in many cases information on the circumstances of death was clearly unknown and "street fight" became a blanket category, clustering cases with unidentified motivations (43.2% of cases). Others, however, could be traced to a series of alternative motivations for the crime including revenge or retaliation (10.4%), alcohol consumption (15.8%), organized

crime (4.6%), drugs (3.5%), gender violence (2.3%), street fights (12.7%), robbery (4.6%), economic violence—including land disputes (1.5%). Some crimes did not fit neatly within one classification, so we decided to include them in the category that most closely defined the main act of violence that motivated a violent death. Debates around classification in the social sciences have long held a critical perspective on the workings of categorization and how they come to define our social worlds (Foucault [1975] 1995). Building on this approach, information studies, and science and technology studies have demonstrated the ways in which classifications and standards are entangled through specific historical and social contexts. In this sense, they show that data is more-than-not-neutral; it ignores our social realities and its disparities in terms of gender, class, race, nationality, and in doing so, it reproduces them in its designs (Bowker and Star 2000; Merry 2011; Benjamin 2019; D'Ignazio and Klein 2020). In this case, forcing the category "street fight" in all cases, produced a reductionist understanding of violent deaths.

The blurring of boundaries between what constitutes a "street fight" and what does not is problematic even in the eyes of the data producers. In a series of interviews with National Police statisticians who built the databases we discussed the production of data, categories, and mis-categorization. They recognize that in instances where they have limited ability to define the circumstances behind a violent death, it is not uncommon for the category "street fight" to be used. This has at least two explanations. First, according to their own definition "street fight" as a category can apply in any case of disorderly conduct in a public space that results in a violent death. The second explanation is related to academic understandings of urban violence throughout Latin America in the early twenty-first century. The category acquired political visibility within the framework of citizen security strategies developed by municipal institutions in collaboration with universities. The academic debate on citizen security lost traction in the following decade, but the resulting police infrastructure continues to prescribe the penal reality of the country (cf. Núñez 2011).

This exercise of recategorization, as well as the critical discussion that involved statisticians from public institutions and Kaleidos' researchers is explained at length in one of EthnoData's essays. It illustrates part of the pedagogical approach of the platform in including ethnographic information that critically looks at numbers, their cultural histories, and the vested interests (intended or not) that are often missed in looking at databases uncritically. We hope the ethnographic essays provide readers with an understanding of how data is produced, circulated, and governed. EthnoData has a number of similar essays based on long-term ethnographic work conducted by Jorge Núñez within Ecuador's National Police and the country's carceral system. What his investigations reveal is that many of these data categories are linked to outdated security debates or are the result of conflicting interests within police ranks (Núñez 2022). Moreover, as the next section illustrates, these mis-categorizations or broad conceptualizations of security have life changing effects on the people directly affected by or involved in recording violent death statistics.

Real Life Decisions

In September 2020, one of the coauthors, Jorge Núñez, was invited to act as expert witness in a removal and deportation proceeding in a New Jersey immigration court. The potential deportee, who we'll call Arturo, is an Ecuadorian man, who at the time was in his late twenties and had lived in the US for one year after escaping gang violence in Ecuador. He was "caught" by ICE (US Immigration and Customs Enforcement Agency) after a drunken argument with his wife who called the police, never imagining she was sentencing

her husband to deportation. A university-based legal clinic in the area called upon Jorge's expertise on violent deaths to build their case in defense of this Ecuadorian man. The digital platform EthnoData provided legal information on violent deaths that could help prove Arturo's vulnerability and real-life risks if he was removed from the US and deported to Ecuador. One of the main lines of defense the legal clinic was using relied upon proving that the situation surrounding Arturo's brother's death—which triggered his migration out of Ecuador—was one of imminent danger for Arturo if he returned.

According to police reports, Arturo's brother's death was classified as a "street fight." The problem, as we mentioned earlier, was that the category failed to illuminate what happened beyond some form of disorderly conduct. In the case of Arturo's brother, when we looked more closely at the killing, it became clear that "disorderly conduct" or "street fight" failed to explain what took place. After some research, we learned that Arturo's brother's death was, in fact, directly linked to transnational gangs and drug trafficking. Thus, Arturo's life was in real danger if deported as he was considered a "subject of interest" to these gangs. In this context, EthnoData allowed Arturo's defense to understand his claims of danger despite his brother's official police report detailing his death as a "street fight" without any mention to gang violence or drug trafficking. EthnoData was a tool for US lawyers to learn about the limitations of Ecuadorian homicide datasets. By using the platform, Arturo's defense was able to build a case against his deportation based on a more detailed understanding of violence in Ecuador. EthnoData became a potent tool for questioning official data narratives in court through the affidavits of the case.

As Way of Conclusion

At the heart of EthnoData is an attempt to establish a critical dialogue over data in the context of Ecuador (and in Spanish language). It focused on the misconceived local perception of data as "neutral"—even more so among data engineers and public servants trained in statistics and in charge of building these datasets. This led to an open conversation within Kaleidos during the construction of the platform where different actors—including data statisticians, economists, programming engineers, and ethnographers came together. At the same time, the various institutions with whom we collaborated recognized our attempt to make data matter beyond numbers—including police officers, lawyers, and other mid-ranking bureaucrats who often used these numbers at face value and without full consideration of the limited stories they can tell. In this dialogue we saw a form of pedagogy where analyzing data became a *praxis* instead of a unidirectional form of knowledge (Freire [1968] 2014). This view paralleled many of the teachings central to critical pedagogy where ready-made knowledge—in this case, statistics on violent deaths—was challenged to complicate how this very knowledge came to be. EthnoData brought to the fore the complexities behind data production, analysis, and governance in conversation with many of the actors involved in different parts of the process as well as multiple "users" of this data, be these students, international legal clinics, or as we will see in this final section journalists, civil society organizations, academics, and users we have not yet imagined.

In addition to the examples mentioned before, we conducted a workshop with Ecuadorian journalists working on violent deaths and crime as well as a critical analysis of our platform with a civil society organization that focused on femicides in Ecuador. For journalists, finding information on violent deaths often involved hours of combing countless Excel® sheets. EthnoData provided a new, easy to use

data visualizer where each journalist could design the kinds of information and graphs, they wanted to build in ready-to-use, downloadable formats. Though the use of multiple data sources in investigative journalism is common practice in many parts of the world, we do not always realize the need for such pre-existing, organized, trustworthy data sources. Though important legislation has been approved in recent years in Ecuador to make data increasingly more accessible and public, the shape and form of such statistical databases is rarely in user-friendly formats that allow for quick analysis. Thus, EthnoData served a different and politically important role by providing reliable, organized, ready-to-use material on violent deaths.

With civil society organizations working on femicides we re-designed (with their feedback) ways for information in EthnoData to allow for new possible mappings (literally and figuratively) of violent deaths. First, we added a new layer of statistical information in our data visualizer that could be read against the official sources of the National Police and Attorney's General Office to contrast civil society organizations' work with official data. This meant users could choose which dataset they wanted to work with when mapping violent deaths in Ecuador. In addition, there are two ethnographic essays in the platform that explain why the statistics from official institutions and those from civil society organizations do not match. Part of the reason has to do with how femicides are defined during police investigations and later during legal proceedings. Without going into too much detail, proving that a femicide took place was (and continues to be) legally very complicated. According to some of the attorneys we interviewed, it is often easier to declare it a homicide and close the case. In this sense, EthnoData documented how femicides, as a category of violent death, got lost in criminal justice processes from crime scene categorizations to court cases.

In this sense, the inclusion of multiple data sources in EthnoData's visualizer and essays provides organizations with contrasting narratives as well as with alternative datasets that complement or add to their own analysis. Institutions like the Secretary for Human Rights or the Ombudsman of Ecuador are two institutions that have used EthnoData's contrasting information in their own analysis on violent deaths. What we want to highlight are the possibilities and potentials of a critical approach to data in understanding the reality behind violent deaths in Ecuador. Not only the stories behind the lives lost but also how the data comes to exist in the first place and what it represents (and what it cannot). In addition, EthnoData made all databases downloadable for users after organizing, anonymizing, and cleaning them. By democratizing knowledge around violent deaths via data accessibility, our aim is to open further a discussion of mathematical representations that fail to consider the social contexts in which they are produced and used. In thinking about our pedagogical work with data we also invite a critical revision of what is known and how it can be known beyond common sense understanding of data and violence in Ecuador.

This essay attempts to portray an experimental approach to data studies in the context of violent deaths in Ecuador. Through the involvement of a wide variety of collaborators, from governmental institutions, NGOs, students, journalists, civil society organizations, and researchers from various disciplines, we see EthnoData as an experiment in conceptualizing and depicting critical data stories. The platform is inspired in STS debates in "critical making" (Ratto 2011) and joins other authors in proposing a "material intervention" in academic debates but also beyond these boundaries by "build(in)g alternative forms of technoscience" (Tirrell et al. 2020). Our hope is EthnoData will generate a digital space for debate, for critical learning, as well as continue to shape and be shaped by critical data studies.

Acknowledgements

We thank the EthnoData team and all collaborators who made the platform possible. We are indebted to the editors of this special issue, Angela Okune and Emily York, for their unfailing support, their patience and encouragement in seeing this piece to completion. We are deeply thankful to two generous anonymous reviewers who helped us to significantly improve and finetune the argument of our manuscript, and the editorial assistance at *ESTS*.

Author Biographies

Maka Suarez is assistant professor of anthropology at the University of Oslo and cofounder of Kaleidos, University of Cuenca.

Jorge Núñez is assistant professor of anthropology at the University of Amsterdam, and cofounder of Kaleidos, University of Cuenca.

Mayra Flores is PhD student at Dartmouth College and researcher at Kaleidos, University of Cuenca.

Data Availability

Data published in these article can be accessed in STS Infrastructures at: https://n2t.net/ark:/81416/p4vg6q.

References

Benjamin, Ruha. 2019. *Race after Technology: Abolitionist Tools for the New Jim Code*. Medford, MA: Polity.

Bowker, Geoffrey C., and Susan Leigh Star. 2000. *Sorting Things out: Classification and Its Consequences*. Inside Technology Series. Cambridge, MA: MIT Press.

Crawford, Kate. 2021. *Atlas of AI: Power, Politics, and the Planetary Costs of Artificial Intelligence*. New Haven: Yale University Press.

Currie, Morgan E., Britt S. Paris, and Joan M. Donovan. 2019. "What Difference Do Data Make? Data Management and Social Change." *Online Information Review* 43(6): 971–85. https://doi.org/10.1108/OIR-02-2018-0052.

Dalton, Craig M., and Tim Stallmann. 2018. "Counter-Mapping Data Science." *The Canadian Geographer | Le Géographe canadien* 62(1): 93–101. https://doi.org/10.1111/cag.12398.

D'Ignazio, Catherine, and Lauren F. Klein. 2020. *Data Feminism*. Strong Ideas Series. Cambridge, MA: The MIT Press.

Dumit, Joseph. 2017. "Game Design as STS Research." *Engaging Science, Technology, and Society* 3: 603–12. https://doi.org/10.17351/ests2017.132.

EthnoData. 2020. "Política de Datos en Muertes Violentas." Accessed November 8, 2024. https://www.ethnodata.org/es-es/muertes-violentas/politica-de-datos-de-muertes-violentas/.

Feinberg, Melanie. 2017. "Reading Databases: Slow Information Interactions beyond the Retrieval Paradigm." *Journal of Documentation* 73(2): 336–56. https://doi.org/10.1108/JD-03-2016-0030.

Fortun, Kim, Mike Fortun, Erik Bigras, Tahereh Saheb, et al. 2014. "Experimental Ethnography Online: The Asthma Files." *Cultural Studies* 28(4): 632–42. https://doi.org/10.1080/09502386.2014.888923.

Foucault, Michel. [1975] 1995. *Discipline and Punish: The Birth of the Prison*. Reprint. New York: Vintage Books.

Freire, Paulo. [1968] 2014. *Pedagogy of the Oppressed: 30th Anniversary Edition*. Translated by Myra Bergman Ramos. Third Edition, Reprinted and Revised. New York: Bloomsbury Publishing.

Herrera, Mateo, dir. 2015. *El Panóptico Ciego* [The Blind Panopticon]. Documentary. Taladro Films.

Kang, Edward B. 2023. "Ground Truth Tracings (GTT): On the Epistemic Limits of Machine Learning." *Big Data & Society* 10(1): 1–12. https://doi.org/10.1177/20539517221146122.

Khandekar, Aalok, Brandon Costelloe-Kuehn, Lindsay Poirier, Alli Morgan, et al. 2021. "Moving Ethnography: Infrastructuring Doubletakes and Switchbacks in Experimental Collaborative Methods." *Science & Technology Studies* 34(3): 78–102. https://doi.org/10.23987/sts.89782.

Kwan, Mei-Po. 2002. "Feminist Visualization: Re-Envisioning GIS as a Method in Feminist Geographic Research." *Annals of the Association of American Geographers* 92(4): 645–61. https://doi.org/10.1111/1467-8306.00309.

Liboiron, Max. 2021. *Pollution Is Colonialism*. Durham: Duke University Press.

Merry, Sally Engle. 2011. "Measuring the World: Indicators, Human Rights, and Global Governance." *Current Anthropology* 52(S3): 83–95. https://doi.org/10.1086/657241.

Núñez, Jorge. 2006. *Cacería de Brujos: Drogas Ilegales y Sistema de Cárceles en el Ecuador* [Warlocks Hunt: Illegal Drugs and Prison Systems in Ecuador]. Master's Thesis. Quito: Flacso Ecuador & Abya-Yala. Accessed June 25, 2024. https://biblio.flacsoandes.edu.ec/libros/103556-opac.

———. 2011. *Crítica a la Ideología de La Seguridad Ciudadana En Ecuador: 91 Estrategias contra la Violencia* [A Critique to the Ideology of Citizen Security]. Serie Cuadernos de Trabajo. Quito: FLACSO Ecuador.

———. 2022. "Territories of Extreme Violence in Ecuador's War on Drugs." *NACLA*, March 16, 2022. Accessed June 25, 2024. https://nacla.org/ecuador-drug-war-prisons.

Núñez, Jorge, and Maka Suarez. 2023. "How to Produce Responsive Ethnography of Data." In *An Ethnographic Inventory: Field Devices for Anthropological Inquiry*, edited by Tomás Sánchez Criado and Adolfo Estalella. New York, NY: Routledge.

Núñez, Jorge, Maka Suarez, Mayra Flores, Sofia Carpio, et al. 2021. "Diagnóstico del Sistema Penitenciario del Ecuador 2021." [Diagnosis of the Penitentiary System of Ecuador 2021]. Cuenca: Kaleidos—Centro de Etnografía Interdisciplinaria (Universidad de Cuenca) en colaboración con la

Universidad de las Américas (UDLA). Accessed July 26, 2024. https://www.ethnodata.org/es-es/diagnostico-de-sistema-de-penitenciario-del-ecuador/.

Pavlovskaya, Marianna. 2018. "Critical GIS as a Tool for Social Transformation: GIS for Social Transformation." *The Canadian Geographer* | Le Géographe canadien 62(1): 40–54. https://doi.org/10.1111/cag.12438.

Poirier, Lindsay. 2021. "Reading Datasets: Strategies for Interpreting the Politics of Data Signification." *Big Data & Society* 8(2): 1–19. https://doi.org/10.1177/20539517211029322.

Poirier, Lindsay, Kim Fortun, Brandon Costelloe-Kuehn, and Mike Fortun. 2020. "Metadata, Digital Infrastructure, and the Data Ideologies of Cultural Anthropology." In *Anthropological Data in the Digital Age: New Possibilities – New Challenges*, edited by Jerome W. Crowder, Mike Fortun, Rachel Besara, and Lindsay Poirier, 209–37. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-24925-0_10.

Ratto, Matt. 2011. "Critical Making: Conceptual and Material Studies in Technology and Social Life." *The Information Society: An International Journal* 27(4): 252–60. https://doi.org/10.1080/01972243.2011.583819.

Roberts, Elizabeth F. S. 2021. "Making Better Numbers through Bioethnographic Collaboration." *American Anthropologist* 123(2): 355–369. https://doi.org/10.1111/aman.13560.

Sadre-Orafai, Stephanie. 2020. "Typologies, Typifications, and Types." *Annual Review of Anthropology* 49(1): 193–208. https://doi.org/10.1146/annurev-anthro-102218-011235.

Thatcher, Jim E., Luke Bergmann, and David O'Sullivan. 2018. "Speculative and Constructively Critical GIS." *The Canadian Geographer | Le Géographe canadien* 62(1): 4–6. https://doi.org/10.1111/cag.12441.

Tirrell, Chris, Laura Senier, Sara Ann Wylie, Cole Alder, et al. 2020. "Learning in Crisis: Training Students to Monitor and Address Irresponsible Knowledge Construction by US Federal Agencies under Trump." *Engaging Science, Technology, and Society* 6: 81–93. https://doi.org/10.17351/ests2020.313.

Traweek, Sharon. 2021. "'I Prefer the Map.'" *Engaging Science, Technology, and Society* 7(2): 56–64. https://doi.org/10.17351/ests2021.823.