

Restorative Data Science and the Transformative Power of Absence

A Conversation with Catherine D'Ignazio: On Data, Feminism, and Design

Catherine D'Ignazio

Massachusetts Institute of Technology (MIT)
dignazio@mit.edu
ORCID 0000-0002-8673-1941

Paola Pierri

Hochschule der Künste Bern (HKB)
— Institute of Design Research
paola.pierri@hkb.bfh.ch
ORCID 0000-0002-8495-0446

Simona Colitti

Alma Mater Studiorum
— Università di Bologna
simona.colitti2@unibo.it
ORCID 0000-0001-8392-5903

Abstract

This conversation with Catherine D'Ignazio explores the potential of “restorative” and “transformative data science” as practices oriented toward justice, care, and the repair of systemic harm. Drawing on the experiences of activists documenting femicide, the dialogue investigates how absence can be understood not as a lack but as a generative space for new forms of knowledge and action. D'Ignazio highlights the significance of emotional and relational labor, the rejection of automation when it undermines witnessing, and the creation of data networks grounded in reciprocity and autonomy. The interview shows how design, through a situated and critical stance, can help to envision more equitable futures by fostering practices of care, memory, and participation.

Keywords

Restorative data science
Feminist data activism
Design and absence
Data justice
Politics of care

Introduction

Over the last decade, Catherine D'Ignazio has established herself as one of the leading voices in feminist data studies and information design. Her work, developed together with Lauren Klein in *Data Feminism* (2020) and expanded in *Counting Feminicide* (2024), has contributed to reframing data practices as political, relational, and grounded in care. Rather than focusing solely on visualization or representation, her research foregrounds participation, justice, and community-based approaches to knowledge production — principles that resonate strongly within contemporary design discourse. Rather than offering a summary of the dialogue, this introduction aims to situate the exchange within a broader design-driven inquiry: how can design engage with the politics of data, and how can it recognize what is excluded or silenced as a generative condition for new forms of practice? In the last decade, discussions on data and design have increasingly moved beyond questions of representation and visualization, opening toward the ethical and epistemological dimensions of what data exclude, omit, or silence. These questions resonate with contemporary approaches in design research that foreground participation, care, and justice as essential categories.

The interview presented here contributes to this field by providing a platform where design and data studies meet. It emphasizes how absence can be mobilized as a lens to rethink established paradigms and to explore the transformative role of design in shaping more inclusive futures.

Conversation

Simona Colitti (SC) In *Counting Feminicide*, you introduce the notion of restorative/transformative data science. How does this approach differ from traditional data science, and how can it help address collective trauma and systemic injustice?

Catherine D'Ignazio (CD) In some respects, conventional data science may be seen as compatible with restorative and transformative approaches. However, the real shift lies not so much in methods or techniques, but in the underlying purpose, the why, of undertaking data science in the first place. Restorative and transformative data science reorient the goals of data work toward healing, justice, and structural change. These ideas did not emerge in a theoretical vacuum. Rather, they were developed inductively through observing the practices of feminist data activists, particularly those working at the grassroots level. These are often ordinary citizens who engage in data science to address systemic injustice, most notably, to seek accountability, justice and recognition for victims of feminicide, as well as to support the families, children, and communities left behind. What fundamentally distinguishes restorative and transformative data science from more conventional forms is precisely this focus on motivation: Why do we collect and analyze data?

A restorative or transformative lens begins with the premise that data science can and should serve as a vehicle for healing, harm reduction, and solidarity with those impacted by violence and inequality.

Thus, we can identify two intertwined goals within this data practice. The first is oriented toward immediate response and support; the second is directed at systemic change. Together, they offer a stark contrast to the conventional discourse of data science, which is often couched in technocratic and ostensibly neutral language. That neutrality tends to obscure the political and ethical stakes of data work, particularly when it comes to addressing structural injustice. In this sense, restorative and transformative data science expand the scope and potential of the field. Rather than treating data science as a purely technical enterprise, this perspective repositions it as a tool for community building and world-making. It calls on us to consider how data practices can participate in collective efforts to repair harm, enact justice, and imagine more equitable futures.

SC You highlight the emotional labor involved in documenting femicide. How can integrating emotion into data collection and analysis transform our understanding of violence and visibility?

CD Emotional labor is not peripheral. It is central to the method. Femicide activists work daily with violent and traumatic stories, extracting and coding information from media reports. But this is not just technical work. It is an act of witnessing and remembering.

This was also a deeply important question for our own team. We had to confront it directly because we ended up co-designing technology with activists. As part of that process, we reviewed a large number of femicide-related articles. In doing so, we were essentially engaging in the same kind of work that activists do, reading media stories, extracting key information, documenting the details of each case.

It was emotionally intense for all of us, perhaps even more so for those of us who didn't already have strategies for coping with that kind of exposure. Activists often develop collective and psychological strategies to sustain themselves through this work. But this is rarely discussed in conventional data science or technology education. And yet, many of the datasets we deal with in these fields, those concerning housing, transport, healthcare, are filled with inequality. And inequality is itself a form of violence.

There is a lot to learn from the activists' strategies in engaging with emotionally fraught data. These are records of people who were unjustly taken. And yet, within this process, the activists constantly reflect on and question their use of data. This tension is explored in Chapter 6 of my book *Counting Femicide*, which is titled *Refusing and Using Data*. On the one hand, activists collect and use data. They don't reject it. But on the other hand, they resist what data

tends to do: to reduce, to abstract, to erase complexity. When we take a human life and enter it into a dataset, there is an inherent violence in that reduction.

Their work is therefore a kind of witnessing. It is about engaging emotionally and ethically with each case. It is a way of remembering, of holding space for the life that was lost. This emotional engagement is intentional. It is a form of ethical responsibility.

As illustrated in Fig. 1, *Feminist Practices of Care* emphasize collective strategies for sustaining emotional labor, including collaboration, reflection, and shared maintenance.

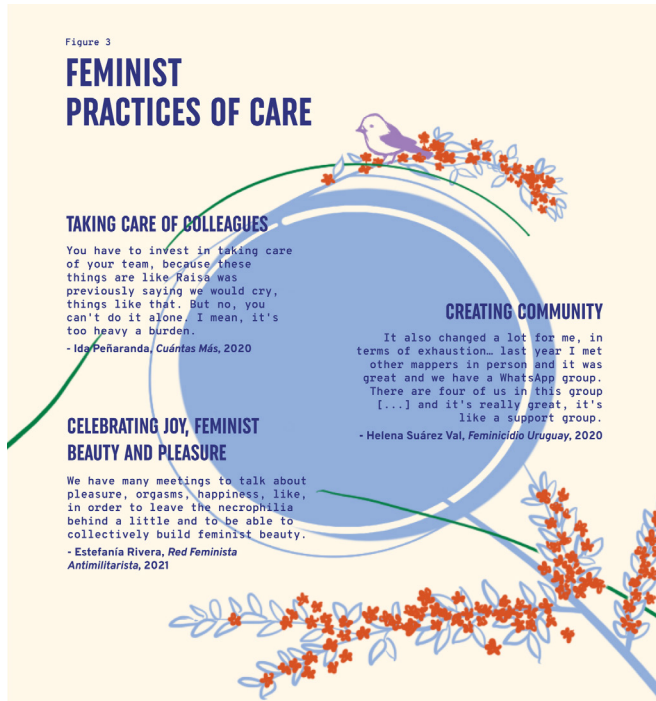


Fig. 1
Feminist Practices of Care.

There was a particularly powerful moment during our technology development process when we offered to automate part of the activists' work. We said, we could build a tool that goes out on the web, collects cases, and enters them into a database, so that you don't have to do that labor yourselves. And they said no. Do not automate that. That is our work. Our work is to be present.

That response changed everything. It made us realize that there is a line automation should not cross. Because for them, the labor of showing up emotionally is not something to be outsourced. It is essential.

As a professor and research lead, this also made me reflect on how we care for our own teams when dealing with difficult and traumatic material. There's a need for care within the research process. But more broadly, I've come to think of

emotional labor as a kind of responsibility. What the activists showed us was a model of ethical engagement. They chose to emotionally accompany each story, each life, as an intentional practice. That was something we hadn't anticipated, and something we were profoundly changed by. When we proposed automating the data collection, the activists strongly refused. They told us, "This is our work. It is our ethical responsibility to be present". Encoding a life into a dataset always involves a form of abstraction, and abstraction always carries some degree of violence. The activists reject that reduction. They view their engagement as a deliberate emotional stance, a way of preserving dignity and subjectivity. In this context, emotional labor becomes both a way of knowing and a way of caring.

SC Let's talk about scale. How can grassroots, counter-hegemonic data practices be supported and expanded without losing their local specificity and community-driven integrity?

CD One compelling example comes from the work of Mundo Sur, an organization in Argentina that helped coordinate a coalition of over thirty-five groups across Latin America focused on monitoring femicide. They engaged in a process they called Data Harmonization which involved voluntarily aligning data structures, variables, and categories without enforcing any external standards. This example shows that achieving scale does not have to mean enforcing uniformity. Instead, it can be dialogic, relational, and unfold at a slower, more intentional pace. Knowledge circulates through networks rather than top-down hierarchies. Even theoretical categories, such as emerging definitions of femicide, can be shared and adapted locally. This model honors the epistemic authority of communities while still enabling broader forms of collective articulation. I discuss this more deeply in Chapter 5 of the book, which is centered on recording practices. One of the key insights that emerged was how easy it is to fall into a false binary: either data must remain entirely local and autonomous, or it must become centralized, standardized, and controlled by dominant institutions. Mundo Sur offers an alternative vision. As shown in Fig. 2, the *Data Against Femicide* project brings together a network of feminist and activist organizations across Latin America and beyond, illustrating a model of collaborative data harmonization grounded in care and solidarity. In that chapter, I describe how Mundo Sur worked with around thirty-five organizations across Latin America to align fields, categories and ways of structuring information. This process allowed the groups to learn from one another and, when relevant, to incorporate new variables into their own datasets, while Mundo Sur periodically collected exports to begin building a comparative regional picture. To me, this is a really rich example of how scale can emerge in a non-hierarchical way. It remains grounded in local expertise, activists and communities who know the context of femicide

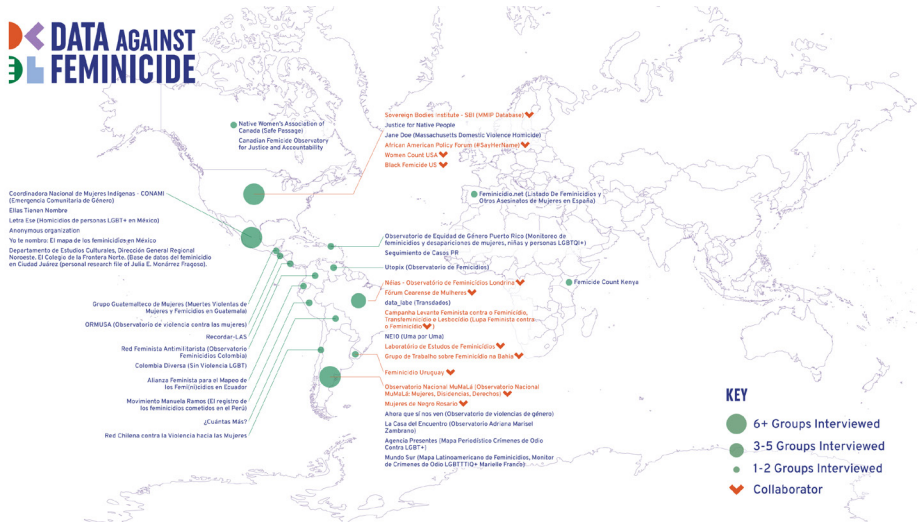


Fig. 2
Data Against Feminicide
network map.

SC What kind of design practices, in your opinion, can help counter missing data and restore visibility to subjects and phenomena that are otherwise ignored or erased?

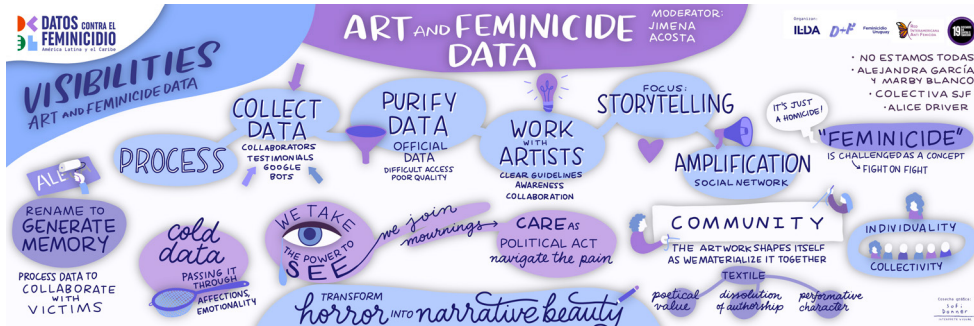
CD For me, the answer lies in practice grounded in place and relationship. Ethical and non-extractive partnerships with communities — especially those rooted in their own geographies and histories — are essential. In this kind of work, missing data shouldn't be addressed only by trying to 'fill in the gaps'. Sometimes the danger is that once you make missing data legible to power — be it the state or institutions — they say, "Ah, now we see the problem. Let's collect more data", and believe the problem is resolved. But often, that merely shifts attention away from the structural issue.

It's easy to tell a compelling story about missing data. That story can get institutional buy-in. But we must remember that the end goal is not just acquiring or producing or even visualizing the data. The end goal is transforming the social reality that produces absence and harm in the first place. This was something feminicide activists repeated often. They told us, "We could have perfect data and feminicide would still exist". The point is not perfection.

The point is what we do with the data — how we put it into action. And for that action to be effective and ethical, it must emerge from within communities, not be imposed from the outside.

As illustrated in Fig. 3, *Art and Femicide Data* practices reveal how visual and narrative strategies can transform absence and loss into forms of shared memory and collective resistance.

Fig. 3
Art and Femicide Data.



Paola Pierri (PP) Looking ahead, what are your hopes for the evolution of feminist data science, and how might it intersect with design practices and collective memory?

CD Right now, in the United States, we are facing extreme repression and defunding of public institutions and community-based research. So, honestly, my first hope is simply to be able to continue doing this work. All the signs point toward a political climate that is increasingly hostile to anything that engages with social justice. And not just to continue alone, but to bring people with me. I want to continue teaching students and show them why these questions are important, even if they're not trendy or widely supported. Because they *are* important. At a deeper level, I would love to see feminist data science evolve through more grounded, participatory case studies. In the book *Counting Femicide*, I focused deeply on one particular area — femicide data activism — as a way of asking, "What do feminist data practices look like in action? What can we learn from them that applies to other areas?". Right now, I am doing work on housing in the U.S., applying the same principles. I would love to see feminist data science expand through community-based, interdisciplinary collaborations. That could mean academic research, but also cultural artefacts, public storytelling, popular education. There's fascinating work happening, especially in the heritage sector, where academics and communities partner to create things like pop-up museums — one example being efforts to tell the story of Black history in Memphis, Tennessee¹.

I find that kind of work exciting. It is creative, participatory, and committed to situated knowledge. That's where I hope feminist data science continues to grow — in ways that are accountable to communities, deeply contextual, and that blur the lines between theory, design, storytelling, and action. When we talk about design practices and feminist data, for me it all comes down to methods that are rooted in care, relationship, and transformative intent. And the key is always to ask: not just what do the data say, but what are we going to do with them — and who gets to decide that?

PP You have emphasized the danger of “speaking on behalf of” communities. How did you navigate this issue while writing *Counting Femicide*?

CD In her essay “Suspending Damage: A Letter to Communities”, Eve Tuck (2009) challenges deficit-based research approaches and calls for frameworks that honor complexity and resilience. I include it because it highlights with great clarity an issue that I consider a recurring limitation. In academic thinking in general, there is often an implicit theory of change, and I think this applies to missing data as well. The idea is: if we just document harm, then someone else — somewhere — will fix it. If we just produce knowledge about inequality, and we quantify it and say something like ‘women are five times less likely to be AI engineers than men’, we publish a paper and assume someone else will pick it up and do something about it. That is why I appreciate what Eve Tuck (2009) says — she challenges that as a theory of change. She critiques this relentless focus on harm, because it can end up pathologizing the very communities we’re trying to serve. Take the example of femicide. If we produce all this data on femicide, one risk is that nothing gets done with it. Another risk is that we reduce women to victims — people in need of saving by those in power. Data science can easily participate in these kinds of deficit narratives. Are we just pointing to the absence and saying ‘look at this gap’? What are we encouraging people to do with that data? Who are we communicating with, and who is doing the communicating? Because if we — as academic researchers — are the ones ‘speaking on behalf of’ victimized communities, we may be doing harm. Those communities might not be present in the room to speak to their own experience or their own strategies for building power and addressing the issue. That is something I always keep in mind when thinking about how we share and frame the outcomes of our work. One thing I try to remind myself of is something Kimberly Sears Allers once told me — she is a journalist and activist for Black mothers and breastfeeding here in the U.S. She said in a speech: “Whatever the question, the answer is in the community”. That really stuck with me. So the way I think about our academic work is not about speaking on behalf of communities to people in power. There are theories of change that do that — but those aren’t the ones I engage with. What we can do is enter into dialogue, co-design alongside people, and acknowledge that the community holds the agency, power, and expertise. That became very clear in this project. When we shared our technology, people in academia were sometimes confused. They asked, “You’re at MIT — why didn’t you just collect all the data and build the biggest femicide database in the world?”. But that would have been unethical-colonial, even — to assume we at MIT could ‘do it better’. And beyond the ethical problem, there’s a practical reason: we don’t have the expertise.

1
The Story of Black History in Memphis. (2024). *Community heritage project*. <https://monumentlab.com/projects/regeneration-2024-klondike-smokey-city-memory-project>

The activists know which data to collect, how to collect it, how to interpret it, and how to communicate it. That's key. So, we have to think carefully about how we build collaborations that amplify the voices of people with lived experience, help interpret the data meaningfully, and support putting it into action. But as academics, that can't fall entirely on our shoulders — because in many cases, we truly lack the expertise.

PP Your book went through a participatory reviewing process. Can you say a bit more about that? It seems to reflect some of the same concerns you've described — how to balance theory and practice.

CD The book was very collaborative from the beginning because it comes from a collaborative project, which is the *Data Against Feminicide*² project that I do with three others: Helena Suárez Val, Silvana Fumega, and Isadora Cruxên. First of all, I went through a process of asking for their permission — if it was okay for me to write a book about this. They said yes, and they participated in reviewing drafts and things like that. But I also supported them in their own work that grew out of the project. Some of them have authored papers, and Silvana has done more consulting-style work like writing reports. There is definitely a kind of give-and-take. It was also very important to me that the book stay true to what the activists envisioned and how they narrated their own work. I made sure to involve them in reviewing the text I was writing about them. I did that in two ways:

- Open draft: I published an open draft of the book's first version. I invited all the activist groups we interviewed to comment. I also sent each group a list showing where they were quoted, so they could see the context and how things were written — to make sure they agreed with how their words and stories were represented.
- Academic-Community Review Board: I created a formal review group that included my co-authors like Helena and Silvana, and Lauren Klein, co-author of *Data Feminism* with me, but also three or four of the activist collectives we had worked with. Most of these folks were both activists and academics — they were familiar with academic writing, but also deeply involved in activist work. And that was transformative.

They were paid for their time — it was compensated labor. They read the entire first draft in depth and gave very detailed comments. We held a workshop where I could ask them questions, and we discussed their feedback.

And I have to say — it really, genuinely changed the framing of the book. Originally, I was framing it around “counterdata science”. But two of the activist groups pushed back on that. One said it felt too much like we were framing their work as “going to the state and begging for inclusion”, which didn't reflect their actual goals. Another group, working on missing and murdered Indigenous women and girls in the U.S. and Canada, said: “It's not counterdata — we have no relationship with the state, and we don't want one. We do this work for ourselves”.

2
Data Against Feminicide. (n.d.). *Data Against Feminicide*. <https://datoscontrafemicidio.net/en/home>

They emphasized sovereignty and autonomy in their data work. We brainstormed together, and that's how we arrived at the term restorative/transformational data science, as a more accurate way to reflect their motivations, goals, and the impact they want the work to have.

For me, that process as an author was deeply meaningful. Yes, it was more work, but I wanted the book to represent the activists' work faithfully — especially for readers unfamiliar with it. I wouldn't want to impose a term or frame that they didn't feel was right. These two participatory processes — the open draft and the review board — made that kind of shift possible. And that's rare. In many academic projects, people go into the field, gather data, come back and write it up — sometimes without ever returning to check with the community. And if they do check, it's often tokenistic. So, yes. This was my attempt to stay true to the grassroots and to the situated contexts the data came from.

Discussion and Conclusions

The dialogue with Catherine D'Ignazio reveals how restorative and transformational data science reshapes the relationship between data, ethics, and design. Emotional engagement emerges as both a methodological and ethical component, showing how the act of witnessing can sustain communities and generate knowledge grounded in empathy and accountability. From a design perspective, this shift aligns with approaches that privilege participation, situated knowledge, and justice. It proposes a model of dialogic scale that values local expertise while enabling shared infrastructures of meaning, standing in contrast to technocratic notions of neutrality and efficiency. In this context, the idea of absence acquires a specific design relevance. Rather than being treated as a void or lack, absence becomes a material and conceptual space that invites designers to question what is made visible, what remains unseen, and how care can be exercised through practices of representation and omission.

Ultimately, the conversation highlights the transformative capacity of design when data practices are conceived as acts of care and collective responsibility. Integrating ethical engagement, emotional labor, and community-based collaboration, restorative and transformational data science expands the scope of design research and data activism, offering pathways toward more equitable and inclusive futures.

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