

Eden Medina: My name is Eden Medina. I'm an Associate Professor of Informatics and Computing at Indiana University. In terms of expertise, my research looks at the relationship of technology and politics especially in Latin America. I'm interested in how technologies have been used as part of political projects and designed to reflect political values, ideas, and goals.

Q: TK

EM: A lot of my work is focused on Chile, and I've been working in Chile for the past 18 years. Previously, I wrote a book on the history of a project known as Cybersyn, which was a computer project created by the socialist government of Salvador Allende. People often talk about computers in terms of revolution. I was curious about taking this seriously. If we looked at how computers formed part of a project for political revolution, a real revolutionary project, what would we see? This earlier work on Cybersyn looked at how a computer system reflected the ideas of a particular form of socialism and how that played out historically.

While I was working on that project and when I was in Chile, I happened to see a documentary film called *Fernando ha vuelto*, or Fernando is Back, which is a story of forensic identification and how the Chilean Medical Legal Service was identifying the remains of those who had been disappeared and executed by the Pinochet dictatorship. The documentary showed how scientists were using computer technology to assist in the identification of remains. I decided that my next project would be about computer technologies, or science and technology more broadly, in the domain of human rights work. That's what I'm working on right now.

Q: TK

EM: I'm primarily looking at Chile, but, of course, these histories intersect. The history of forensic identification in Argentina, for example, is part of the Chilean story.

Q: TK

EM: Cybersyn was a project that was created between 1971-1973 in Chile during the socialist government of Salvador Allende. The Allende government was unique in South America, and more broadly, in the sense that it wanted to bring about socialist change through peaceful democratic means. It wanted to nationalize the most important industries in the country but also preserve the existing democratic framework, including civil liberties, freedom of the press, elections, the existing government structure, etc.

When Allende came to power, nationalizing the economy was one of the most important parts of his platform. His government didn't have any experience doing this, and so they needed to figure out a way to manage an economic sector that was growing tremendously and in ways that they had not planned. As a result, members of the Allende government reached out to a member of the cybernetics community who specialized in a niche area of cybernetics known as management cybernetics. They then tried to apply these ideas to manage dynamic economic processes, bringing them under

control while respecting the autonomy of the nationalized factories and their ability to adapt to changes in their environment.

One of the things that I point out in the book [*Cybernetic Revolutionaries: Technology and Politics in Allende's Chile*] is that there is a parallel between thinking about these scientific ideas where you have a context of a dynamically changing environment and you want to maintain autonomy of the parts and the cohesion of a whole, which is a cybernetic approach to system management. However, you also see these concepts in the political ideas of democratic socialism, where you want to maintain civil liberties and demographic participation but you also want to have a stronger state and top-down policies such as the nationalization of the economy. In a nutshell, that's what they were trying to do.

Q: TK

EM: One of the things you see in this case is that centralization versus decentralization or autonomy versus top-down control, these are very slippery concepts. Oftentimes, it depends on perspective, it depends on context, and it depends on practice, as in how these systems and technologies are actually being used on the ground. It's not the technology itself, it's the broader socio-technical system. Cybersyn is a system that is supposedly about work or empowerment and participation, but it could also be about surveillance. These were the kinds of conversations that were taking place about Cybersyn at the time.

Q: TK

EM: Truth and reconciliation, they are really complicated and tricky terms. I think in a general sense, truth is a more complete understanding of past events that is deemed accurate. In the context that you're working in [human rights], it may also be an account of events that counteracts a concerted attempt to keep information on the events hidden. Oftentimes, when you're talking about a human rights context and you're talking about truth, it's acting in opposition to government or military efforts to keep certain events and actions secret and unknowable.

Reconciliation, I think of reconciliation in the sense of healing and repair. The term is sometimes used in a sense of repairing traumas of the past, whether through truth, justice, or reparation, so that people, communities, or nations can move forward and look towards the future. But I think what's important to understand about the terms truth and reconciliation is that they are always being negotiated. They are not stable. What constitutes truth and what constitutes the possibility for truth changes over time. The boundaries of truth and what goes in that space are continually negotiated.

The same can be said about with reconciliation, and both terms are divorced from justice. We often say truth, justice, and repair, or truth, justice, and reconciliation, but they're... it's not an automatic linkage. The meanings of these terms change, they are negotiated, and they interact independently.

Q: TK

EM: When we use the word “technology” nowadays, we often think of computer-based technologies. But I liked the way that your question opens that up because when we think more broadly about the ways we've gone about collecting information on human rights violations, or working in the space of truth and reconciliation in the aftermath of human rights violations, technologies such as archival records have been tremendously useful. This includes collecting and storing oral histories and witness testimonies. There are also legal technologies, or legal tools, that provide ways to get around an amnesty law or invoke a body of international law that can be called upon to surmount the limitations of domestic law. These are legal techniques, or legal tools, but you can call them technologies.

All of these technologies have been super important for processes of truth and justice in the aftermath of violence. They sometimes work together, but sometimes they also work separately.

If we're going back to World War II, the Nazis kept extensive written records, so documentary evidence played an important role in establishing what the Nazis were doing in practice. But at the same time, oral testimony from witnesses offered a different kind of evidence that while seen as more subjective, had strength in its subjectivity. Someone telling of their experience in a concentration camp might miss certain details or only have a partial account of events, but they could convey the nature of the trauma they experienced, and its effects, in the force of their testimony. Different kinds of evidence have different kinds of strengths.

My work is on Chile, so I mostly focus on human rights in the Chilean context, and one of the major innovations that we see in Chile is the creation of a human rights archive. If you want to know more about this, there's a wonderful documentary called *Habeas Corpus* on the history of the archive of the Vicaría de Solidaridad, which is an archive that was constructed by organization of the Catholic Church in Santiago.

The archive started soon after Pinochet took power. The members of the Vicaría started collecting evidence from family members who had loved ones disappear, from those who witnessed violence or instances of extralegal detention, and from victim witnesses who had been detained and/or tortured. All of these little bits and pieces of information started to create a story. They started collecting this information and archiving it without any kind of precedent or training in how to do this. In essence, they built a human rights archive from scratch, and without knowing the extent of the violence that was taking place. Bit by bit, they're able to generate this picture of extralegal detention, disappearance, execution, torture, and create a corpus of documentation on victims and their families.

Because a number of the people who were involved with the archive were lawyers, they begin to file legal motions saying, “We want to know what happened to this particular person.” When the information doesn't come back, they're able to start to build an archive of judicial non-responsiveness. This early archive that is being built by this organization within the Catholic Church, I would argue, helps make possible the truth

commission activity that comes later once Chile returns to democracy. Much of the information stored in the archive would form the basis for the truth commission reports.

This was also the information that scientists would use to further the identification of remains. Before we can even get to the science and technology of forensic identification, there are these earlier archival efforts that are being done by a very courageous group of people who are trying to figure out what was going on and do something about it.

The history of archival evidence is something that is very important in the Chilean story. The other thread of evidence that we see — in addition to the testimonies that are collected by the truth commissions in the 1990s — is a shift towards forensic evidence, which we start to see in the 1980s and the 1990s. This includes the use of bones as a form of evidence. If you can exhume remains, if you can identify them and link them to a victim, and you can read the trauma that was inflicted by a perpetrator on the bones, then practitioners in the field were saying that this is a form of testimony. The bones were bearing witness of crimes that had been committed.

Now, this work does not start in Chile, it starts in Argentina in the 1980s and, it's done collaboratively by a forensic anthropologist named Clyde Snow with support of the American Association for the Advancement of Science (AAAS). This work is initiated by the Grandmothers of the Plaza de Mayo (Abuelas de Plazo de Mayo), who reach out to the AAAS to ask for help finding their grandchildren, and it leads to the development of a field of forensic anthropology in the domain of human rights work. Members of the Argentine team traveled to Chile to train the Chilean team. Yet in the Chilean case, the bones tell a different kind of truth.

Q: TK

EM: We know that people travel, ideas travel, techniques travel, and they change in the course of their travels. For example, in the Vicaría de Solidaridad, they have these large spreadsheets, I mean physical paper sheets, like pieces of graph paper that have been taped together to make these physically large spreadsheets where names and information on each of the different cases appears.

It's a spreadsheet, it's a paper spreadsheet. They're called the *sábanas* which is Spanish for sheets. Spreadsheets didn't come from Chile. I guess we can tell the history that we want to tell of spreadsheets, but to organize the information in this way and to have this very tactile representation, figuring out how to organize the information, I mean, that's something that's being done within the Vicaría. In a way, everything is local, but expertise, techniques, and technologies also travel from one place to another.

To give you another example, if we're talking about forensic anthropology, we have Clyde Snow coming from the United States. We have Eric Stover coming from the United States. Clyde Snow is training a young group of Argentines on how to use forensic anthropology methods to exhume and identify the remains of those killed by the Argentine military. How to exhume a set of remains from a cemetery is something that is being taught to the Argentine team by Clyde Snow, but how to form relationships with

the families, recognizing the importance of these relationships, and that the trust and involvement of the families for this kind of work is essential to the science, that's coming from the Argentine team. Things are getting redefined in the context of defining this kind of scientific work. Things travel. Some things are imported, some things are local, but the context is always local and the politics are always local.

Q: TK

EM: Chile is a unique case. Chile has a military coup in 1973. Pinochet takes power and his dictatorship lasts for 17 years. In 1990, Chile returns to democracy with democratic elections. Soon after the newly elected president, Patricio Aylwin, starts a truth commission known as the Rettig Commission to try to gather information on what had happened during the dictatorship and the kinds of crimes that had been committed.

Aylwin supports the process of truth, but he puts forth a particular kind of bounded truth because of the Chilean political context. What sets Chile apart from say nations, such as Argentina, is that the military continued to have substantial institutional power even after democracy was reinstated. Pinochet was no longer the leader of the country, but he was still commander-in-chief of the armed forces. There was fear that there could be a second coup if the military felt threatened.

As a result, Aylwin put forth an idea of truth that emphasized naming the victims rather than the perpetrators and said he would pursue justice for human rights crimes only “to the extent possible.” This strategy of prudence sought to bring members of the right and the left together. It was a strategy that said we need to acknowledge the crimes that were committed by the military government. We need to acknowledge the suffering of the families. We need to make that public, but we are only going to move forward *to the extent possible*.

In that context, and this is my interpretation, the forensic identification of remains helped the Aylwin administration, and the administrations that came immediately after, create a bounded space of truth because it permitted the government to identify the victims, those who had been killed. It allowed the government to return the remains of these victims to their families. Even members of the right said, “Families have a right to the remains of their loved ones.” There was a broader consensus that this was important.

Identification and the return of remains made the suffering of families public, and allowed the government to acknowledge it publicly. It also acknowledged the crimes that had taken place during the dictatorship. But it was a truth that was separated from justice. The information the scientists gleaned from the bones was not going to be used to name perpetrators. It was limited to naming those who had been the victims of the most egregious crimes, disappearance and execution. It did not include other kinds of truths, such as acknowledging those who had been tortured, those who had been exiled, or those who had lost their livelihood because of the dictatorship. It was a very circumscribed idea of what a victim was or what constituted truth for the purposes of repair. For Aylwin, it seemed to allow a way forward that would not make the military sacrifice too much.

Q: TK

EM: Just enough, right? Just enough truth. A truth that was prudent at that time period. If you are interesting in seeing how science and technology might have been complicit, and complicit is a strong word, it is valuable to remember that science and technology can be mobilized to tell certain kinds of truths and not others.

Q: TK

EM: What you see in the Chilean case is that for many people, sure, this kind of truth is better than nothing, right? This kind of truth is valuable and useful, but those affected by these crimes also want justice. Reconciliation cannot come without justice and justice might mean different things to different people. On the one hand, you have family groups that are demanding justice in the courts and on the other hand you see the government using truth as a way to move this particular kind of justice to the sidelines.

In the case I'm working with, it becomes even more complicated. One of the things you see with forensic technologies is that sometimes forensic technologies are seen as more objective, whereas witness testimony is seen as subjective or perhaps overly laden with emotion. But I'm studying a case where the Chilean government misidentified a large number of remains exhumed from an anonymous burial site and returned the remains to the wrong families.

In this case, the science that has been given status as objective, is simply wrong. Moreover, part of the reason these errors are discovered is because they don't line up with other kinds of evidence, including witness accounts. Inconsistencies start to reveal other inconsistencies.

Q: TK

EM: You're talking about after the misidentifications?

Q: TK

EM: I've published elsewhere, I have a short piece in the *Yale Law Journal* Forum, a piece that I co-authored with a Chilean human rights lawyer, Ilan Sandberg. We argue that misidentification is a form of re-victimization because there is a re-infliction of harm and a re-infliction of trauma. I also have a longer article in *Technology and Culture* on the techniques and technologies that the Chilean scientists used in their identifications, including a computer system that they used to identify skulls. I show how these scientific practices, and errors, fit in the larger landscape of Chile's democratic transition.

I've collected a number of stories from family members on the effects of the misidentifications, including how they learned of the news and how the news impacted them. They're terrible stories. This also gets at the shifting nature of truth because in many of these cases, family members did not know what had happened to their loved

one for decades. Then they are given a story of what happened to their loved one based on data derived from a set of exhumed bones. And that story is truth. It's given as a scientific truth, but it's also given as a legal truth and a historical truth. Then all of a sudden, it just all falls apart and is not true anymore. It's also not clear that a new truth will ever be coming or what kind of faith you would put in that new truth if it was offered. It is really complicated and horrible.

In terms of responsibility, a number of the families filed civil suits against the government after the misidentifications and they received an amount of compensation determined by the state. For some families, this still is not a form of justice, not only because a monetary sum doesn't counteract the kinds of suffering that they have endured, but also because the monetary sums that the government has offered to the families more generally are so much lower than the military pensions. This seems like an ongoing form of injustice.

Q: TK

EM: Right. It continues. It continues. Yes.

Q: TK

EM: I mean, I can say that what I have noticed is that universities seem to be among the few kinds of institutions that are grappling with their difficult histories of racial violence. They are doing so bit by bit, and often only as a result of being called out or in response to student demands, so there is still a lot of work left to be done. Georgetown, for example, recently addressed its institutional history of slavery. Johns Hopkins acknowledged some of the past wrongs it committed against Henrietta Lacks and her family. MIT offered a recent course on the historical connections of MIT to the Atlantic slave trade, most notably in the life of its founding president. These are early works at select institutions, but they are small acts of truth in hopes of repair. We see universities doing this kind of difficult work, but we don't see that kind of hard work taking place within companies. If we're thinking about the kinds of truths that are possible, and as I mentioned earlier truth is not a static thing it is always being negotiated and bounded in different ways, we're seeing that certain kinds of truths are possible and others still are not. The question is why. Maybe it says something about power structures in the United States today. It may also say something about who is demanding accountability from whom, what motivates institutions to address the harms of the past, and the kinds of demands for accountability that have succeeded thus far in opening the door for new possibilities.