ISTITUTO FIORENTINO di CRITICA CULTURALE

Aesthetics of the Unseen

Interpreting the Earth: Technology, Testimony, and the Search for the Disappeared

Interview with Miguel Moctezuma for the Istituto Fiorentino di Critica Culturale

In this conversation for the IFCC's *Aesthetics of the Unseen* series, disappearance is treated as both violence and perception — a power that operates through invisibility while leaving traces in soil, vegetation, memory, and grief. As Miguel Moctezuma notes, the mothers who search speak in the present tense; their knowledge reshapes how we understand evidence, time, and care. It is from this lived expertise that the FOUND Project begins.

Working at the threshold between what has vanished and what remains, FOUND reads the earth through environmental change and the subtle signs recognised by the mothers, turning scientific instruments into tools of remembrance. In dialogue with Magnus Green, Moctezuma reflects on how testimony, technology, and landscape form new grammars of visibility and support systemic change in search and identification practices. What emerges is a politics of perception grounded in the restoration of presence: an insistence that the task is not to count graves, but to return the missing. In a world where sovereignty often manifests through absence, learning to see becomes a form of resistance.

MAGNUS GREEN: FOUND sits at the intersection of governance, science, and grief. What first drew you to disappearance as both an empirical question and a moral one?

MIGUEL MOCTEZUMA: It was also, or mainly, because of personal reasons. I heard Chantal Meza once during a presentation expressing it in a way that I had never thought

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about. I think it summarizes it perfectly. She said: when you are from these countries, when you are from Mexico, for example, you don't necessarily choose the topics. It's more like reality catches up.

For me, it was growing up in Zacatecas, in the north of Mexico, living with violence and losing friends as well. Some of them came back, some of them disappeared. In some cases, we eventually found the bodies. Something that has stayed with me since then was one particular case of one of my friends called Rafa, Rafa Márquez. He was 17. We were 17 when he disappeared. When he was found, his mom — I could see that she found peace. She expressed something that's going to stay with me for the rest of my life, because she said: "Now I know where I can take the flowers." Those are the stories that we now encounter when we talk to the search groups in Mexico, because that's what they say: "I don't know if he's alive. I don't know if he's dead. I want to believe that he's alive, but I want to know."

Imagining that I was feeling that as a friend, and that a mother is imagining that the worst could have happened but not knowing, is one of the worst things I can imagine. So that's how it began. It was growing up in an environment like that and then eventually finding the right team, discovering that what we do works, and learning from the mothers.

It's striking, because it's almost impossible to grieve if you don't know where the person is. There's always the possibility that one day they might walk through the door.

And this explains why, for example, when you talk to the search groups — whether in the first encounters, when they already trust you, or in the field — they always talk about their loved ones in the present. They say, "He's a psychologist. He's a dentist. He is a father." They never talk in the past. He is alive until proven otherwise. We should initially look for them alive, and the government should focus its resources on prevention and finding them alive.

If they're not alive, then we need to find them, because this moment of disappearance, with the interruption it represents — school, family, partners, church, football — all these things were suddenly interrupted, and all the people are waiting for them. In the places where the vast majority of cases take place, small communities are extremely well connected. Those networks are touching. That person represents a massive loss. Bringing them back and respecting the memory in the present is part of doing the work.

He is alive until proven otherwise

With the FOUND project, your team works closely with the mothers' collectives — the relatives of the disappeared — who become co-producers of knowledge. How have these networks changed your understanding of science, tools like LiDAR, and evidence?

They have changed everything. The first thing to acknowledge is that the knowledge was already there. You have to respect the fact that they shouldn't be looking. Their children shouldn't have disappeared. Someone else should be doing it. But because they are so exposed to this environment, they have learned so much. They are the first ones in the field. They go to places where governments would normally not go. So they change our perceptions.

For example, one of the main methods is clandestine graves. Normally, you would not prioritize a mountain mainly made of rocks, because bodies would have to be on the surface — and that is not the usual method used by cartels in Jalisco. But the mothers go anyway. They know, for example, that when government or companies install electrical towers, large amounts of soil are moved. When it rains, the soil follows the streams. Sometimes there are bodies there. We included this in the experimental sites. We have a site in Tlajomulco near electrical towers to replicate what they told us — not only to replicate the method used by the actors, but to test how technology behaves in those environments.

We want to see the implications of using electrical resistivity close to electrical towers. You include the knowledge, test it, and then you have insights that can shape official search practices — meaning the government begins looking in a different way. It all started with the knowledge of the mothers. When the mothers go, they look for signs. If they see cement splattered on the paint, it means the floor layer was put afterwards. Very likely the bodies were there, they put a new layer, and there are traces. There is always something, in the words of the mothers. They pay attention to patterns. They say: normally, in a garden, the body is going to be on the left side. We don't know why, but they prioritize specific places.

The first thing to acknowledge is that the knowledge was already there.

What we do now is use seismic instruments. In earthquake disasters, instruments are passive. In these cases, the instrument releases energy and measures how it travels. Based on the mothers' knowledge, if you suspect something beneath bathrooms or gardens, it's likely a body. Their knowledge allows us to test technologies that can find anomalies and potentially become evidence for the attorney's office to issue search warrants.

The plan is that by embedding enough of these changes, governments have the tools to do this properly, safely, efficiently — and that the mothers progressively stop searching. That is the dream. The mothers value technology. They say: it's not about decreasing disappearances; it's about increasing the number identified and returned to families. That changes the perspective. It's not about counting findings; it's about counting families who find closure.

Governments often frame issues in technical indicators. Does FOUND, through these methods, create a new way of seeing that policymakers can understand?

What matters is that we finally get to the place. Instead of only asking why the government isn't doing it, we ask: how can we change the way we perceive this so we can nudge them into doing what the families need? Technology becomes a bridge for search groups, families, and governments to communicate. It doesn't matter who is first. What matters is coming together and positioning ourselves in an environment of solutions, not only acknowledging the problem.

If there are experimental sites based on mothers' knowledge that turn into protocols and the government delivers, that shifts perception. If you sync these efforts with organizations like LAB-CO, colleagues working with AI on identification, then you don't only find people quickly — you identify them efficiently. That brings a new way of perceiving the problem. If you succeed at finding bodies — government, families, or FOUND — you move numbers from disappearance to homicide, because you prove they died. But when the government identifies them and returns them to families, the policy narrative shifts to closure. If that's your angle, it means you listen to families, work with them, acknowledge feedback, and change your mind. Government incentives become aligned with family needs. When you reach that point, it's likely there will be changes in policy and outcomes for families.

Disappearance plays out at local, national, and international scales. Do you see it as an exceptional act, or has it become normalised as a way of regulating visibility and truth?

It takes different shapes. This method is used by different actors — state and non-state — sometimes in combination. In Mexico, it is mainly non-state actors with collaboration from state actors, but mostly non-state. There are cases in Jalisco where ex-FARC members from Colombia join the cartels. They bring new methods, and the environment changes. This changes how you find bodies — whether they are fragmented, and how many pieces. In Jalisco there is a trend of finding bodies in 14 pieces. That becomes a major problem for identification. If you have DNA, you must test it 14 times. The cost multiplies.

Before they were dragged in, they were children once.

Conflicts in many parts of the world have these implications. You can learn from one environment and use it in another. We went from the massive case of the 43 students in southern Mexico — involving army and cartels — to cases like Jalisco, where there are ranches with forced recruitment and clandestine crematoriums. The methods used by actors are broad and depend on where you are.

This brings questions: the relationship between disappearance and forced recruitment; between recruitment and social media; and what we are doing for prevention on platforms like TikTok and Facebook Marketplace, which cartels use to lure people. People are deceived looking for jobs and end up in cartels, sometimes against their will. Before they were dragged in, they were children once. What are we doing with the next generation? There is a pattern of normalization. But I hope this momentum between scientists, governments, and companies can create different moments. FOUND is having conversations with TikTok, and we're approaching Meta. The mothers will tell them what they see. This can influence things — moving from normalization to intervention.

Do you see this trend becoming more institutionalised? And do you expect the numbers to grow?

It is growing. Actors adapt. When we use technologies, they adapt, and then we must adapt again. That's why we should focus on systemic change. When you work with mothers and students in the experimental sites — including the replicas of clandestine graves — and students suggest things based on the stories they hear, such as the presence of bullets at different levels, they begin to produce methodological changes. They will become future decision-makers who already understand this approach.

Cartels also adapt. They build their own drones and use explosives. They bring methods from Colombia. This affects weight, connections, detonation — including by proximity to drones. They use technologies as well. We should try to be at least one step ahead.

Given this complexity, what does meaningful support look like? Is there a tool you see as promising?

Yes. There is a tool we presented to the mothers — the first time it was publicly shown — in a meeting with representatives of search groups in Mexico City. It is a platform based on machine learning developed by Dr. José Luis Silván and his team in CentroGeo. FOUND is

an initiative with universities and layers of government. Silván's team gathers information through a partnership with the Jalisco Search Commission, based on previously found graves.

We begin with positive cases — clandestine graves. Using coordinates, we understand dispersion: where the person was kidnapped, where the grave was, rural vs. urban distance, light at night. Silván calls it "clandestine space": high accessibility, low visibility. Language matters: we focus on dispersion of graves, not "cartel behaviour." We are looking for people.

Once we map all places that share these variables, you detect areas likely being used as clandestine space. The commission checks these places. If a positive case appears, the system learns. It also learns when bodies are not there, which is important. The system prioritizes areas accordingly, learning about changes in methods. You can introduce layers from other technologies and systems. If electrical towers interfere with electrical resistivity, the system may suggest thermal cameras instead of hyperspectral, or seismic instruments instead of others. When methods change, those changes can be incorporated into the system. It is already functional. We are using drone imagery and satellite imagery, and it has promising results. We have given this information to the search commission, and they have confirmed that some suggested sites indeed have crematoriums and human remains. It works. It can be expanded to other regions. We plan to do the same in Colombia in January.

You mentioned this platform as a way of integrating methods and technologies. Do you see it as crucial for the future of the work?

Exactly. Instead of conceiving only geographical spaces in which you test, it can also be the digital realm — a space where you process information, add layers, prioritize, understand which method works where, and incorporate new ones if necessary. Yes, you could predict where the next sites are likely to be. That's true. But it doesn't necessarily mean there will be a prevention component. You don't control the methods used by the actors. You control the information you have and where you should prioritize the search, because they can simply move somewhere else.

What matters is that you learn from what's happening — the dispersion of cases, the methods being used — and that this becomes a way of being more successful at finding and identifying. If the model learns enough, we can find quickly. And if we find quickly, the probability of identification increases. There may still be tissue, fingerprints, things you can work with. The idea is to sync this with partners working on identification. Using AI with LAB-CO, colleagues can scan all pictures of tattoos in search commissions and attorney's

offices. They turn them into points, making it quicker to check these points than to analyse the whole image. Families can bring a picture of a tattoo and find a match quickly.

It's not widely known that because governments didn't have access to this technology, when they wanted to work with families on identification, they would invite them to different states and show them all the pictures of bodies — mothers travelling to five states, looking at images of bodies or tattoos, because there was no assistance to narrow the search. With LAB-CO's system, you can type "Aztec design" or "a bunny" or show a picture, and it will identify it. We can also use AI in academia to extract strategic points from papers and summarise. So why not use AI to do the same with investigations? It's not connected to the internet; it's safe; it is on official servers. It can analyse thousands of pages and tell you, for example, who was in charge of an investigation three years ago, whether someone was supposed to be interviewed, and whether they were interviewed.

They're implementing this in Jalisco, aligning search and identification efforts. They're going to Zacatecas and Quintana Roo as well. Hopefully this becomes a trend: you bring technology for search and identification. That is systemic change — creating capabilities in governments, not just having a project. It's not about FOUND finding bodies. It is about governments acquiring capabilities to do so and to improve identification.

So it's not just uncovering disappearance, but illuminating opacity between institutions and records.

Exactly. And it is incredible that hyperspectral imaging has only been used twice in Mexico for humanitarian efforts. It was through FOUND. We rented the technology from a company in Colombia. Once we proved that it works, it became easier for governments to justify acquiring it.

But Colombia didn't know about this company or the equipment, even though the equipment was from Norway and located in Colombia. So we brought the company and the Colombian Search Unit to Jalisco so they could test together. The idea is to go back to Colombia and do the work with the Colombian company and Search Unit, creating capabilities so that instead of renting services, they acquire the equipment and use it themselves. This is the idea: to be the bridge, prove that it works, and then create capabilities. When you create capabilities, you also create interactions between actors. Sometimes you create a moment in which they work together, like in this case with Colombia.

Is there something other organisations — universities, NGOs — could learn from the way FOUND and the families work together? And is there something elsewhere you want to bring into your own practice?

Yes. One of the biggest lessons is realising that not everything has to be developed from scratch. There are so many things out there that can be repurposed for this, and then repurposed again for other areas. Through collaboration, sharing and exchanging knowledge, you can create policy change, results, and closure. That should happen more. Building networks to learn from others, sharing knowledge, and working not only on research but on policy impact — embedding results into policy — that has consequences for people.

Universities, especially in Europe, have resources and the potential to affect so many lives. Uses of AI for things like this were already there; it's incredible they were being used for other areas. We just have to repurpose them. Now that Colombia is involved, I hope we reach a point where whatever Colombia is producing has an impact in real time in Mexico, and vice versa. We talk about Latin America as if it's close, but Colombia and Mexico are far apart, yet the problems are similar — different moments, methods, actors — but so much to learn.

In northern Mexico, in Chihuahua, there are massive cases of disappearance of women. Those bodies were left on the surface. Teams from there met with the Jalisco teams last week. Some cases from the 1990s in Mexico could offer methodologies useful in Colombia, and what Colombia has done to build trust in communities and gather information from perpetrators or families could be useful in Chihuahua. All we had to do was make the connection and speak to each other. So I would say: turn this into something normal — sharing information and learning from each other. We can do this better. Hopefully this becomes a moment in which we move into that and incorporate other countries.

If you're operating a search network in a place like Chihuahua and confronted with vast terrain, it could seem impossible to know where to begin. Realising that there is a shared methodological pool with colleagues in Colombia makes the problem more collective.

Exactly. Let me give you another example that has implications in many places. Sometimes actors use limestone to disguise smell. This affects decomposition. In

humid places — something the mothers know, and which has been happening in Colombia — layers of limestone become like a dome over time.

Bodies lose mass and tissue, but you can analyse the dome and estimate when the limestone was put there. That links to the moment of disappearance. Even if you cannot identify remains directly, you might identify the timeframe, which helps you identify the person. What if we use those methods for cases in other areas? There is much more that can be done from methods developed elsewhere.

There was a conference about animals, perception, and cameras. One speaker was tracking bees. Based on mothers' knowledge about flowers that shouldn't be there out of season, if you use multispectral or hyperspectral cameras to find anomalies in chlorophyll, you might find anomalies in pollen. You might detect it in honey, or in the bees themselves. A field of research focused on bees could have implications for search practices. Technology used for pollutants, plagues, water studies — so much more can be done.

And it shows how vital it is to keep knowledge moving between fields and institutions. The example of bees may seem distant from clandestine graves, but it becomes part of the same ecology of perception.

Exactly. One student said: the mothers have been saying that when bodies are on the surface, animals move them. "What if we track the bones? What if we systematically track where vultures or foxes take them, so we know where to search?" When a student expresses that, you realise that is systemic change. He knows his idea can become an experiment, a protocol. That shapes how he will make decisions in the future. He will be a researcher or decision-maker who knows his ideas can be tested and have consequences.

That's also a source of hope — even if change is slow, it is shaping future researchers and institutions. I think that's all for today. Any final thoughts?

Closing with the first idea: how much we are learning from the mothers. When they visit other states, it is very important that the project is not giving technologies directly to them, because we are trying to avoid them being the ones doing the search. It should be governments. But it is important that the mothers are the ones going to other states, explaining to other collectives the expectations they should have of governments. If it can

be done in Jalisco, and is beginning to be done in Zacatecas, San Luis Potosí, and Chihuahua, then what about the other states?

The mothers share knowledge about what can be done in terms of identification and search, and how to approach this new way of engaging with governments, and how scientists can be a bridge. The knowledge never stops. It includes the language they use — speaking in the present. They say: "I want my son, my daughter, my brother, my husband to be remembered not just as a number. Let's talk about who they are, how much we miss them." They say: when we are in the field looking for them, if I find him through a clue or a sign in nature, that means I found him in a different form of life. "I'm not looking for my son or my loved one; I'm looking for signs of life that could lead me to him." It is beautiful — his remembrance, dignity, presence.

If I find him through a clue or a sign in nature, that means I found him in a different form of life

It reminds me of the "flowers of life" — how pH changes soil and produces a specific flower, so you look for flowers as signs.

They changed the name of the flower because they say: "I'm looking for him in a form of life." Some critics say this romanticises the search. What matters is what the mothers believe, how they name things, and that we work with their language. The idea summarises the project well: changes in the environment, nutrients from the bodies, moisture — signs the mothers identified. Sometimes it is the lack of vegetation; sometimes patches where plants thrive. They know so much about the environment — when flowers should be there, when plants shouldn't be. It brings hope. The energy they bring fuels the project. It becomes motivation, knowledge, results — through teamwork and trust.

A form of return — to visibility, to family, to a shared world.

Exactly. And that explains the name: *Interpretar la naturaleza para encontrar a quienes nos faltan* — interpreting nature to locate those we are missing. Nature is a witness of what happens. There is always something, in their words, and they have proven it.

Nature is a witness of what happens.

Closing Reflection

What lingers most from this conversation is not a single method or technology, but the epistemic shift brought by those who search. The mothers' way of speaking — anchored in the present tense — unsettles how disappearance is usually framed. It refuses the state's tendency to convert lives into abstractions and insists on a language in which presence endures, even amid uncertainty. Their grammar becomes a form of resistance.

FOUND builds on this stance. Its contribution lies not only in technical innovation but in cultivating a way of seeing attuned to the faint, often overlooked registers through which violence becomes legible. Landscapes hold memory; environments bear witness. Attending to these signals requires a practice that is ethical as much as scientific.

What emerges across Miguel's account is a reconfiguration of knowledge: one in which expertise moves laterally — between families, scientists, institutions, and regions. This circulation unsettles boundaries between local and global, academic and experiential, forensic and environmental. It demonstrates how collaborative forms of perception can unsettle the opacity that disappearance relies on.

In this light, the work of FOUND is not simply to locate the missing but to counter the logic that seeks to render them unseeable. Absence is never total; traces remain. Learning to recognise them becomes a way of restoring presence, returning dignity, and resisting the political uses of invisibility.

Author Notes

Miguel Moctezuma is Coordinator of the Global Security Programme at the University of Oxford, and co-leader of the FOUND Project, an interdisciplinary initiative that develops scientific and technological methods for locating clandestine graves in collaboration with families of the disappeared and the public institutions responsible for search and identification. His work bridges public policy, environmental analysis, forensic science, and community-led knowledge practices across Mexico, Colombia, and Latin America. He holds degrees from Oxford, UNAM, and the Autonomous University of Zacatecas.