

Biorecuperation, the epidemic of violence and COVID-19 in Mexico

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Abstract

COVID-19 has reinstated the sovereign enclosures of corpse management that mothers of the disappeared had so successfully challenged in the past decade. To explore how moral duties toward the dead are being renegotiated due to COVID-19, this article puts forward the notion of biorecuperation, understood as an individualised form of forensic care for the dead made possible by the recovery of biological material. Public health imperatives that forbid direct contact with corpses due to the pandemic, interrupt the logics of biorecuperation. Our analysis is based on ten years of experience working with families of the disappeared in Mexico, ethnographic research within Mexico's forensic science system and online interviews conducted with medics and forensic scientists working at the forefront of Mexico City's pandemic. In the face of increasing risks of viral contagion and death, this article analyses old and new techniques designed to bypass the prohibitions imposed by the state and its monopoly over corpse management and identification.

Key words: forensics, disappeared, Mexico, care, biorecuperation

Introduction

Corpses – or their absence – are sites of disputes par excellence.¹ In previous ethnographic research conducted with families of disappeared persons in Mexico, we have argued that unmediated encounter with human remains, such as the partial exhumation of clandestine mass graves performed by relatives of victims of violence, cultivates a form of ‘dangerous’ thanato-citizenship.² This emergent form of citizenship thrives through strategic boundary transgression, and is especially dangerous to forensic experts and governmental authorities, since it challenges the state monopoly over corpses. However, COVID-19 has reinstated the sovereign enclosures of corpse management that mothers of the disappeared had so successfully challenged in the past decade. To explore how moral duties toward the dead are being renegotiated in Mexico due to COVID-19, this article puts forward the notion of biorecuperation, understood as an individualised form of forensic care for the dead, generally materialised through DNA and made possible by the

recovery of biological material. Public health imperatives that forbid direct contact with corpses, due to the pandemic, interrupt the logics of biorecuperation. In the face of increasing risks of viral contagion and death, this article analyses old and new techniques designed to bypass the prohibitions imposed by the state, and its monopoly over corpse management and identification.

The logics of biorecuperation and its individualisation imperatives become more visible in the aftermath of mass atrocities and in the ensuing Disaster Victim Identification (DVI) efforts. After the 9/11 terrorist attacks³ or the tsunami in Thailand⁴ large-scale forensic projects were set up to identify the dead. We find the exemplary incarnation of biorecuperation in the forensic efforts to identify human remains mixed with 9/11 debris.⁵ In principle, the forensic infrastructures put in place to identify the victims of the attack on New York's twin towers can perpetually identify human remains in order to name the victims of 9/11 when DNA technology reaches the level of accuracy and sensitivity needed to identify preserved human remains.⁶ Victor Toom argues that the bodies, or any remnants left, are important for families in order to have a place to mourn; to claim insurances and governmental support; to ritualise loss; and, for some religious groups, even to become vessels to make possible the resurrection of individuals in the final judgement.⁷ The central aim of recuperating biological remains is a matter of concern not only for families in the United States (US) but also for those communities where conflict or disasters have left unidentified human remains. In these contexts, human rights could indeed be extended to human remains.⁸

Biorecuperation is a form of care for the dead. Following Tronto, we understand care as 'everything that we do to maintain, continue and repair "our world" so that we can live in it as well as possible.'⁹ Caring for those that have died or disappeared is always 'situated care',¹⁰ as has been beautifully illustrated by numerous ethnographic accounts of forensic interventions in disasters and post-conflict scenarios.¹¹ For instance, the sight of forensic scientists examining human remains in open mass graves might seem undignified to relatives of the victims.¹² Large institutional efforts designed to identify those that have gone missing – such as the International Commission of Missing Persons (ICMP) set up in Bosnia in 1996 – constantly need to navigate these forms of situated care. In the case of the ICMP, Wagner shows how relatives of the victims of conflict might assign more value to identifications via the clothes the person was wearing, or the shape of their teeth, than via DNA technologies,¹³ which are usually framed as the 'gold standard' by forensic experts in courts.¹⁴ In short, biorecuperation is not univocal, and should be understood in terms of specific cultural achievements and material conditions of existence.

Material conditions of existence and forensic infrastructures matter. For instance, the ceremonious treatment of human remains performed by the US military, when bringing back even the smallest bone fragment from those missing in action during the Vietnam War,¹⁵ stands in contrast to the Mexican experience, where the efforts of locating human remains and caring for the dead are led by independent citizens and families, who have to shoulder the economic and emotional costs of searching for the disappeared. By way of example, in 2014 FUNDENL, an organisation of families of the disappeared, led the first citizen-led exhumation in Mexico.¹⁶

To carry out the exhumation and DNA analysis of human remains, FUNDENL worked together with citizens' initiatives such as citizen-led forensics and the team of Peruvian and Mexican forensic anthropologists.

Families of the disappeared have been conducting independent searches to locate their loved ones, generally without governmental support and many times in open confrontation with authorities. During this process, they have uncovered not only systematic mistreatment of dead bodies but an underfunded and overwhelmed forensic system.¹⁷ In contrast to the \$80 million enterprise to identify the 9/11 victims,¹⁸ when mothers of the disappeared want to reanalyse human remains that did not undergo due forensic process, they have to find the funds to do so on their own. Seven years ago, when the first citizen-led exhumation was conducted, the cost of DNA analysis of bone fragments alone was in the region of \$8,000. This amount of money was more than the yearly income of the whole family searching for a missing daughter, who were working in local factories earning a minimum salary. To understand biorecuperation in Mexico we need to analyse the crematoriums/'kitchens',¹⁹ and overwhelmed mortuaries as disputed sites where transformations of thanato-citizenship emerge.²⁰

In Mexico, perpetrators, victims of violence and *coyotes* (paralegal brokers) are challenging the state's monopoly over corpses and their proper management. Since 2006, extreme violence has been an everyday reminder of an unending 'war' in which more than 289,000 people have been intentionally killed. Although the data is unreliable, federal authorities maintain that the number of disappeared or 'not located' persons in the country stands at approximately 86,497.²¹ According to Freedom of Information Act requests between 2006 and 2019, the number of unidentified human remains in the custody of the state increased by 1,032 per cent during this period.²² Not surprisingly, corpses appear on a daily basis in the mass media, dismembered in the streets and in mortuaries that have exceeded their storage capacity, especially in areas where the so called 'War on Drugs' has collapsed the already fragile forensic infrastructure.²³ The (mis)management of hundreds of thousands of corpses produced by the 'War on Drugs' has shown the cracks in a Mexican national project marked by an ever-elusive sovereignty.²⁴

Contrary to notions of 'bare life' that put the extermination camp at the centre of modernity, we propose to theorise the politics of 'death itself' as a field characterised by partialities, incompleteness and uncertainties that constantly confront narratives of efficiency, infallibility and control.²⁵ Different from the meticulously planned and closely managed organisation of the death camps, the current Mexican scenario is better understood through the lens of de facto sovereignty, defined as 'the ability to kill, punish, and discipline with impunity' by rebel groups, organised crime and private entities that exercise territorial control within nation-states.²⁶

Everyday necropolitics in Mexico²⁷ necessarily entails a continuous interpretation of what corpses tell us about criminal messaging, military executions or governmental cover-ups.²⁸ After all, knowing who wields the power to kill or let live is crucial for survival and for navigating the fraught Mexican scenario. There is a growing group of investigative journalists, relatives of victims, activists and governmental experts who have learnt to navigate and interpret the language of

corpses or their absence. For instance, many relatives of the disappeared interpret the locations where human remains are found as signs of a disputed sovereign authority: 'if we find the corpses hanging from bridges or executed in the public sphere we know the killers were *narcos* [drug lords], however, if we find them in clandestine mass graves, we know it was the state.'²⁹

Despite their expertise in understanding the messages encoded in corpses, the final goal of most of the Mexican 'forensic citizens' – i.e., families of victims, journalists, activists – we have interviewed and worked with in the last decade is to materialise care and dignify their loved ones via individualised forensic identification. Thus, the recovery of biological remains of missing or dead members of bereaved families is of utmost importance, and the infrastructures needed to perform that work are a constant topic in discussions about institutional reform. Our research draws attention to how collective duties toward death have been reshaped by victims of violence, and more recently how the recentring of public health narratives – due to COVID-19 – reveals the texture and inventiveness of these emerging forms of thanato-citizenship.³⁰

In what follows, we analyse how COVID-19 priorities and logics can interfere with the struggles of relatives of the disappeared who have long advocated for an end to the practices designed to hide the traces and bodies of people killed, tortured and disappeared. Mexico is now one of the countries worst hit by COVID-19. It has the seventh-highest death toll on Earth, occupies fourth place for number of deaths per 100,000 persons and ranks first in terms of mortality per number of cases.³¹ Lack of testing capacity amid the pandemic and a fragile national health service, in one of the most densely populated cities in the world, present challenges for the management and care for the dead.

In order to illustrate how the epidemic of violence and COVID-19 intersects in Mexico, we start by briefly describing the overall impact that the pandemic is having in the health of millions of Mexico's city dwellers and the fates of their corpses. Drawing on interviews conducted with families of disappeared persons, forensic scientists and medical doctors working at the forefront of Mexico City's COVID-19 pandemic, we analyse how corpses appear or disappear in overwhelmed mortuaries and crematoriums/kitchens. We conclude by theorising forensic spaces where Mexican thanato-citizenship is taking place through the limitations and affordances that arise when the direct encounter with dead bodies gives way to more vicarious ways to find, and to some extent make, corpses – what could be framed as proxies. Corpses as proxies are human remains that are made present via indexes such as: the peculiar smell left on the steel probes of mothers perforating the ground in order to find mass graves;³² the digital reconstructions of crime scenes;³³ comparative video and picture footage of cemeteries or GPS (global positioning systems) mapping of clandestine burials.³⁴

Throughout the article, we show that in contemporary Mexico technologies of biorecuperation make it possible to manage the challenges presented when trying to connect corpses with their social relationships and identities.

Notes on methods and biorecuperation

Since 2012 our research has focused on the families actively searching for their disappeared kin, particularly those that have become national leaders in the search for the victims of violence in Mexico.³⁵ In following these forms of defiant citizenship³⁶ we have paid a lot less attention to those that have reluctantly accepted that their loved ones are gone forever. There are hundreds, possibly thousands, of families that, due to the certainty of the 'erasure' of biological remains, due to the hardship of having to imagine the fate of their loved ones, or simply unable to afford the expenses that come with searching for the disappeared by themselves, decide to accept their loss and keep working to make ends meet.

As part of this extensive work, in 2015 Cruz-Santiago spent six months at one of Mexico's Medical Examiner Offices, where many of the field observations, data and arguments of this article started to take shape. Cruz-Santiago's findings revealed that forensic expertise is not restricted to knowing protocols for carrying out post-mortem examinations, applying best practices to the exhumation of mass graves or the processing of crime scenes, but requires familiarity with corpses, including touching, smelling and exploring flesh wounds. In sum, a sensorial engagement with corpses was needed in order to be recognised as a forensic expert:

What . . . have you never seen a cadaver? [. . .] Come closer, you must look closely at the physical characteristics of this person . . .

Have you seen the bullet hole in the forehead? Can you guess the trajectory of the bullet? Come here, put your finger inside the bullet hole . . . touch . . .³⁷

The medical examiners showed Cruz-Santiago that it was necessary to be acutely familiar with cadavers in order to analyse them. It was precisely the familiarity that many of the relatives of the disappeared had with cadavers and human remains that troubled many of our forensic interlocutors, who believed that these types of encounters should be restricted to experts.

The search for disappeared persons is a multifaceted endeavour. It entails, among other things, the collection of data from GPS, the analysis of data from mobile phones, analysing CCTV images, visiting hospitals, jails, mortuaries or using drones to map mountain ranges and deserts.³⁸ Most importantly, it involves looking at the governance and management of information. This 'bureaucratic search' is as important as field site investigations – especially considering the long history of contentious official registering of the numbers of victims of violence and the untraceability of corpses that has characterised Mexican forensic services for over a decade.

Due to the travel constraints imposed by the COVID-19 pandemic, and to update our information on the status of forensic services in the country, we conducted online interviews in January 2021 with specialists working at the forefront of Mexico

City's pandemic: medics working at one of the 'COVID-only' designated hospitals within the Mexican Social Security Institute (IMSS), and forensic scientists currently working at the Institute of Forensic Sciences (INCIFO).

For this article, we incorporate data from interviews we conducted with families of disappeared persons in 2014–16, and personal communications between 2019–21. The analysis on the management of corpses during the COVID-19 pandemic comes from publicly available databases; reports from the Secretary of Health; local newspaper articles; conversations with health experts working in the private and public sectors; and data from the investigative journalism project 'Forensic Crisis'.³⁹

The dominant human rights discourse equates the delivery of a fully identified corpse to their relatives as a moment of closure. There are many ways in which this dominant discourse on the 'right to the truth', and its therapeutic consequences, oversimplifies the politics of corpses and pain. The simplification of ambivalent and difficult issues is justified on the basis that narratives are there to make discourses fit for development agendas, palatable for international donors and actionable for international forensic humanitarian agencies. Thus, state-led public discourse revolves more around identifying individual corpses and is a lot less about the unequal distribution of funding and forensic expertise. Borrowing from sociologist Gabriel Gatti, we could call such an approach 'The Banality of Good'.⁴⁰ Gatti maintains that a new subject, the victim, has gained preponderance in a moral economy of normalised pity and aid. In this way suffering becomes normalised and we are desensitised to the larger political significance of victimhood.⁴¹

Our approach to biorecuperation and death in Mexico does not aim to simply add another member to the growing academic family of bioconcepts (i.e., biocitizenship, biovalue, biocapital, biopiracy, bioprophecy, etc.) or to reinstate the idea that healing comes through a forensic epiphany of identification and burial. If one thing has become clear throughout our fieldwork is that these wounds are always raw. Thus, we want to think with Veena Das that: 'instead of simplified images of healing that assume that reliving a trauma or decalecting desire from the lost object and reinvesting it elsewhere, we need to think of healing as a kind of relationship with death'.⁴² In this sense, biorecuperation is a particular kind of relationship with death that dignifies human remains via the encounter with their materiality and its bioscientific individualisation.

COVID-19 in Mexico

The first coronavirus case in Mexico was reported on 27 February 2020. Social distancing measures (Jornada Nacional de Sana Distancia) were established a month later, on 23 March 2020.⁴³ However, private and public schools as well as universities decided to end face-to-face teaching from 12 March, gradually closing down operations before this was officially required by the federal government. Notwithstanding the pandemic and the lockdowns that ensued, violence in the country has continued to rise. Between March and April 2020, 6,098 persons were assassinated – that is 340 violent deaths more than in the same months in 2019.⁴⁴

In the early days of the pandemic, when further restrictions on mobility were announced (April 2020), organisations of families of the disappeared in Mexico quickly turned to social media to declare that, in spite of the restricted mobility and government-imposed lockdowns, the search for the disappeared would not be halted.⁴⁵ The families designed a set of activities that authorities could carry out while social distancing, such as the organisation of 'desk searches' for the disappeared. Desk search entails the burdensome task of bringing together the various files and pieces of information scattered across the complex Mexican bureaucracy.

When full lockdowns were established they were rarely followed. Approximately 58 per cent of the workforce in Mexico is heavily concentrated in the informal sector and relies on daily earnings to survive. Considering this, the government has opted for a 'traffic light' strategy to ease lockdown restrictions in some parts of the country where contagion is low. However, this strategy has allowed the opening the economy even in the face of the rising epidemic.⁴⁶ Official figures showed that at the end of July 2020 the mortality rate⁴⁷ in the country was 9.15 per cent – the highest in Latin America.⁴⁸ The virus has affected already marginalised communities; 71 per cent of those who have died of COVID-19 had nine or less years of education. Unsurprisingly, 55.7 per cent of COVID-19-related deaths have occurred in Mexico City, one of the most populated cities in the world.⁴⁹

Mexican president Andres Manuel Lopez Obrador has dismissed the seriousness of the pandemic by questioning the efficacy of masks and insisting that Mexicans will know how to act responsibly.⁵⁰ Early on in the pandemic he embraced the idea of having families care for their sick relatives at home, in order to prevent Mexico's hospitals from being overwhelmed.⁵¹ During a virtual G20 meeting in March 2020, Lopez Obrador insisted that the coronavirus public health crisis:

is not solved only in hospitals, it is solved in our homes. We have, as in other countries in the world, a fundamental institution: the family. The Mexican family is the main social security institution and now they are helping us take care of the most vulnerable population, our senior adults, those with diabetes, hypertension, kidney disease, and pregnant mothers. Within our homes, we have millions of nurses.⁵²

During his daily morning news conference, President Lopez Obrador warned that patients should stay at home and seek testing and treatment only if seriously ill. Thus, it is not surprising that a great number of deaths have occurred outside hospitals and inside family homes. With one of the lowest testing capacities in the region – 0.2 daily tests per thousand people⁵³ – asymptomatic and unconfirmed patients with mild symptoms have likely helped to spread the virus among members of their own households, with women, in charge of care work, being the most affected.⁵⁴

By the end of January 2021, eight out of thirty-two states within the country had hospital occupancy of over 70 per cent, with Mexico City reporting 88 per cent.⁵⁵ While health authorities insist that hospitals in Mexico have not been overwhelmed, media articles constantly report on how the public health service is under strain and unable to admit further patients. Reports of families travelling long distances to find availability in publicly run hospitals have increased the number of people

who decide to deal with the disease by staying at home. As a medic working within a COVID-only designated hospital in Mexico City, states:

At the beginning, the refurbished hospital [where I work] opened three floors [for COVID-only patients], each floor with capacity for thirty-five beds. There were between eight and ten doctors per floor. You can then take care of four critically ill patients each shift. We are all working really hard, but there is not enough staff. We have now habilitated four extra floors, each with thirty-five beds and without increasing staff numbers. Which means that now in each floor, we have three or four doctors. We cannot take care of our patients, it is crazy!

[...] we are now struggling with medicine supply. For instance, there is not enough medicine to keep patients sedated after being intubated, and it is hard because you cannot provide your patients with the best treatment, with the treatment they deserve... we have had to make difficult decisions not to intubate people, even if they need it, because we cannot be sure that we will have enough medicine to keep them sedated for at least a couple of days. And it is horrible because if you do not intubate a patient, you know that they will suffer, and eventually die. It is horrible.

A colleague today told me that for the last three months we have not been able to extubate any patients, because every intubated patient has died... that is a lot, I mean... a lot!⁵⁶

The management of large numbers of deaths from COVID-19 demands an increase in the human and material resources available within national health systems. It also requires adopting measures to ensure the reliable identification, documentation and traceability of corpses – from the moment of death to storage and final disposal.⁵⁷ Instead of increasing human and material resources, the Mexican government is trying to fill the existing gaps within the national health system by stretching the available human resources to their limits.

An overwhelmed forensic infrastructure

In 2019 authorities in the country conducted a national forensic assessment to address the obstacles to identifying and storing human remains, but no data has been made public. The government has recognised a ‘forensic crisis’, attributed in part to a lack of infrastructure, resources and formally approved standardised protocols for the management and care of the dead, and a lack of coordination and efficient communication among forensic institutions.⁵⁸

The National Search Commission [for disappeared persons] maintains that since 2006 more than 4,274 clandestine burial sites have been discovered throughout Mexico. From these sites 7,298 bodies have been recovered, with exhumation efforts still ongoing.⁵⁹ However, families of the disappeared maintain that there are between 38,500 and 50,000 sets of unidentified human remains in mortuaries and cemeteries across the country.⁶⁰ Civil society organisations have called this phenomenon

'double disappearance', a situation in which the recovery of unidentified corpses from clandestine burial sites does not mean that they will be properly stored and identified.

Medical Examiners Officers (SEMEFO) are in charge of conducting post-mortem examinations and investigate deaths that occurred outside hospitals or under suspicious circumstances. Due to the recent discovery of clandestine mass burials – many of them containing hundreds of bodies – SEMEFOS are constantly under pressure. There is a lack of trained staff to deal with the demanding post-mortem identifications and analyses, nor is there sufficient space to house the constant flow of corpses that arrive on a daily basis. In December 2019 it was reported that one-third of the existing mortuaries in the country were beyond full capacity.⁶¹ A leading forensic specialist in Mexico, who trains experts across the country, notes that 'resources are very scarce and the few trained specialists are earning minimum salary and doing clerical jobs instead of identifying bodies in the field'.⁶²

The most recent example of this infrastructural problem occurred in the western state of Jalisco, which has historically experienced high levels of violence. During the first trimester of 2015 the Jalisco Institute of Forensic Sciences (IJCF) performed 119 necropsies – the same total number it had done in the previous year. By August 2015 the IJCF had received more than 100 corpses, which exceeded the installed capacity of the morgue's refrigerated room, designed to house up to seventy-eight cadavers. Mr Cotero Bernal, the then director of the IJCF, took the decision to improvise a small warehouse to manage the overflow of corpses:

We couldn't accommodate more corpses in our refrigerated facilities, so we adapted a small room in our premises to house the increasing amount of dead bodies. The overload of corpses and fluids coming out of them clogged the morgue's pipes.⁶³

In previous years, every time the morgue reached its capacity the IJCF used its in-house crematorium to release some space in the refrigerated room, officially incinerating at least 2,755 cadavers – most of them not identified and with case files containing little to no information. Once this practice was made public, it had to be stopped, since it contravened the General Victim's Law (adopted in 2013) to respect the rights of disappeared persons and their families. The process demanded that cadavers be fully identified and family members notified. In cases where no one reclaims the body, it is to be buried in the local cemetery. Some initial efforts were made to bury 262 corpses in a municipal cemetery. However, after months of unsuccessful negotiations between local authorities, and lacking guidance on how to deal with the rising number of corpses filling the local mortuary, Mr Cotero Bernal agreed with the local prosecutor that the remaining corpses would be housed in a refrigerated truck that would serve as a 'provisional' extension to the IJCF's morgue.⁶⁴

A lorry, 14 metres long and 2.5 metres wide, with a built-in refrigeration system, arrived at the IJCF's premises in early May 2016. It was parked outside the morgue to gain access to the energy supply. On that day, IJCF's morgue, with capacity for 78 bodies, was holding 352 cadavers.⁶⁵ As soon as the refrigerated truck arrived,

forensic practitioners filled the provisional morgue with 273 black bags, each one containing a corpse. Two years later, in 2018, a final decision on where the bodies should be laid to rest had not been reached. Since the IJCF's morgue continued to be overwhelmed by corpses, the authorities saw the need to acquire a second refrigerated trailer.

In September 2018, after being parked for two years outside the IJCF's morgue, the first truck 'disappeared' to make space for the new one – which was soon filled with forty-nine cadavers. A few weeks later, news broke that an abandoned trailer had been found by local residents of Guadalajara, capital of Jalisco. Fearing that organised crime was behind the suspicious refrigerated lorry, residents contacted the authorities to complain about the foul smell coming from it.⁶⁶ The news of the abandoned lorry made the headlines nationally. Soon, families from all over the country rushed to IJCF's facilities to find out if their disappeared loved one was among the unidentified corpses. The Institute's director and the state's attorney general were fired from their posts as a result of this negligence. Nonetheless, similar practices have been documented all across the country over the last fourteen years.

Given the inadequate treatment of corpses by forensic services in the country, collectives of relatives of the disappeared have displayed their knowledge of forensic science as a tool to expose the dereliction of duty and the selective use of law by the Mexican government. Relatives of the disappeared and mourners stage their own displays of power by spotting and exhuming clandestine mass graves, accompanied by journalists and television crews. They perform this labour in order to strategically transgress forensic expertise, but also to make sure that they can maintain some sort of control over human remains. For instance, FUNDENL, a grassroots organisation of mothers of the disappeared in Monterrey, Nuevo Leon, have organised their own independent forensic team. As part of this infrastructure they have trained sniffer dogs to locate human remains, purchased drones to spot clandestine mass graves and recently constituted their own independent team of forensic anthropologists.⁶⁷ As a consequence of these citizen-led forensic efforts, FUNDENL managed to secure a section in the local SEMEFO to safeguard the human remains they have collected in their searches for bodies.⁶⁸

The COVID-19 pandemic has put further pressure on the already overwhelmed mortuaries, not only those that are part of local SEMEFOs but mortuaries inside hospitals all over the country:

In theory, corpses wouldn't be available for the family directly. They will only be given to the funerary services [either public or private], who would take care of the body for cremation. We tried to follow these processes during the first two months of the pandemic, but we were struggling with a huge number of corpses by May. [In May] we had twenty-five deaths per day when it is usually two to three deaths per day in normal times. The hospital's mortuary has a capacity for six corpses. We received emergency training during the pandemic, and hospital authorities told us that only under exceptional circumstances could we extend the mortuary capacity to hold twenty corpses by using the nearby three audio-visual and seminar rooms, since these were the only

spaces fully equipped with good air conditioning facilities . . . And now, these rooms are full.⁶⁹

In the Mexican news media, the sights of overwhelmed hospital morgues were reported in April and May 2020. Corpses waiting to be collected by family members prompted suspicion over the treatment and care received by victims of COVID-19. In early April 2020, Mexican health authorities announced that, in order to follow epidemiological protocols, the bodies of those infected or suspected to have died from COVID-19 would have to be cremated. This statement was quickly followed by profound discontent from families of disappeared persons and human rights organisations, who demanded that this practice be stopped. In practice, given the number of patients demanding treatment and the limited human resources in each hospital, keeping a very detailed track of corpses becomes impossible:

I am aware that while there are processes that we need to follow, sometimes these fail. Today I learnt that in my hospital a woman died but when the family arrived to collect the corpse, the woman was nowhere to be found. And everyone was asking ‘What do you mean? Isn’t the woman there?’ Honestly, we don’t know if there was a confusion in the number of bed she was in, or if the hospital gave that corpse to another family. The problem: that night we had eighteen deaths, so it is very difficult to manage everything.⁷⁰

According to the national General Victim’s Law, corpses cannot be cremated before a comprehensive identification process is carried out. However, as we have shown, before the COVID-19 pandemic the identification of bodies was already a site of struggle, due to the lack of human and technical resources. During our interview in January 2021 the forensic specialist working at Mexico City’s Institute of Forensic Sciences proudly stated that Mexico City is nothing like Jalisco, ‘where corpses are dancing all over the city’, and, while recognising that crematoriums are overwhelmed, forensic specialists are able to adequately manage the city’s mortuaries.

COVID-19 amplifies experiences of powerlessness via the collapse of the hospital infrastructure and its effects on an already dysfunctional forensic system that was trying to deal with the high volume of corpses even before the pandemic started. Forensic/thanato-citizenship linked with biorecuperation has strategically used forensic knowledge to analyse corpses or their proxies in the last decade. The unruly, fragmented and degraded human remains uncovered all across the country inevitably bring issues of injustice, violence and lack of control to the fore, confronting narratives of denial that have taken root in Mexican society.⁷¹ However, during the COVID-19 pandemic the mortuaries are out of bounds. Threats of contamination and disease have pushed the relatives of the disappeared to find new ways to ‘encounter’ the materiality of corpses at a distance.

The crematorium and 'kitchens' as places of erasure

The crematorium and the burning of corpses in open ground has been considered one of the sites and practices devised by the state and criminal actors to destroy any hopes of recovering the identity of the disappeared, as recovery of DNA from ashes is highly unlikely.⁷² Different practices for dissolving corpses in acid have been implemented by criminal organisations in spaces known as 'kitchens'.⁷³

Crematoria or open fires are also documented practices employed by the state and military forces to hide large numbers of corpses. The best-known case of incineration is that of forty-three students who disappeared from Ayotzinapa in 2014.⁷⁴ In an attempt to close the case, in January 2015 the then Federal Attorney General, Jesus Murillo Karam, held a press conference to inform the public that, according to official investigations, the 'historic truth' was that the forty-three students from Ayotzinapa were kidnapped, killed and later burnt in an open fire in a local dumpster. This 'historic truth' was later disputed by the Grupo Interdisciplinario de Expertos y Expertas Independientes (GIEI), an expert commission set up by the Inter American Commission of Human Rights to implement an auditing process of the state's provision of justice and its investigation of the Ayotzinapa case. After analysing the evidence at hand, the GIEI identified fundamental failings in the state's criminal investigation and concluded that the findings of the Federal Attorney General's investigation were misleading, since they did not consider the involvement of federal and military forces in the case.

The state-led efforts to identify the remains of the students of Ayotzinapa, which have involved the participation of highly specialized international forensic laboratories to analyse severely degraded samples, stand in stark contrast to the reluctance expressed by Hugo López-Gatell, the Undersecretary of Health, to pump up COVID-19 testing. López-Gatell constantly argued that there was no evidence to show a relationship between more testing and the capacity to contain the spread of the virus. Thus, mass testing has not been a priority for the Mexican government. A leader from a grassroots organisation of relatives of the disappeared thinks that COVID-19 'came at the perfect time for the government as now they have a reason to stop us from searching and freeze all the forensic work'.⁷⁵

Investigative journalists think that in the period between April and December 2020 in Mexico City the real number of deaths may have been three times higher than the number reported by the government. For instance, in May 2020 news of a three-day backlog of cremations was reported at every public crematorium in the city.⁷⁶ As a forensic specialist explains: 'In normal times, crematoria are only allowed to operate until 7:00 p.m. but nowadays they are allowed to operate until 10 or 11 p.m. And unfortunately, families still have to wait days before their loved ones are cremated.' Crematorium workers have indicated that more burials will have to take place because burning capacity is overwhelmed.⁷⁷

International researchers have used death certificates as a proxy to analyse 'excess deaths'. However, death certificates⁷⁸ were found not to be a reliable source of data, as investigative journalists reported that death certificates were being sold illegally outside government offices. Although this was a pre-existing practice, the pandemic

has created a high demand for paralegal services. Thus, networks of medical doctors and *coyotes* (brokers) have emerged in order to accelerate the process. Clinicians working in these networks usually charge between £500 and £700 to provide families with an expedited death certificate where the cause of death is determined as non-COVID-related, in order to best fit the narratives and interest of bereaved families.

Not surprisingly, the debates around the official number of deaths became so controversial that Mexico City's mayor – Dr Claudia Sheinbaum – appointed an independent expert commission to analyse death tolls. The 'Technical Scientific Commission for the Analysis of COVID-19 Mortality' was created to keep track of the numbers of deaths within Mexico City's hospitals and liaise with key epidemiological institutes. In July 2020 the Technical Commission recognised that there were 17,000 excess deaths in Mexico City, but refrained from making any declaration other than to state their count. Investigative journalists trying to disentangle the truth about the number of dead people due to COVID-19 started using drones to monitor the Tezonco cemetery, located in Iztapalapa, one of the most populous and oldest working-class neighbourhoods in Mexico. The result is an interactive picture that shows how, in just three months, an empty plot of land is now filled with graves – presumably due to COVID-19.⁷⁹

The imperatives of biorecuperation, namely the individual identification of bodies via bioscientific means such as DNA, are resisted in other parts of the world that have the resources to set up expensive forensic efforts. For instance, after the derailment of Lag-Megantic in Quebec local communities could not bear: 'the thought to keep this [forensic identification process] going on for 15 years, or more . . .'.⁸⁰ Lucy Easthope's experience in Lag-Megantic illustrates how some communities want to avoid what seems to be an obsessive preoccupation with giving individualised identification to dead bodies or their fragments. Such acceptance could not be farther from the Mexican experience, where the logic of biorecuperation via immediate unearthing or collection of human remains – as usually happens when spotting or partially exhuming mass graves – has taken centre stage. Biorecuperation finds its breaking point when dealing with those corpses that have been erased from the face of the Earth through means such as acid or incineration, because individualisation and genetic identifications are no longer possible.

For relatives of the disappeared, human remains are entities that inhabit a space between life and death but are still recoverable through forensic techniques like DNA, even if at the moment these techniques are too expensive or unattainable for them. The promises of biorecuperation, and the unequal distribution of resources to identify corpses, have further damaged citizens' trust in forensic institutions and the justice system, while at the same time propelling the families of disappeared persons to continue their searches for their loved ones in more public ways. One of the preoccupations of the relatives of disappeared persons is that the suspension of search activities due to COVID-19 will damage their most recent find: a clandestine mass grave containing small charred bone fragments.⁸¹

The COVID-19 scenario has pitted against each other the family duties of burial and the collective responsibility to stop the spread of the virus. As one health specialist described it, 'This disease is the devil, it does not allow us to hug our loved

ones, nor to perform the funerary rituals . . . we had to wait four days to receive the ashes of my in-laws after they died from COVID-19, because crematoriums were completely full.⁸² Similarly, the leader of a grassroots group of relatives of the disappeared stated that ‘COVID-19 sort of like turned everyone into a disappeared, for instance we just received the ashes of my sister-in-law, but we could not witness her death, see her body, we just have to believe the word of the government.’ The response of our forensic/thanato-citizens to the added uncertainty about the fate of corpses due to COVID-19 is to employ techniques that allow them to bring forth human corpses as proxies (images of graves, death certificates, testimonials).

The way in which inequality, carelessness and abandonment has become the ruling logic in many spaces where violence is ongoing includes, of course, the many clinics, hospitals and houses in which COVID-19 has taken its toll. Making corpses visible might not change the dire state of forensic services in Mexico, but during the pandemic moment it is the only way in which dignity and death are made public.

Discussion

In Mexico, *de facto* sovereignty is translated into collective executions, displays of mutilated bodies and even the complete disappearance and execution of small towns: like Allende, in northern Mexico. Despite – or maybe, due to – the fact that this could be considered a society in which killing with impunity is widespread across diverse social actors, sovereignty is increasingly interpreted and disputed via corpses and their materiality.⁸³ The agency of corpses constitutes ‘historical truths’ in the hands of federal authorities (e.g., the case of the forty-three students of Ayotzinapa); ‘dangerous substances’ that become warnings and symbols of the capacity to kill, humiliate and ridicule the corpses of enemies;⁸⁴ and, for the trained forensic eye, remnants of martyrdom, torture and violence inflicted on victims.

On the back of organised crime’s sovereign display of violence, mothers and fathers of the disappeared have claimed their own authority over human remains through forensic practices. All across Mexico, families of the disappeared have found, mapped and helped to analyse dozens of clandestine burials, some of them extermination camps: ‘we keep finding fields with thousands of burnt bone fragments . . . full of evidence that there was a system in place to erase the bodies of victims.’⁸⁵ These citizen-forensics efforts are generally entangled with state-sponsored forensic institutions. Thus, every bone fragment, piece of clothing, soft tissue or any kind of remnant that they send to be analysed or stored by the state is a trace of a disappeared person that might be lost in the interior of a broken forensic system that has, historically, lost or misplaced crucial evidence.⁸⁶

The incapacity of the Mexican state to control the overflow of corpses, product of the ‘War on Drugs’, is not new. Since 2018, families and human rights organisations have been insisting on the creation of an Extraordinary Mechanism of Forensic Identification (MEIF) to resolve the existing backlog in the identification of bodies. Nonetheless, the COVID-19 pandemic is further eroding trust in the state in ways that illustrate the unequal and neoliberal structures that govern the moral and political economy of corpses and burials. For instance, most of the corpses being housed

at INCIFO's mortuary are those whose families didn't have the resources to pay for private cremation services and have to wait up to seven days for a state-sponsored cremation.

We introduced the concept of biorecuperation to explore the manifold ways in which forensic care for the dead is practised by actors beyond the state. We can trace this concept to societies across the globe that, facing mass death, have organised 'good' thanato-citizenship around the possibilities offered by biotechnologies to individualise human remains, such as 9/11 or the identification of Vietnam's missing in action. In Mexico, this imperative is particularly troublesome, mainly because families of victims are searching for their loved ones with little government support, or even in open confrontation with forensic experts.

Learning forensic techniques and intervening in the ways in which forensics is understood and practised is a defiant exercise that dignifies the disappeared by the very act of searching for them against all odds – including the possibility that the searchers might die in the process. Nonetheless, it is probably a futile enterprise, since human remains, even if recuperated from mass graves or hospital mortuaries, still face an unequal and overwhelmed forensic system with little funding and already stretched beyond its limits. Despite their keen sense of subversion, most families have been unable to question the dominant humanitarian forensics system, which tends to concentrate resources and attention on the high-profile cases, leaving thousands of families vulnerable and without a hope to give a proper burial to their loved ones.

Death might be futile for the logics of biorecuperation, but it is certainly not infertile. The fertility of death in contemporary Mexico was beautifully expressed in chants and banners displayed in protests in the aftermath of Ayotzinapa: 'They wanted to bury us but did not know we were seeds.' This phrase captures mass death in contemporary Mexico, and how lay forensic techniques make it possible to transform anonymous body fragments into vessels for a new national narrative that dislocates the monopoly of criminal groups, the state and even sanitary experts, in pandemic times, over death and corpses.

The recovery of human remains as digital proxies or bone fragments is continually opening up a relationship with death and dying that goes well beyond the consumerist logic of 'Día de Muertos' (Day of the Dead). Bringing the remnants of violence or pandemic contagion into the public sphere confronts Mexicans, regardless of whether they want it or not, with the uneasy relationship between mass death, violence and injustice that has plagued the Mexican national imaginary throughout its history.

Notes

- 1 E. Schwartz-Marin and A. Cruz-Santiago, 'Forensic Civism: Articulating Science, DNA and Kinship in Contemporary Mexico and Colombia,' *Human Remains and Violence* 2:1 (2016), 58–74, <https://doi.org/10.7227/HRV.2.1.5>.
- 2 E. Schwartz-Marin and A. Cruz-Santiago, 'Pure Corpses, Dangerous Citizens: Transgressing the Boundaries between Experts and Mourners in the Search for the

- Disappeared in Mexico', *Social Research: An International Quarterly*, Project MUSE, 83:2 (2016), 483–510.
- 3 J. D. Aronson, *Who Owns the Dead? The Science and Politics of Death at Ground Zero* (Cambridge, MA, Harvard University Press, 2016).
 - 4 C. Merli and T. Buck, 'Forensic Identification and Identity Politics in 2004 Post-tsunami Thailand: Negotiating Dissolving Boundaries', *Human Remains and Violence*, 1:1 (2015), 3–22, <https://doi.org/10.7227/HRV.1.1.2>.
 - 5 There are, of course, examples of other forms of non-individualised care that can be found in the collective memorials and graves marking the place in which people who fought against Franco were executed during the Spanish Civil War of the twentieth century. See Francisco Ferrándiz, 'Exhuming the Defeated: Civil War Mass Graves in 21st-Century Spain', *American Ethnologist*, 40:1 (2013), 38–54, <https://doi.org/10.1111/amet.12004>. This other treatment of biology, by its very existence, is a mirror in which we can criticise the contours of what counts as an individual, as dignity and as care vis-à-vis the logics of recuperation. For a discussion on 'care for the dead' see A. Rosenblatt, *Digging the Disappeared: Forensic Science after Atrocity* (Stanford, CA, Stanford University Press, 2015).
 - 6 Aronson, *Who Owns the Dead?*; V. Toom, 'Whose Body Is It? Technolegal Materialization of Victims' Bodies and Remains after the World Trade Center Terrorist Attacks', *Science, Technology, & Human Values* 41:4 (July 2016), 686–708, <https://doi.org/10.1177/0162243915624145>.
 - 7 Toom, 'Whose Body Is It?'
 - 8 C. Moon, 'What Remains? Human Rights After Death', in K. Squires, D. Errickson and N. Márquez-Grant (eds), *Ethical Approaches To Human Remains: A Global Challenge in Bioarchaeology* (Switzerland, Springer, 2021).
 - 9 J. C. Tronto, *Moral Boundaries: A Political Argument for an Ethic of Care* (New York, Routledge, 1993), p. 103.
 - 10 M. P. de la Bellacasa, 'Matters of Care in Technoscience: Assembling Neglected Things', *Social Studies of Science*, 41:1 (2011), 85–106, <https://doi.org/10.1177/0306312710380301>.
 - 11 C. Wagner, *To Know Where He Lies: DNA Technology and the Search for Srebrenica's Missing* (University of California Press, 2008); S. Wagner, *What Remains: Bringing America's Missing Home from the Vietnam War* (Cambridge, MA, Harvard University Press, 2019); L. Renshaw, 'The Scientific and Affective Identification of Republican Civilian Victims from the Spanish Civil War', *Journal of Material Culture*, 15:4 (2010), 449–63, <https://doi.org/10.1177/1359183510382961>; Ferrándiz, 'Exhuming the Defeated'; Rosenblatt, *Digging the Disappeared*.
 - 12 Rosenblatt, *Digging the Disappeared*, 179–81.
 - 13 Wagner, *To Know Where He Lies*.
 - 14 Michael Lynch et al., *Truth Machine: The Contentious History of DNA Fingerprinting* (Chicago, University of Chicago Press, 2008).
 - 15 Wagner, *What Remains*.
 - 16 Schwartz-Marin and Cruz-Santiago, 'Pure Corpses, Dangerous Citizens.'
 - 17 A. Cruz-Santiago, 'Forensic Citizens: The Politics of Searching for Disappeared Persons in Mexico' (PhD thesis, University of Durham, UK, 2017); A.

- Cruz-Santiago, 'Lists, Maps, and Bones: The Untold Journeys of Citizen-Led Forensics in Mexico', *Victims & Offenders* 15:3 (2020), 350–69, <https://doi.org/10.1080/15564886.2020.1718046>.
- 18 Aronson, *Who Owns the Dead?*
 - 19 The extermination camps and the so-called 'kitchens' (cocinas) are spaces set up by organised crime to dissolve bodies in acid. For more on this practice see: C. R. Silvestre, 'Looking for El Pozolero's Traces: Identity and Liminal Condition in the War on Drug's Disappearances', *Fontera Norte*, 26:52 (2014), 5–23.
 - 20 B. Simpson and R. Douglas-Jones, 'New Immortalities: Death, Donation, and Dedication in the Twenty-First Century', *Medicine Anthropology Theory*, 4:4 (2017), 1–21.
 - 21 México Evalúa, "'Todos tenemos derecho a ser buscados': clamor ante la crisis de las desapariciones forzadas', 19 August 2020, www.mexicoevalua.org/todos-tenemos-derecho-a-ser-buscados-clamor-ante-la-crisis-de-las-desapariciones-forzadas/; L. Ramos, 'Inauguran Centro de Identificación Humana en Coahuila', *La Jornada Online*, 26 August 2020, www.jornada.com.mx/ultimas/estados/2020/08/26/inauguran-centro-de-identificacion-humana-en-coahuila-1564.html; 'Comisión Nacional de Búsqueda', 2020, www.gob.mx/cnb/es/.
 - 22 E. Tzuc and M. Turati, 'Crisis Forense. Un país rebasado por sus muertos', *Crisis Forense*, 22 September 2020, www.quintoelab.org/crisis-forense/.
 - 23 *Ibid.*
 - 24 C. Lomnitz-Adler, *Death and the Idea of Mexico* (New York, Zone, 2008).
 - 25 S. J. Murray, 'Thanatopolitics: On the Use of Death for Mobilizing Political Life', *Polygraph: An International Journal of Politics and Culture*, special issue on Biopolitics, Narrative, and Temporality, 18 (2006), 191–215.
 - 26 T. B. Hansen and F. Stepputat (eds), *Sovereign Bodies: Citizens, Migrants, and States in the Postcolonial World* (Princeton, NJ, Princeton University Press, 2005), p. 257.
 - 27 A. Mbembe, 'Necropolitics', *Public Culture*, 15:1 (2003), 11–40.
 - 28 R. Kristensen, 'Dangerous Corpses in Mexico's Drug War', in Finn Stepputat (ed.), *Governing the Dead: Sovereignty and the Politics of Dead Bodies* (Manchester, Manchester University Press, 2014), pp. 165–78.
 - 29 Ernesto Schwartz-Marin, fieldnotes 2014.
 - 30 Simpson and Douglas-Jones, 'New Immortalities'.
 - 31 So far, Mexico has proven to be the country with the lowest testing capacity within Latin America – with just 0.4 tests per 1,000 people. As of the end of April 2021, there were 2,333,126 confirmed cases of COVID-19 and 215,547 deaths in the country (World Health Organization, 'WHO Health Emergency Dashboard', 30 January 2021, <https://covid19.who.int/region/amro/country/mx>).
 - 32 See, for instance, the work 'Nadie Detiene al Amor. Historias de Vida de Familiares de Personas Desaparecidas En El Norte de Sinaloa', *Doctrina Jurídica* (México, Instituto de Investigaciones Jurídicas, UNAM, 9 November 2020), www.giasf.org/uploads/9/8/4/7/98474654/25a.pdf, which explores the life stories and families' experiences of search for disappeared persons in the North part of Mexico.
 - 33 Forensic Architecture et al. (eds), *Forensis: The Architecture of Public Truth* (Berlin, Sternberg Press, 2014).

- 34 Fuerzas Unidas por Nuestros Desaparecidos en Nuevo León and Universidad Iberoamericana Ciudad de México, 'Un sentido de vida: la experiencia de búsqueda de Fuerzas Unidas por Nuestros Desaparecidos en Nuevo León 2012–2019' (Ciudad de México, June 2019), <https://ibero.mx/files/2019/fundenl-informe.pdf>.
- 35 The expert advice from the ethics committee in our respective UK academic departments agreed that we could conduct extensive participatory fieldwork in Mexico with mothers of the disappeared, only if we worked with those who were already very visible and involved in activism. The idea was to avoid endangering or attracting undue attention to those relatives who were more vulnerable. Little did we know that attracting attention, especially from mass media and international journalists and academics, is one of the ways in which families of the disappeared navigate the fraught and dangerous search for their loved ones. The logic is simple: a target that is not visible can be easily killed, but a very visible activist can bring unwanted attention to criminal activities.
- 36 Schwartz-Marin and Cruz-Santiago, 'Forensic Civism'.
- 37 Arely Cruz-Santiago field notes. Lessons on how to identify a corpse, March 2015.
- 38 Cruz-Santiago, 'Forensic Citizens'; Cruz-Santiago, 'Lists, Maps, and Bones'.
- 39 Tzuc and Turati, 'Crisis Forense'.
- 40 Gabriel Gatti (ed.), *Desapariciones: Usos Locales, Circulaciones Globales*, 1st edn (Siglo del Hombre Editores S.A., 2017), www.jstor.org/stable/j.ctt1qqhftb.
- 41 Gatti reworks the notion of the 'banality of evil', coined by Hannah Arendt in the aftermath of the Second World War. See H. Arendt, *The Origins of Totalitarianism*, new edn (New York, Harcourt Brace Jovanovich, 1973).
- 42 V. Das, 'Language and Body: Transactions in the Construction of Pain', *Daedalus*, 125:1 (1996), 78.
- 43 S. C. Woldenberg et al., 'La gestión de la pandemia en México: análisis preliminar y recomendaciones urgentes' (Consejo Consultivo Ciudadano Pensando en México, August 2020).
- 44 A. Angel, 'En Plena Pandemia Los Hos Suben En 18 Estados y Suman Mas de 6 Mil Los Asesinatos', News, Animal Político, 21 May 2020, www.animalpolitico.com/2020/05/pandemia-homicidios-suben-18-estados-mas-de-6-mil-asesinatos/.
- 45 Fundación para la Justicia y el Estado Democrático de Derecho, 'Durante la Pandemia del COVID19 Se puede continuar la Búsqueda de Personas Desaparecidas. Los familiares tenemos propuestas', Non-governmental Organisation, Fundación Justicia, 6 April 2020, www.fundacionjusticia.org/exigimos-continue-la-busqueda-de-personas-desaparecidas-durante-la-pandemia-covid-19/; FUNDENL, 'Exigimos Continúe la Búsqueda de Personas Desaparecidas Durante la Pandemia Covid 19', Fuerzas Unidas por Nuestros Desaparecidos en Nuevo León, 6 April 2020, <http://fundenl.org/exigimos-continue-la-busqueda-de-personas-desaparecidas-durante-la-pandemia-covid-19/>.
- 46 D. Agren, 'Mexico Begins Lifting Covid-19 Lockdown Despite Fears Worst Is Still to Come', *The Guardian*, 18 May 2020, www.theguardian.com/world/2020/may/18/mexico-amlo-coronavirus-covid19-restrictions-reopen.

- 47 Mortality rate understood as the number of people who have contracted COVID-19/the number of deaths.
- 48 Woldenberg et al., 'La gestión de la pandemia en México'.
- 49 H. H. Hernández Bringas, 'Mortalidad por COVID-19 en México. Notas preliminares para un perfil sociodemográfico', *Notas de Coyuntura del Centro Regional de Investigaciones Multidisciplinarias* (México, Universidad Nacional Autónoma de México, UNAM, June 2020).
- 50 D. Agren, 'Mexican President Amló Says He Will Wear Mask "When There Is No Corruption"', *The Guardian*, 31 July 2020, www.theguardian.com/world/2020/jul/31/mexico-president-amlo-mask-coronavirus-corruption.
- 51 A. M. Lopez Obrador, 'Versión estenográfica de la intervención del presidente Andrés Manuel López Obrador en la Cumbre Virtual de Líderes del G20', lopezobrador.org.mx, 26 March 2020, <https://lopezobrador.org.mx/2020/03/26/version-estenografica-de-la-intervencion-del-presidente-andres-manuel-lopez-obrador-en-la-cumbre-virtual-de-lideres-del-g20/>.
- 52 *Ibid.* Author's translation. 'Esta crisis de salud pública no se resuelve sólo en los hospitales, se resuelve en nuestros hogares. Nosotros contamos, como sucede en otros países del mundo, con una institución fundamental: la familia. La familia mexicana es la principal institución de seguridad social y ahora nos están ayudando a cuidar a la población más vulnerable, a nuestros adultos mayores, a quienes tienen diabetes, hipertensión, padecimientos renales, a madres embarazadas. Contamos en nuestros hogares con millones de enfermeras y de enfermeros.'
- 53 J. Hasell et al., 'A Cross-Country Database of COVID-19 Testing', *Scientific Data*, 7:1 (2020), 345, <https://doi.org/10.1038/s41597-020-00688-8>.
- 54 Hernández Bringas, 'Mortalidad por COVID-19 en México'.
- 55 Secretaría de Salud, 'Información Referente a Casos COVID-19 En México' (Secretaría de Salud, 2020), <https://datos.gob.mx/busca/dataset/informacion-referente-a-casos-covid-19-en-mexico>.
- 56 Arely Cruz-Santiago, interview, January 2021.
- 57 ICRC Forensic Unit, 'COVID-19: General Guidance for the Management of the Dead', *Covid-19 General Guidance* (Geneva, International Committee of the Red Cross, May 2020), <https://shop.icrc.org/covid-19-general-guidance-for-the-management-of-the-dead-en-pdf>.
- 58 Gobierno de México, 'Comisión Nacional de Búsqueda', Comisión Nacional de Búsqueda, n.d., www.gob.mx/cnb/es/.
- 59 Data is from 2006 until the end of 2020. Comisión Nacional de Búsqueda, 'Registro Nacional de Fosas Clandestinas y Cuerpos Exhumados, Informe Histórico de 2006 al 30 de Junio de 2020' (Ciudad de México, Comisión Nacional de Búsqueda, Agosto 2020), www.gob.mx/cnb/es/documentos/busqueda-identificacion-y-registro-de-personas-desaparecidas?state=published. See also: Comisión Nacional de Búsqueda, 'Búsqueda e Identificación de Personas Desaparecidas. Informe 2020' (Ciudad de México, Secretaría de Gobernación, Enero 2021), www.gob.mx/cnb/es/documentos/informe-cnb-29-de-enero-2021?state=published.

- 60 Movimiento por Nuestros Desaparecidos en México, 'Más de 50,000 personas fallecidas sin identificar en los servicios forenses del país', 10 December 2020, <https://movndmx.org/implementar-meif-2020/>.
- 61 Tzuc and Turati, 'Crisis Forense'.
- 62 Arely Cruz-Santiago, interview, January 2021.
- 63 D. Franco et al., 'Jalisco: La verdad de los "tráileres de la muerte"', Crisis Forense, September 2020, www.quintoelab.org/crisis-forense/jalisco-la-verdad-de-los-trailer-de-la-muerte/.
- 64 *Ibid.*
- 65 Approximately 75 per cent were categorised as 'unidentified bodies'. These were mainly male with an average age of 45, whose bodies bore signs of gun violence. Franco et al., 'Jalisco'.
- 66 K. Semple, 'In Mexico, a Truck Full of Corpses Takes a Mystery Road Trip', *New York Times*, 18 September 2018, www.nytimes.com/2018/09/18/world/americas/mexico-morgue-corpses-truck.html.
- 67 Fuerzas Unidas por Nuestros Desaparecidos en Nuevo León and Universidad Iberoamericana Ciudad de México, 'Un sentido de vida: la experiencia de búsqueda de Fuerzas Unidas por Nuestros Desaparecidos en Nuevo León 2012–2019'; Cruz-Santiago, 'Lists, Maps, and Bones'.
- 68 Interview with Letty Roy, August 2020.
- 69 Arely Cruz-Santiago, interview, January 2021.
- 70 Arely Cruz-Santiago, interview, January 2021.
- 71 C. Moon and J. Treviño-Rangel, "Involved in Something (*Involucrado En Algo*)": Denial and Stigmatization in Mexico's "War on Drugs", *The British Journal of Sociology*, 71:4 (2020), 722–40, <https://doi.org/10.1111/1468-4446.12761>.
- 72 I. Ramos Gil, 'Visibilidad e Invisibilidad En La Desaparición de Los 43 Estudiantes de Ayotzinapa', *Trace [En Línea]* 72, 3 July 2017, <http://journals.openedition.org/trace/2541>.
- 73 C. Robledo Silvestre, 'Drama social y política del duelo de los familiares de desaparecidos en Tijuana en el marco de la "Guerra contra el Narcotráfico"' (2012).
- 74 On the night of 26 September 2014 a group of students from the Ayotzinapa Teacher Training College entered the city of Iguala, Guerrero, in south-west Mexico, to commandeer a number of buses and make their way to Mexico City to participate in a commemorative event to mark the anniversary of the 2 October 1968 Tlatelolco Massacre. Three students and three bystanders were killed, and forty-three students were disappeared. A generalised sense of unrest spread through the country, mobilising an enraged civil society to protest, create monuments, stage public performances and demand action by the state. For a detailed account of the events of the night, see L. Cacho et al., *The Sorrows of Mexico: An Indictment of Their Country's Failings by Seven Exceptional Writers* (London, MacLehose Press, an imprint of Quercus Publishing Ltd, 2016); VICE News, 'Ayotzinapa: A Timeline of the Mass Disappearance That Has Shaken Mexico', *VICE News*, 25 September 2015, <https://www.vice.com/en/article/bja4xa/ayotzinapa-a-timeline-of-the-mass-disappearance-that-has-shaken-mexico>;

- S. Melenotte, 'Sur les traces des disparus au Mexique', *Ethnologie française*, 50:2 (2020), 345–60, <https://doi.org/10.3917/ethn.202.0345>.
- 75 Ernesto Schwartz-Marin, interview, January 2021.
- 76 S. Ramsay, 'Coronavirus: Morgues and Storage Rooms Are Full of Bodies. The True Death Toll in Mexico City Is Staggering', *Sky News* (blog), 13 May 2020, <https://news.sky.com/story/mexico-city-underreporting-covid-19-deaths-sky-news-analysis-finds-11987235>.
- 77 *Ibid.*
- 78 From the beginning of the pandemic until May 2020, authorities were using a sentinel surveillance system which entailed the collection of data on COVID-19 cases from 475 out of 25,000 health facilities from all over the country. The sentinel system helps to identify outbreaks, signal trends and monitor the burden of the virus within the community. However, a contentious *New York Times* article, published at the time when authorities stopped using the sentinel surveillance system (May 2020), suggested that the Mexican government was underreporting the number of people who had contracted and died from COVID-19. See World Health Organization (2021) WHO Health Emergency Dashboard, available at: <https://covid19.who.int/region/amro/country/mx>.
- 79 D. Prado, 'En Tres Meses, Covid Llena Panteón En Iztapalapa', *El Universal*, 12 September 2020, www.eluniversal.com.mx/metropoli/cdmx/en-tres-meses-covid-llena-panteon-en-iztapalapa-fotos.
- 80 L. Easthope, 'The Situated Realities of Forensic Un/Certainty and Political Remains', in *Comparing the Use of DNA in Criminal Investigations and DVI across European Borders* (ESRC Research 'Seminar series on genetics, technology, security and justice. Crossing, contesting and comparing boundaries', Northumbria University, 2016), www.northumbria.ac.uk/-/media/corporate-website/documents/pdfs/research/esrc/seminar3-talk-summaries.ashx.
- 81 Ernesto Schwartz-Marin, interview, 2021.
- 82 Ernesto Schwartz-Marin, personal communication, 2021.
- 83 J. Fontein, 'Re-Making the Dead, Uncertainty and the Torque of Human Materials in Northern Zimbabwe', in Finn Stepputat (ed.), *Governing the Dead: Sovereignty and the Politics of Dead Bodies* (Manchester, Manchester University Press, 2014); Finn Stepputat (ed.), *Governing the Dead: Sovereignty and the Politics of Dead Bodies*, Human Remains and Violence (Manchester, Manchester University Press, 2014).
- 84 Kristensen, 'Dangerous Corpses in Mexico's Drug War'.
- 85 Arely Cruz-Santiago, fieldnotes, August 2019.
- 86 Cruz-Santiago, 'Lists, Maps, and Bones'; Franco et al., 'Jalisco'.