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Harvesting Life, Mining Death: Adoption, Surrogacy, and Forensics across Borders

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Abstract

Transnational adoption and surrogacy make explicit the relations between war, structural violence and crisis, and global shifts in the organization and governance of reproduction. This article focuses on the interrelatedness of vitality and death, and the nexus between biopolitics and necropolitics, through an analysis of adoption and surrogacy. It reinscribes the transnational circulation and exchange of persons, substance and bodily capacities within the logics of multiple genealogies of war, violence, and extraction in the globalized borderlands between Guatemala and Mexico. The article charts the simultaneous demise of transnational adoptions in Guatemala and growth in surrogacy arrangements in the southern Mexican state of Tabasco, as well as the inception of oocyte harvesting for in vitro fertilization (IVF) in reproductive medicine providers in Guatemala City. The article then tracks forms of expertise and technical infrastructure across national borders *and* domains of knowledge and practice. It shows the proximity between reproductive medicine and forensic science evident in DNA analysis used in forensic anthropology to document human rights violations, but also offered as commercial services in an expanding reproductive medicine sector. This configuration of biolabor encompasses the extractive practices tied to reproductive medicine *and* forensics, as persons, bodily substance, and, increasingly, bioinformation transverse contexts, jurisdictions, and social and racial formations.

Keywords

adoption, surrogacy, forensics, borders, biolabor, biopolitics, necropolitics

Introduction

Demographers, anthropologists, and global social policy experts have documented a considerable decline in transnational adoptions globally and the parallel rise of transnational surrogacy arrangements in the latter part of the twentieth century and into the twenty-first century (Scherman et al. 2016; Selman 2006, 2012). Karen Smith Rotabi et al. note that “there was a worldwide peak of 45,000 adoptions in 2004 but [this] has now declined by over 70% [...]”. Concurrently, there has been a rise in commercial global surrogacy (CGS) as a method to create families” (2017, 64). Against a background marked by increasingly complex and rapid shifts in systems of “stratified reproduction” (Colen 1986; see also Ginsburg and Rapp 1995; Pande 2014; Twine 2015), contextually situated analyses and theorizations of the intimately interrelated character of these dynamics are key to an understanding of how individuals and communities are differentially affected by deepening forms of precarity, expropriation, and dispossession. Media stories report on the plight of individuals whose family-making projects are frustrated by the onset of regulations that curtail their ability to adopt or contract a surrogate, capturing how these larger dynamics play out in people’s lives. They provide commentaries on the experiences of those engaging in surrogacy arrangements through gestation or oocyte donation. They illustrate the conundrums that open up with “multiple parent births” (Santos 2017), as reproduction increasingly entails the recombination of biological substance from a multiplicity of sources across bodies, technoscientific practices, and infrastructures (Franklin and McKinnon 2001; Strathern 1992; Thompson 2005). In turn, individuals whose personal histories are caught up in these complex transnational processes increasingly offer vivid first-person accounts of their experiences. The case of Coline Fanon (2020), whose book recounts her successful quest to find her birth parents in Guatemala over three decades after having been abducted and adopted in Belgium, is paradigmatic in this respect. The conclusion of Fanon’s personal odyssey as a kidnapped newborn who was eventually able to reconnect with family and communities of origin is a rare outcome, however. For the majority of those who are searching, such journeys are often inconclusive. Sometimes they lead to unexpected outcomes such as finding one’s biography caught up in histories of war and genocide and new connections to the living and the dead. Such accounts circulate through media outlets and foreground the transnational dimensions of global fertility chains tied to adoption and surrogacy as they have developed over time. They fragmentarily mark the rise and fall of transnational adoption flows, whilst charting the inception and demise of technical and human infrastructures of reproduction in specific locations echoing the public debates

generated by such developments in local contexts. Straddling technical and biological distinctions, adoption and surrogacy in transnational frames connect to histories of living and dying that have profound personal resonances as well as structural dimensions. Histories of reproduction and socially situated practices of making family, then, entail figuring connections to the living and the dead.

In this article, I focus on biopolitical and necropolitical dynamics linked to the sharp decline in transnational adoptions globally and the parallel rise in transnational surrogacy arrangements, through a study of these processes across Guatemala and Mexico. Biopolitics and necropolitics refer to analytics of modes of governance focused on the management of life (Foucault 1977, 1981), but also fundamentally concerned with “contemporary forms of subjugation of life to the power of death” (Mbembe 2003, 39). Necropolitics, for Achille Mbembe (2003), foregrounds the centrality of death, terror formations, and “death worlds” in the organization of social and political life within the horizon of colonial orders and the broader condition of (post)coloniality. Approaching the biopolitics and necropolitics of surrogacy and adoption from these borderlands between Guatemala and Mexico brings into view multiple articulations of colonial and imperial legacies in the present. It empirically and conceptually ties extractive and acquisitive practices of “making family” in the Global North to death worlds in a transnational frame. Against this background, this article first tracks the traffic in substance and bodily capacities across the Guatemala/Mexico borderlands. It charts the simultaneous demise of transnational adoptions in Guatemala and concomitant growth in surrogacy arrangements in the southern Mexican state of Tabasco, as cross-border transnational dynamics at the intersections between vitality, violent extraction, and death. In an ethnographically informed account, I show that the ban on transnational adoptions in Guatemala in 2007 was accompanied by the exponential growth in medical establishments offering services in new reproductive technologies and commercial surrogacy over the border, in the state of Tabasco, Mexico, as well as by the inception of the practice of oocyte harvesting in newly established reproductive medicine providers in Guatemala City. The article goes on to track forms of expertise and technical infrastructures across not only national borders but also domains of knowledge and expertise. It considers how knowledge practices and techniques in reproductive medicine cross domains of expertise, producing new configurations of living and dying. An example of this is DNA analysis (Weizman 2014, 2017). In Guatemala, DNA analysis is used in forensic anthropology to document human rights violations and resolve cases of forced disappearance. Forensic laboratories increasingly offer commercial services, including paternity tests, servicing the expanding reproductive medicine sector. Similar operations across sectors have been observed elsewhere (Pérez-Bustos et al. 2014), but these interrelations are particularly significant on the Guatemala/Mexico borderland. Here, they mark continuities and discontinuities in the constitution of substance and information—and new forms, scales, and registers of extraction across infrastructures and

technologies connecting the living and the dead. Adoption, surrogacy, and forensics might seem disparate fields of expertise and practice. These three domains, however, ought to be held within the same frame, for an exploration of the relations and nexuses of articulation that connect them across multiple borders delineating new configurations of living and dying.

My interest in transnational adoption circuits, new reproductive technologies, and forensic science is tied to my ongoing trajectory of anthropological research in Guatemala, where I first studied the Guatemalan conflict (1960–1996) from the perspective of individuals and communities with affiliations to Marxian guerrillas who were active in the northern region of Petén since the 1960s (Posocco 2014b). In the course of this research on histories of violence and cultures of secrecy, interlocutors and acquaintances in the field frequently expressed anxieties about the disappearance of children and predatory behavior by foreigners (*gringos*). They did so in casual conversations and more formal exchanges. In rural and urban settings, people were often concerned about the safety of young children, notably when foreigners were present. Since then, I have worked to offer an ethnographically grounded and historically situated account of the significance of child disappearance and child abduction, practices that I specifically tracked through the transnational adoptions circuits that developed and flourished in the country during the conflict and in the immediate post–Peace Accords period. Searches for missing children lost to transnational adoption networks on occasions led me to consider the possibility that they might be found in mass graves and that, rather than looking for adoption files, families of the disappeared might have to review the files of forensic exhumations, thus engaging in novel forms of “genocide kinning” and relatedness between the living and the dead (Posocco 2020). Against this background, in 2016, I conducted further anthropological fieldwork focusing on the cross-border dynamics across Guatemala and Mexico, to make sense of the dramatic demise of adoptions and the simultaneous rise in commercial surrogacy in the southern Mexican state of Tabasco. The domain of forensics, again, appeared ethnographically, engendering further shifts in scale, re-orienting my account and re-descriptions of life and death. From this ethnographically informed perspective, global fertility chains entail the articulation of technoscientific operations and social relations across domains of social practice, knowledge, and expertise.

Harvesting Life

Transnational adoption and surrogacy make explicit the relations between war, conflict, structural violence and crisis, and global shifts in the organization and governance of reproduction. In my analysis, I focus specifically on the interrelatedness of vitality and death, living and dying, and the nexus between biopolitics and necropolitics, as they are foregrounded through the histories and relations that underpin adoption and surrogacy. More specifically, I reinscribe the transnational movement, circulation and exchange of persons, substance and

bodily capacities inherent in transnational adoption and surrogacy arrangements within the logics of multiple genealogies of violence. I focus on war, extraction, and expropriation as these have manifested in the globalized borderlands between Guatemala and Mexico. Writing about the borderlands between Mexico and the United States, Gloria Anzaldúa (1987) showed how the establishment of national borders is tied to colonial dynamics that include multiple processes of dispossession and the displacement of Indigenous communities from the land. In such geographical areas, new articulations of hybrid identity emerge. Yet they are grounded in situated experiences of gender, “race,” sexuality, and class oppression, extreme disenfranchisement, and exclusion. In this formulation, “the borderlands” is a capacious concept-metaphor for thinking through the multiple and complex ways in which gender, race, and coloniality are articulated in subjectivities, social relations, and the imagination. An analysis of transnational adoption and surrogacy from borderlands further south, and specifically between Mexico and Guatemala, similarly entails the problematization of methodological nationalism and the naturalization of the nation-state (Wimmer and Schiller 2002), alongside a commitment to, following Anzaldúa (1987), tracing analytically the interplay of gendered and racialized dynamics in the interstices of what are often rhetorically constructed as solid national borders, but are in practice porous lines where an intense traffic in persons, artifacts, bodily capacities, and cultural figurations unfolds. Rebecca Galemba (2020) characterizes the space between Guatemala and Mexico as a “contraband corridor,” where ordinary people engage in licit and often illicit trade, smuggling goods and people in intricate interlocking of formal and informal arrangements. The interplay of activities at the intersections of legality and illegality offers opportunities for dealing with sudden economic shocks, but often results in the entrenchment of structural and enduring conditions of marginalization and inequality. Similarly positioned at the shifting intersections of legality and illegality in the borderlands, transnational adoption and commercial surrogacy are legal-technical-scientific assemblages tied to acquisitive and extractive family-making practices that are distinctly global in scope. The social practices and relations that sustain them connect to biopolitical and necropolitical logics concerned with not only the management of life (Foucault 1977, 1981, 1997) but also the work of death and the instantiation of “death worlds” (Mbembe 2003). More fundamentally, race, gender, sexuality, and citizenship status are imbricated in the transnational queer necropolitics (Haritaworn, Kuntsman, and Posocco 2014; Puar 2007) of adoption and surrogacy and the production and uneven distribution of liveness and deadliness, privilege and dispossession, accumulation and alienation, as persons, bodily substance, and, increasingly, bioinformation (Parry 2004; Parry and Greenhough 2018) transverse contexts, jurisdictions, and social (and racial) formations (Parry Greenhough, and Dyck 2016).

Transnational adoption circuits progressively intensified on a global scale over the course of the twentieth century (Marre and Briggs 2009). The displacement of

impoverished children across national borders from the Global South to the Global North can be directly tied to the aftermaths of war and conflict as they are tied to histories and legacies of colonialism and imperialism. Paradigmatic cases here are Korea and Guatemala (Kim 2010; Posocco 2016; Volkman 2005). However, the growth in transnational adoptions should also be understood in relation to changes in the governance of the family and reproduction in the Global North, and the progressive “rolling back” of the welfare state and privatization of care in late liberalism. In an incisive analysis, Laura Briggs (2012) shows how the dismantling of child welfare services in the US, for example, was accompanied by an increasing reliance on privatized families called to step in to compensate for ever-decreasing state provisions. In turn, new forms of humanitarianism have proliferated and progressively rely on the fashioning of militarized forms of citizenship. “Exceptional citizens” are extended new responsibilities and drafted in to fill the void left by a hollowed-out state that can no longer provide either care or security (Grewal 2017). Historically, the complex intertwining of dispossession and privilege has played out within nation states—as well as across them. Violent removal and transplantation of children occurred domestically, with children being displaced from impoverished, racially and ethnically minoritized communities to families wielding class and racialized (white) privilege, as in the case of the fostering and adoption of Indigenous children in North America in the postwar period (Jacobs 2014). National projects of *mestizaje*, that is, discursive and political appeals to the creation of postcolonial nation-states grounded in racial and cultural mixing, were aggressively pursued in Mexico, but only very unevenly and selectively implemented in Guatemala, where complex racialized taxonomies of *ladino* (Guatemalans of mixed ancestry) and Indigenous communities (Maya, Xinka, and Garífuna) endure in the present. Indigenous communities nevertheless sustained ongoing assaults across Guatemala and Mexico, where an array of genocidal policies against them unravelled over time. The forced removal of children from Maya communities from agents of the state—notably the army—was commonplace during the Guatemalan conflict, for example (Posocco 2015). Here, I focus specifically on the *transnational* dimensions of these processes and approach the demise of transnational adoptions and simultaneous rise of transnational surrogacy arrangements drawing on an ethnographic study of these dynamics across Guatemala and Mexico.

Biolabor: Boom and Bust (Twice Over)

Guatemala consistently ranked as the top Latin American “sending country” of adoptees during the last three decades of the twentieth century (Briggs 2010; Posocco 2011, 2015). Sizable transnational adoption “reproflows” (Inhorn 2011) from Guatemala began in earnest following the earthquake that struck the country in 1976 and intensified as part of global fertility chains during the course of the Guatemalan conflict. During the thirty-six-year-long Guatemalan conflict, a succession of US-sponsored Guatemalan governments waged a structural assault against Indigenous Maya communities, the poor, and those associated with leftist

political activism and armed struggle. From the mid-twentieth century, individuals and communities who mobilized for social justice were progressively marked as subversive and persecuted as “internal enemies of the state” within the counterinsurgency logics of anticommunism and Cold War geopolitics. In this context, transnational adoptions were at times and in specific instances linked to the handling of children caught up in army assaults against Maya and other Indigenous communities during the scorched earth campaigns of the early 1980s (Posocco 2015, 2020). These cases of forced removal and abduction of children make the relation between the practice of transnational adoption and genocide explicit. They show forms of “genocide kinning,” that is, family-making practices predicated on the exertion of genocidal violence against Indigenous communities and individuals (Posocco 2020). More generally, numbers peaked in the post–Peace Accords period, when transnational adoptions progressively evolved into thoroughly commodified and heavily marketized arrangements. Transnational adoptions, as a form of intimate labor that in Guatemala entailed bearing children on others’ behalf (Briggs 2012), were brought to a dramatic halt in late 2007, with the introduction of legislation restricting adoptions strictly to Guatemalan resident nationals. As these adoption flows waned, surrogacy arrangements over the border, in the neighboring Mexican state of Tabasco, began to grow exponentially (Schurr and Walmsley 2014). “Race” and racialization are always already imbricated in histories and practices of reproductive labor (Glenn 2010; Weinbaum 2019), that is to say, “reproflows” and “global fertility chains” (Vertommen, Parry, and Nahman 2022) unfold in conditions of coloniality and as part of histories of capture, indenture, and slavery. Reproductive labor relies on racialized bodies to uphold racialized fantasies of nation and class formation, and, most fundamentally, reproduction functions as a key racializing technology. Alys Eve Weinbaum, whose work is concerned with racial capitalism primarily in the North American context, shows the way Black feminist scholarship has articulated a compelling analysis of the “surrogacy/slavery nexus” (2019, 45-49). In this view, the temporality tied to the abolition of slavery and the “freeing” of people and labor is undermined by the persistence of the “slave episteme” that continues to frame the organization of reproductive labor in the present (2019, 11-17). Here I argue that the persistence of a specific inflection of the “indenture episteme,” a “*finca* episteme,” can be discerned in the transnational adoption flows in Guatemala in the mid- and late-twentieth century. The *finca* episteme relies on the “*estado finca*,” that is, the state modelled on the *finca*, the plantation that, since the liberal reforms of the nineteenth century, has paradigmatically referred to coffee plantations for export—spaces of capillary exploitation, indentured labor, and death (AVANCSO 2006; Palencia Frener 2020; Quemé Chay 2017). In the *estado finca*, gender, sex, and racialization are also made and re-made through relations of exploitation and violent extraction.

The *finca* episteme refers to the logics that have organized bodies and spaces to capture, manage, and monetize life at different historical conjunctures. Through

the *finca* episteme, these logics endure in the present in shifting social practices and topographies. Here it seems important to dwell on the similarities and differences between the slave episteme and the *finca* episteme, specifically as they relate to the organization of adoption. Weinbaum (2019, 18n7) argues that the slave episteme, as the conditions of what can be thought in the wake of transatlantic slavery and racial capitalism, materializes in the manifold exploitation of human biological life. In this view, the rise of biocapitalism is therefore epistemologically predicated on slavery and grounded in reproductive labor power, thus accounting for the endurance of the slave episteme over time (2019, 5). Interestingly, Weinbaum *excludes* adoption from the set of practices that become thinkable within the slave episteme. Adoption is explicitly regarded not to be part of the racializing dispositifs of “human reproduction...through which labor and products are rendered alienable” (2019, 5). From the perspective of Guatemala and the Guatemala/Mexico borderlands, the exclusion of adoption on the grounds that it does not entail “the express engineering of reproductive labor” (188n7) seems profoundly problematic. Adoption is often figured through discourses of benevolence, altruism, and humanitarianism; yet transnational adoption studies have carefully demonstrated its place in structural asymmetries in their racializing dimensions (Briggs 2012; Marre and Briggs 2009) and necropolitics (Posocco 2014a). It therefore remains unclear why adoption should be naturalized vis-à-vis seemingly more technoscientifically intensive practices entailing in vivo biological processes. Whilst extraction and capture can take place at different scales, the *finca* episteme shows how the racialized alienation of the products of human reproductive capacities could become thinkable, materialized, and intensely mined through adoption.

In this context, then, the rise of transnational adoptions in Guatemala can be directly linked to the neocolonial conditions of conflict and post–Peace Accords adjustment, which effectively relied on Guatemalan women’s reproductive labor and made adoptees a most lucrative non-traditional export in the second part of the twentieth century. This shift reoriented the topography of the *finca* episteme from the hacienda for the production of coffee to the “*casas cuna*,” those informal nurseries where prospective adoptees might be found prior to their onward journeys abroad. From this perspective, then, an emphasis on the *finca* episteme suggests that the demise of adoptions in Guatemala and the rise of surrogacy arrangements in southern Mexico ought to be framed as racialized and racializing practices and dynamics in the context of globally and transnationally stratified reproductive labor, and increasingly, biolabor. Biolabor here refers to the embodied labor that is indispensable for the functioning of not only reproductive medicine but biomedicine more broadly, and which increasingly props up bioeconomies globally (Cooper and Waldby 2014). If adoption appears as less dependent on technoscientific infrastructures, this does not mean it has historically been a form of less carefully engineered alienable reproductive labor in a biolabor continuum.

Carolyn Schurr and Elisabeth Miltz (2018) connect the sharp rise in commercial surrogacy in Tabasco to events further afield—namely, to the ban on gay couples contracting surrogates in India—cogently illustrating the complex transnational dimensions of queer necropolitical dynamics. They argue that surrogacy boomed in the state capital of Tabasco, Villahermosa, and was particularly popular with gay couples who could no longer access these services in India. Similar to what has been observed in relation to transnational adoptions, in their analysis, Schurr and Miltz (2018) show how this growing industry relied on gendered forms of biolabor, that is, on the labor of egg donors and surrogates part of markedly socially stratified processes along line of gender, “race,” ethnicity, sexuality, and class. Further, Schurr (2017, 256) astutely highlights how surrogacy in Tabasco entailed a heavily racialized division of labor between egg donors and surrogates. The making of whiteness as a desirable normative characteristic of the future child mobilized assumptions about biological relatedness and biological distance between the parties involved in particular raciological order. In practice, future parents engaged in a process of naturalization of whiteness as a desirable ideal by commissioning egg donors whom they perceived to be white, expecting this purposeful selection would result in a direct “whitening effect” on the offspring. Remarkably, future parents did not imagine the same transmission of traits between the surrogates and the child, however. As Schurr (2017) incisively argues, surrogates’ embodied labor was understood to leave no “genetic mark” onto the future child. It is important to dwell on the raciological orders and racializing logics in play in this iteration of genetic reductionism. The bracketing off of genetic relatedness to include egg donors and exclude surrogates betrays the heavily racialized and racializing framing of biolabor. It relies on a multiplicity of racialized fantasies of transmission and relatedness geared towards the (re)production of whiteness (Quiroga 2007). More fundamentally, this genetic reductionism is predicated on the simultaneous centering and decentering of the figure of the (racialized) brown and/or Indigenous woman as the “universal donor” (Nelson 1999), whose biolabor is at once extracted, appropriated, and erased to ensure the production of offspring who may exert a claim to the phantasmatic domain of whiteness (Chivalán Carrillo and Posocco 2020).

The raciological orders and fantasies that come into view through a focus on adoption and surrogacy have long histories. In Guatemala, they connect to genealogies of gendered and racialized extraction. Adoption, oocyte harvesting and surrogacy summon in the present older biopolitical and necropolitical bodily practices such as wet nursing. In this respect, in an incisive analysis of the historical records, Marco Chivalán Carrillo (2015) shows that in the late colonial period, Maya women from Jocotenango left their own offspring to die, as they were obliged to wet nurse—that is, breastfeed—Creole children. In the colonial order, the uneven distribution of vitality and letting die is dramatized in the biopolitics and necropolitics of wet nursing (Chivalán Carrillo 2015), a

bio/necropolitical practice whose legacy haunts the (post)colonial present. The queer necropolitics observed in relation to transnational adoption (Posocco 2014a) have a counterpart in the queer necropolitics of transnational surrogacy, as Schurr's analysis (2007) of surrogacy arrangements in Tabasco shows. One way of figuring the intersections of life and death and vitality and abandonment in play in these dynamics is by dwelling on the ways transnational adoption circuits and surrogacy arrangements similarly incite and capitalize on "surplus life" (Cooper 2008; Posocco 2014a), that is, an excess that emerges specifically out of violent historical transitions and crises. The analytics of queer necropolitics (Puar 2007; Haritaworn, Kuntsman, and Posocco 2014) are pertinent here, as they interrogate claims to queerness in the context of ongoing processes of colonization, occupation, dispossession, and genocide. They bring into focus "regimes of attribution of liveness and deadliness of subjects, bodies, communities and populations and their instantiation through performatives of gender, sexuality and kinship, as well as through processes of confinement, removal and exhaustion" (Haritaworn, Kuntsman, and Posocco 2014, 4; see also Weheliye 2014). Whilst the transnational adoption of children from Guatemala emerged out of the thirty-six-year long Guatemalan conflict and aggressively pursued neoliberal policies in the postwar period, in Tabasco surrogacy flourished as the economic prosperity tied to the state-owned oil industry was severely affected by instability in the oil markets. As the oil sector slumped and transitioned from state monopoly to private enterprise, the number of clinics offering reproductive medicine services and surrogacy swelled, bolstered by *laissez-faire* legislation. I arrived in Tabasco in November 2016, soon after the introduction of legislation that purported to implement a ban on surrogacies for non-Mexican nationals. Far from a clear-cut legal provision, the new regulation inaugurated a complex and uneven shift that included exemptions for pregnancies and surrogacy agreements already in place or ongoing. The governance, ownership, and future custodianship of bodily substance—notably gametes and embryos—stored by the clinics also presented a set of new open questions, as medical establishments strategized to assess the implications of the legal changes and the viability of continuing their activities in view of the ban.

Transnational adoption and surrogacy are often treated as separate phenomena. They entail different degrees of scalability of emergent life in what Anna Tsing (2015) has aptly called "capitalist ruins." When brought within the same frame from the perspective of the Guatemalan/Mexican borderlands, they may generate a sense of failure of comparison and analogy, incongruence, discrepancy, and lack of proportion (Strathern 1991). From this perspective, the "ethnographic effect" (Strathern 1999) that conjures up awkward and partial connections between domains suggests that adoption and surrogacy should be approached ethnographically and analytically as socially, politically, and historically (partially) interconnected social practices which emerge out of war, violence, conflict, and crisis. Further, they should be viewed as implicated in "sex-and-race dispostifs"

(AVANCSO 2015) and queer necropolitics that have historically structured colonial and post(neo)colonial relations along axes of gender, race, sexuality, and class. When situated between Guatemala and Mexico, adoption and surrogacy appear to be enabled by social stratification, deep inequalities, and structural violence. They entail extractive processes and forms of exploitative gendered and racialized intimate embodied labor. As surrogacy replaces adoption globally and family-making practices are ever more reliant on clinical reproductive labor, the biological promise inherent in bodily substance means that it has to be not only extracted but also cultivated and brought to term (Thompson 2005; Cooper 2008). In turn, waste can be infinitely mined for further profit (Kroløkke 2018). Biological substance that can be stored indefinitely promises “value after life” (Bunning 2017). Fragmentation and specialization of tasks and processes rely on the mobility of substance and on networked infrastructures, in a context marked by “boom and bust” cycles of expansion and contraction in emergent bioeconomies (Cooper and Waldby 2014; Parry, Greenhough, and Dyck 2016). In Guatemala, biological substance is commercialized through private providers who collect, store, and trade gametes, tissue, and bodily substance. The broader implications of the ban on surrogacy for individuals not holding Mexican citizenship were still unclear in Tabasco in 2016, but in the immediate aftermath of the ban, and as IVF procedures continued to be administered, the surrogacy arrangements seemed to have been simply relocated. The extractability and mobility of bodily substance emerged as key. Collecting, storing, and trading substance flourished in post-genocide Guatemala too in this emergent transnational bio/necropolitical horizon.

Forensic Extraction, Biological Promises, and Foreclosed Futures

In the postwar period, Guatemala witnessed a notable growth in medical establishments offering services in new reproductive technologies and reproductive medicine. During the course of my fieldwork, experts in the sector reported that the first successful IVF procedure took place in 1990, though clinicians began pioneering training and clinical programs geared towards addressing infertility as early as 1976, mostly in private clinics. These clinics currently cater mainly to wealthy Guatemalans and those traveling from the US, Europe, and Central American countries, notably El Salvador and Honduras. In conversations with me, those seeking their services regarded them to be considerably more affordable than similar establishments in the US. Mainly offering procedures such as IVF, clinics facilitate gamete donation and routinely perform oocyte harvesting as an ancillary activity for clients requiring oocyte donors in the context of IVF, and more infrequently, surrogacy procedures. Whilst surrogacy in Guatemala is not permitted by law, and in practice occurs rarely, gamete collection and storage are now commonplace in the clinics offering IVF treatment. Embryos that undergo genetic analysis and are shown to have

abnormalities are stored through cryopreservation and are generally not destroyed. Gamete donation is common and clinics manage cryopreservation as well as embryo donation. In the course of our conversations, specialists working in reproductive medicine clinics in Guatemala noted that they had the expertise and excellent technical infrastructure to undertake a number of procedures, including commercial surrogacy, and they expressed frustration at the current system and the restrictions placed on their activities. They explained to me that the very few cases of surrogacy they had knowledge of were mediated by lawyers, who, having set up these arrangements between the individuals concerned, had then referred the patients to them. Such arrangements ended when the legislation prohibiting transnational adoptions came into force in late 2007. In this context, these Guatemalan fertility specialist clinicians who trained in the US and Europe noted that, despite their excellent qualifications, they were unable to meet the high demand for these services due to the obstructive local legislation. They argued that it was regrettable that the excesses of the adoption system in the latter part of the twentieth century in the country should directly and indirectly influence legislation on new reproductive technologies and contribute to the stringent legal restrictions placed on their practice.

New reproductive technology provision in the country is nevertheless consolidating and expanding. Genetic medicine services, for instance, are in their infancy, but also steadily growing. These activities take place in areas of Guatemala City where private medical service providers are concentrated, often within gated developments where access is closely monitored and only granted if one is attending a prearranged appointment. Medical infrastructures are located within highly securitized spaces where collection and storage of biological substance also take place. Some reproductive medicine laboratories offer DNA testing, a generic and ambiguous term, which in practice means that clinics offer testing for genetic conditions. These developments constitute new technological advances whose availability is newsworthy and widely reported in the press (Méndez Villaseñor 2015). Such technoscientific practices are nevertheless largely out of public view and unfold in districts where the privatization of public space has been shown to be closely interconnected with the securitization and militarization of the city through private security companies (Dickins de Girón 2011), which protect wealthy enclaves in the neoliberal city.

Knowledge practices and techniques in reproductive medicine are more mobile than the subjects whose bodies, substance, and bioinformation are processed in clinics and laboratories. A small number of the clinics that specialize in reproductive medicine have their own laboratories, which operate as subsidiaries. They are advertised as separate entities, according to specialization, though, in practice, they are headed by expert personnel who work across establishments. These laboratories adopt international protocols and often refer to their compliance with accreditation systems and standards such as the ISO/IEC 17025

as assurance of the quality of their work and facilities. The emphasis on compliance with international standards betrays a broader anxiety about the status of the knowledge produced through forensic practices and techniques, and more specifically, forensic claims to scientificity. As Christopher Hamlin (2019) observes, cross-calibration and “credentializing” are often undermined by the self-referentiality of the comparative domains deployed in the processes of so-called standardization. Credentializing, as a set of knowledge practices geared towards reducing complexity and grounding standardization, is tied to processes that have rhetorical and political currency, rather than concrete technical valence. It is significant, then, that reproductive medicine laboratories *and* the Guatemalan Forensic Anthropology Foundation (FAFG) refer to the ISO/IEC 17025 in the respective descriptions of their activities. Full compliance with international regulatory frames regarding documentary practices, calibration, and analytics is not the only commonality between them. It may seem incongruous to consider reproductive medicine and forensics within the same frame. In Guatemala, however, it is important to do so, as reproductive medicine and forensics occupy proximate fields, where knowledge practices and techniques cross domains of knowledge and expertise and produce new configurations of living and dying. The traffic in technical expertise, biological substance, and bioinformation between these domains reveals further connections between violent histories and new and old extractive practices that tie together life and death in unexpected configurations.

The FAFG laboratory was established in 2008, with the specific remit to support forensic investigations on human rights violations, particularly cases of forced disappearance. The work of the forensic anthropology team started in the 1990s under the aegis of Clyde Snow (Sanford 2003, 17) and over time, undertook many high-profile mass grave exhumations that developed into public events, remarkable for the level of participation of survivors and local communities they attracted. FAFG’s national and international profile rose accordingly, as the forensic anthropology team provided expert witness statement and evidence in prominent judicial proceedings, such as the one against former president Efraín Ríos Montt, indicted for genocide and crimes against humanities. The challenges posed by vast quantities of unidentified human remains have meant that over time, FAFG has spearheaded numerous campaigns soliciting donations of DNA samples from the relatives of the disappeared to assist in the process of identification. For example, following the discovery of large mass graves in the cemetery of La Verbena in Guatemala City, FAFG director, forensic anthropologist Fredy Peccerelli, launched a nation-wide call for donations of DNA samples in order to identify the dead found in unmarked graves, or “XX” according to the local convention, but in fact suspected to be the remains of hundreds of victims of forced disappearance buried in this cemetery, “hidden in plain sight” (Snow et al. 2008).

Biological substance and bioinformation from the living are required to identify the dead. FAFG is therefore a leading provider of DNA analysis in the country. Its forensic laboratory also offers a range of commercial services such as paternity tests, servicing public demand in the context of a growing reproductive medicine sector. Holding within the same frame reproductive medicine and forensics reconfigures domains of knowledge and expertise, foregrounding unexpected points of convergence and intersection. This shift in perspective produces a new configuration of biolabor, a term that appears to be sufficiently capacious to encompass the extractive practices tied not only to reproductive medicine (Cooper and Waldby 2014), but also those of forensic science. Forensic anthropology's operations are framed through a discourse of humanitarianism, but the biolabor inherent in forensic extractive practices should be inscribed in the racialized and racializing dynamics of (post)colonial extraction noted earlier in relation to wet nursing, adoption, oocyte harvesting, and surrogacy. They are deeply rooted in the histories of violence, conflict, and genocide in more profound ways than the rhetoric of "scientific practice at the service of human rights" allows. The partial connections between reproductive medicine and forensic science offer new insights into practices of "mining death" and the legacies of violence, conflict, and genocide. They suggest the importance of a critical engagement with the biological promise inherent in reproductive and forensic biolabor in the light of their common reliance on racialized bodies as a seemingly inexhaustible resource. The bio/necropolitical horizons of embodied partibility and exchange of substance (cf. Konrad 1998) conjure up old and new scenes of extraction where practices for harvesting life and mining death point to differential distribution of liveliness and deadlines and racialized foreclosed futures.

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