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Chemical Sexualities:
Globalization of HIV, Abortion And Trans Hormone Care

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by

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ABSTRACT

This research projects asks what are the consequences of chemical compounds (ARVs for HIV, hormones for trans people, and abortion-inducing pills) interacting with people's sexuality? Through global flows of control, contestation, circulation and obstruction, they translate those interactions into chemical debates of economies, bioconstitutional governance and ontopolitics around sexuality, giving an added value to what I call chemical sexualities. The chemical economies that result from these interactions allow for us to debate 1) if these chemical compounds were, and can be, marketed for contestatory embodiments of sexuality; and 2) if there are horizontal and grass-root based markets that can contest the black markets exploiting these compounds for profit. The chemical bioconstitutional governance debates about these interactions center on individuals and multiple stakeholders claiming sovereignty over reproductive and sexual bodies. They debate: 1) the possibilities to radicalize the human rights discourse of sexual rights; and 2) the extent to which securitized states will continue claiming control, debilitating sexualized individuals, and reifying new moral panic over non-conforming chemical sexualities. Finally, the chemical ontopolitics that surge out of these interactions allow to have new debates beyond individual sexual identity formations and into chemicals embedded in sexual subject formations. They do so in Egypt and Mexico as sites that contest tropes from big Pharma being located and controlled within the United States or Europe, and rather turn the gaze towards global flows of power, social mobilization and sexualities.

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I. INTRODUCTION

Misoprostol is framed globally as "the abortion pill" in media outlets. However, activists, healthcare providers and scholars know that there's no one abortion pill. It is rather a constellation of chemical compounds (which also includes mifepristone) one has to ingest or introduce for abortion. Similarly, people living with HIV (PLHIV) worldwide know about the antiretroviral (ARV) pills "cocktail" constantly evolving from multiple takes into a more fluid version: a vaccine pioneered in multiple protocols like MOSAICO and Imbokodo (UNAIDS 2020b). Finally, trans people undergoing hormone care therapy can find injections or pills that, in some cases, are taken without medical advice, based on community knowledge passed on by networks of fellow trans people who've undergone similar hormonal processes. In all cases, people using those chemical compounds are aware about the solidarity networks that arise to reclaim bodily autonomy: people developing guides on how to use misoprostol and mifepristone safely without doctors' intervention; people pooling in and redistributing ARVs when the public healthcare system refuses to or can't provide them for any reason; trans people teaching through oral solidarity networks how to get hormones and how to dose them, as to avoid pathologizing interactions with their healthcare providers and the healthcare system.

However, those same activists, healthcare providers and scholars do not look very often into the supply chains of those chemical compounds, nor who decides how they get there, how they are marketed (as pills, injections, patches, etc.), how they are regulated, and how they co-constitute sexualities. Even more, in regions like Latin America and the Middle East, little debates arise over the current growth in locally produced medicines, including misoprostol and mifepristone (legally or not used for abortion), antiretrovirals for HIV (withheld and profited from by companies), and estrogen/prostagen or testosterone (legally used or not for hormone care

therapy). Countries in both regions are becoming epicenters in meaning production and supplies' circulation around these pills.

Since the advent of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), in 1995, the pharmaceutical industry once monopolized by American and some European pharmaceutical companies opened up to partnered ventures of generic production of medicines in new global circulations of supply chains. Egypt and Mexico, since then, have positioned themselves as regional producers and exporting countries. However, chemical compounds aren't the only thing they're exporting, but rather a "chemical politics" that configure sexual panics, legal obstructions to rights' claims by activists, and an ontology of sexuality that exposes that the latter is mutually constituted through active, "vibrant" chemical compounds (Bennett 2010).

In other words, sexual and gender practices shift and change along with global political economies and legal-political regimes. They are constantly altered when individual bodies are exposed to artificially synthesized chemical compounds, co-constituting new ontologies of what sexuality *means*, beyond discursive productions of it (Foucault 1969, 141; 1978, 11). In other words, I'm interested in what Anne-Marie Mol, a Dutch anthropologist and philosopher of the body, describes as "ontopolitics". For her, the way problems are framed, bodies are shaped and lives are pushed and pulled in medicine is ultimately politics. More importantly, Mol argues that to understand the body in its multiple versions we need to look beyond disciplines, as it is constituted by overlapping biological and social dimensions beyond disciplinary boundaries (Mol 2002, 17–19). I put both Foucault's and Mol's understandings of ontologies into dialogue to explore the way sexuality is problematized, sexualized bodies are shaped, and sexual lives are pushed and pulled in medicine as inherently political. To understand the interactions between sexuality and chemical compounds, I propose we look at how the bodies are both biological and

social sites of economic, legal, and political interest that lead individuals to question what sexuality means.

Although Mol invites us to think through the body multiple beyond disciplinary boundaries, Preciado, a Spaniard trans and queer activist philosopher, argues specifically about the need to look at the connections between the economies and politics of sexuality. For Preciado, the invention of the biochemical notion of the hormone and the pharmaceutical development of synthetic molecules for commercial use, in the 1930s we experienced a transition into a new form of capitalism called technocapitalism. It transformed "gender", "sex", "sexuality", "sexual identity", and "pleasure" into objects of the political management of living. Processes of a biomolecular and semiotic-technical government of sexual subjectivities materialized particularly in endocrinology and sexology. They produce toxic-pornographic subjectivities, defined by substances and desires that feed the subject's actions and through which they turn into agents (cannabis subjects, alcohol subjects, silicone subjects, PrEP subjects, Viagra subjects, etc.). Hormones produce the systemic effects of hunger, sleep, sexual arousal, aggressiveness, and the social decoding of femininity and masculinity, for which the biomolecular and organic structures of the body become the last hiding place of biopolitical systems of control (Preciado 2008, 26–28, 33–35, 78–80).

Therefore, looking at the political economy of sexuality "breaks" borders through capital once we look at the market of synthetic hormones and other chemical compounds that have a saying on how sexuality comes to be lived through its endocrinological dimension. This is not to reduce sexuality only to that, but to open up debates around it that critically examines its material configuration to the most intimate and micro levels, and how it extends to intimal products; in other words, we allow capital flows enter and break limits of what sexuality has been understood

in terms of bodies "armored" from the exterior capitalist enterprises. We can also problematize this apparent lack of agency or merciless submission to technology by ontopolitical projects of reclaiming bodily rights (both sexual and reproductive). Instead, we can look at active protests and denouncing of pharmaceutical exploitation of consumers, and the formation of networks of solidarity beyond individual discourses of identity politics or a rights framework.

Simultaneously, we can look at the legal and constitutional foundations that try to maintain sexualities static and manageable, despite the ongoing, fluctuant and changing interactions of sexuality through corporealities, geographic borders and subjectivities. The contribution of this dissertation isn't only towards the advancement of sexual and reproductive health rights fought by some activists and people whose sexualities are suffocated by bioconstitutional processes. It also expands on what Brysk argues in terms of mobilization of human rights against private wrongs. When interacting with feminist and queer activists, from different socioeconomic backgrounds and geographical positionalities in Egypt and Mexico, there was an interest in looking at the responsibilities of private parties involvement into the violation of their rights over their bodies, over their health, over their reproduction and over their sexuality. They question the limits of what public health under a human rights standard means (Brysk 2018, 48–49) and begin to critically assess how the management of health is constantly in tension between endless interests groups: pharmaceutical companies, governments, healthcare providers, conservative civil society groups, lawyers, queer, trans, LGBT+ and feminist activists, to name a few. Even more, there are new conversations where activism around these pills questions who is behind them and how they are transforming the way we embody sexuality outside the right to health framework, but rather about the freedom of pleasure.

Thus, this research projects asks what are the consequences of chemical compounds (ARVs for HIV, hormones for trans people, and abortion-inducing pills) interacting with people's sexuality? Through global flows of control, contestation, circulation and obstruction, they translate those interactions into chemical debates of economies, bioconstitutional governance and ontopolitics around sexuality, giving an added value to what I call chemical sexualities. The chemical economies that result from these interactions allow us to debate if 1) these chemical compounds were, and can be, marketed for contestatory embodiments of sexuality; and 2) there are horizontal and grass-root based markets that can contest the black markets exploiting these compounds for profit. The chemical bioconstitutional governance debates about these interactions center on individuals and multiple stakeholders claiming sovereignty over reproductive and sexual bodies. They debate: 1) the possibilities to radicalize the human rights discourse of sexual rights; and 2) the extent to which securitized states will continue claiming control, debilitating sexualized individuals, and reifying new moral panic over non-conforming chemical sexualities. Finally, the chemical ontopolitics that surge out of these interactions allow to have new debates beyond individual sexual identity formations and into chemicals embedded in sexual subject formations. They do so in Egypt and Mexico as sites that contest tropes from big Pharma being located and controlled within the United States or Europe, and rather turn the gaze towards global flows of power, social mobilization and sexualities.

I'm opening up the study to certain global entanglements and global distribution channels of those "chemical sexualities". Other scholars have used this term (chemical sexualities; chemsex; chemical socialities) to refer to a wide array of drugs, cosmetics, or other products to enhance sex —particularly the penis and associated to sexual intercourse rather than sexualities (Bourne et al. 2014; Hardon, Idrus, and Hymans 2013; Idrus et al. 2013; Idrus, Nurul Ilmi et al. 2018; Pakasi

2018). I think about synthetic chemical compounds and pills in terms of a disciplining tool of sexuality and not only a sexual practice. Also, I look at it transnationally and globally, moving away from a top-down hierarchy, but rather looking at it through constant flows in multiple spaces and from all directions.

In summary, I use chemical sexualities to talk about the novel, altered, attenuated, or augmented sexual behaviors, attractions and desires, emotions, feelings and thoughts that emerge from human interaction with synthetic enzymes, toxins and substances —usually captured by pharmocratic enterprises and regulated by healthcare, legislative and governmental institutions. My debate is located in a radical shift that came in the decade of 1990, when patents over invention, production and distribution of chemical compounds were negotiated in the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), in 1989-1990. The consequences of the TRIPS over pharmaceutical products that interact with human sexualities led to new tools of disciplining, commodifying and circulating health, reproduction and sexuality.

I choose this particular time period because the three groups of chemical compounds I study were not globally available until the 1990s and onwards. Although other medical products related to sexuality existed beforehand (like oral contraceptive pills since the 1960s, or the Viagra pill in the 1980s): a) abortion-inducing pills were only marketed outside the US until the late 1980s and globally after the 1990s (Mexico and Brazil being the first countries in the Global South importing misoprostol from the US in 1985-86, and France and China licensing mifepristone in 1988) (Foster 2016, 46); 2) the first HIV ARV (the AZT) was not approved and globally circulated until 1987 (despite its discovery in the 1960s); and c) available hormones trans people use (although first prescribed in Mexico, out of the entire continent, in the 1950s), shifted after the dramatic change in competition due to the market opening between 1988 and 1994 worldwide

(Brodovsky 1997, 179). I examine this particular period not to dehistoricize previous circulations of chemical compounds interacting with sexuality in economic, legal-political and ontological debates, but rather to understand the interactions between sexuality and the opening of new markets, the invention and circulation of new chemical compounds, and the globalization of new obstacles that came to be with intellectual property rights entering the global sexuality landscape.

Talking about the global encompasses connections and flows that face blockages and obstacles. The iteration and obstruction of certain forms of these chemical compounds makes us question which pathways are cleared for certain drugs, which forms do those drugs take in the market (pills, injections, capsules, solutions, gels, body creams, patches), and which audiences are intended them for. Even more, it configures how we talk about health, sexuality and reproduction as rights, or as contestations to that discourse *vis à vis* a political ontology to approximate sexuality (Guerrero Mc Manus and Muñoz Contreras 2018, 73–74). For Mexican trans activist scholars and philosophers Guerrero and Muñoz, thinking about a political ontology avoids separating the ontology of the body and their social contexts. It counters framings of static, transhistorical and transgeographical epistemologies of the body that divides it under disciplines. Rather than looking at markets, laws, and norms as separate domains from the body and the sexual, I want to contribute to trans studies to think about historical ontologies of sexualities beyond panculturality, or predetermined by nature or technology (Guerrero Mc Manus and Muñoz Contreras 2018, 75). As new technologies (in this case synthesize chemical compounds) continue intervening in the individual body, people as sexed and sexualized beings that are part of a social body also changed how they understand themselves. As Allen (L. Allen 2015) argues: we should go beyond relegating material objects when studying sexuality as an extension or expressions of sexuality requiring

human activation, or to think of sexuality as "nicely and relatively stable wrapped under the epidermal cover of an individual human body" (Lambevski 2005, 587–579).

Chemical compounds take different cultural and political forms in different markets, one of them being pills. For example, what is marketed, legislated, politicized and used to produce certain sexualities in terms of abortion isn't mifepristone or misoprostol as molecules, but rather its solidified, visualized and consumed form: a pill. Similarly, the chemical compounds that we use as antiretrovirals to either prevent infections of HIV, or to reduce HIV viral loads, problematize borders of concomitant attachments of life and death with HIV. Taking a pill isn't only dealing with racialized, gendered, queered, and classed imaginaries we have around them (the "worldling" around HIV). They also look at the borders of the immune system as synthetic and symbiotic with toxic chemicals that we ingest while trying to keep us and others alive and out of an apparent risk (ironically, as we put ourselves in others). Finally, hormone care therapy in both countries faces the most fluctuant iteration of meanings and corporealities, where health markets and capital formations question the productivity of trans subjects in terms of reproduction of norms, of classes, and of gendered sexualities. Access to hormones gets tied to access to information, usually restricted to medical interactions under the pathologizing gaze of healthcare providers. The costs of hormone care therapy reflects that discourse of a "chronic illness", leading to high costs and iterating sexualities. The conviviality of toxicity and the hope of modifying one's body surges as an ontology of sexuality that reformulates norms around one's way of sexually being. The value and coding of the chemical compounds into pills, gels or vials are all cultural, economic, and political agendas, and the capture of these basic biochemical processes into a marketable product is a part of the pharmaceutical enterprise. Queering as a project of denaturalizing the values

attributed to these pills allows us to argue that chemical sexualities aren't natural, thus they're always contestable and in need of problematizing.

This project is not doing a transregional comparison that de-historicizes local ontologies of sexuality, nor looks at transnational corporations as a top-down project of technological imposition and mere capital exploitation. However, transregional histories and economies can work as a conceptual tool that shatters theoretical and practical analytical divides. For Grewal and Kaplan, we can look at sexuality through a transnational and interdisciplinary approach in the current phase of globalization. Transnational approaches break the global/local divide where the local is seen as working against or in resistance to the global.

However, a more complicated model of transnational relations looks at power structures, asymmetries, and inequalities as conditions for new subjects (Grewal and Kaplan 2001, 666–67). This means that sexual subjects are produced not just by the politics of identity or social movements, but by the links between various institutions that accompany them beyond a culturalist approach of nation-wide, monolithic institutions. To this argument, I add that transnational materials such as flowing chemical compounds between and beyond nation-states' borders are co-constitutive of those power structures, asymmetries, and inequalities that interact with individual agencies and ontologies to constantly change subjects. Transnational studies look in depth at other institutions that may be state-linked or related to it that aren't working uniformly with the state or against it (Grewal and Kaplan 2001, 671–74). We can rethink sexual subjects not as purely oppositional or resistant to dominant institutions that produce heteronormativity and patriarchy, but rather as breaking down universalized models of resistance that globalizing Euro-American identity politics of sexuality aim to idealize (Grewal and Kaplan 2001, 669–70). Thus sexual subjects and the flowing chemical compounds traversing and nesting in them invite us to think

about the contradictions that may come with changing chemical sexualities, as well as the obstructions that can take place when one translates those flows into markets, laws, and norms, all simultaneously competing with one another.

For Grewal and Kaplan, scholars of transnational feminist studies, argue that transnational approaches should work against the separation of sexuality from the study of race, class, nation, and religion (Grewal and Kaplan 2001, 666–67). For the Middle East and North of Africa, Nof Nasser-Eddin exhorts us to theorize class, gender and sexuality as shaping people's lived realities differently (Nasser-Eddin 2019, 99). In other words, both in the local and in the global, we cannot produce knowledge about women and non-normative people without recognizing class manifests within class divides, but are always traversed by the variables Grewal and Kaplan outlined already —and more. With this conceptualization in mind, I am highlighting the nuances of local ontologies of sexuality, including those marginalized or invisible in conventional archives and institutions. Because all of them are intersected with systems of power, we need to think of sexuality as integral and co-constituted to histories of political economies, forms of governance, the rise of biomedicine, and concepts of family, life and health.

This research contributes to global and transnational sexuality studies such as Grewal and Kaplan by bringing in voices like Tito Mitjans on how to fight back against medicalization and pathologization in scholarly production, particularly in research projects like this that look at chemical interactions with human bodies and sexualities. As a trans, non-binary Afro-Cuban scholar, they argue that narratives of anti-black deterritorialization coming from the "Global North", white, mestiza, and heterosexual feminists displace forms of sexualities that resist and dissent from ethnocentric practices that only focus on gender. One of the problems Mitjans traces is that gender studies directed towards racialized people treat their bodies as merchandise, as

medical research objects, as hypersexualized subjects, and as mere corporealities to study (Mitjans 2020, 32). I will, instead, bring into conversation the political praxis of Mexican trans philosophers, Siobhan Guerrero and Leah Muñoz, who argue for a new philosophy to think about the trans body. I will not study these chemical sexualities as exclusively traversing their bodies biologically, breaking them from their social bodies, but rather as Guerrero and Muñoz suggest, by looking at them as objectual-material and semiotic-normative simultaneously (Guerrero Mc Manus and Muñoz Contreras 2018, 74). In other words, I will be practicing their proposition for a trans ontopolitics in a wider spectrum of ontopolitics of sexualities. I will look at all people's bodies interacting with these chemicals and pills —be it ARVs, abortion inducing pill or hormones— through their objectual-material and semiotic-normative dimensions as they co-constitute how sexuality comes to be lived.

Even more, the praxis of bringing together the conversations on abortion-inducing pills, HIV antiretrovirals and hormone care therapies aims to highlight bridges of solidarity and intersection of the pill politics surrounding all of them. Being debates around sexuality, reproduction and sex, being debates around sexual and reproductive health rights, being debates around autonomy over the body and the self, or being debates around the political economy of sexuality deriving into new ontologies of sexuality, this research fights against the disciplinary divides of medicine and medical anthropology from conversations on social justice projects around abortion, HIV and trans medical care. Instead, I look at the three debates traversing added values in these expressions of chemical sexualities: first, in terms of monetary gains and capitalization of sexuality around these chemicals (economic debates); second, in terms of the legal frameworks giving value to both the individuals consuming those pills and the markets producing them (called laws, rights, declarations, principles and protocols); and finally, in terms of the ontological

formations that make individuals live with synthetic chemicals in their bodies, altering what sexuality means for them and for those around them.

I would highlight Grewal and Kapplan's argument once again to talk about transnational flows and obstructions of chemical compounds and the added values in their supply chains. With the circulation of generic products manufactured both in Mexico and Egypt to their respective regions, we can study the pills' politics not as a binary of complicity versus resistance, but rather as different forms of breaking down universalized models of identity politics of sexuality (Grewal and Kaplan 2001, 671–74). Despite these models having come with victories in terms of the right to sexuality, to reproduction and to health, they're also contested by queered, racialized and classed bodies —like Mitjan— that don't fit static identity models nor actually benefit from the rights discourse. Once again, the ontopolitics of sexuality render a useful understanding of evolving histories and norms around bodies that interact with chemical compounds and pills changing what sexuality *means*, rather than what sexuality is discursively meant to be in terms of rights.

For example, governments circulate their own understandings of misoprostol that can be used as abortifacients, although they do so in different stages of pregnancy (in Mexico since early stages and in Egypt only under complications in late stages or post-abortion care). As pro-abortion rights activists in different geographies have told me: it's not about the law, but what we can do with it afterwards. Thus, the discursive element of laws isn't the added value, but rather the possibilities of embodying sexuality in autonomous and solidarity-based ways beyond medicalized tropes that are fought for by capitalist and government stakeholders. Sunder Rajan expands on Jasanoff's argument about bioconstitutionalism (the coproduction of law and the life sciences) to shed light on the effects of pharmaceutical companies over legal reasoning around life and health. For Rajan, we must ask ourselves how science comes to be lodged in the court to understand the

epistemic authority behind health. Because, when the spirit of a constitution that emphasizes a right to health and is deemed to have more authority than a patent claim, or the other way around, one sees the consolidation of certain modes of public reason over others (Sunder Rajan 2017, 153).

Chemical sexualities enter the debates of the constitution of laws around life and health where capitalist aspirations attempt to capture state apparatuses that then configure how one's sexuality may become medicalized, restricted, obstructed, sanctioned or even promoted. This way, when activists and users buy generics that are cheaper than the hegemonic American or European brands (Cytotec, by Pfizer, for example), they may still be reinforcing local and regional monopolies of postcolonial nationalist free market capitalism in places like Egypt and Mexico. However, they also develop chains of oral knowledge passed along pills-users to reclaim themselves and not fall into identities imposed on them ("assassins", "debauchers", "unrespectable", or "unnatural") through laws over the chemical products they consume. For example, in the case of antiretrovirals, Egypt makes sure their National Action Plan and the Arab Regional Framework on HIV/AIDS guarantee access to treatment to mothers who could pass it to children, but there is no policy to support trans women, sex workers or men who have sex with men to reduce the spread of HIV among those populations. Mexico, on the contrary, has one of the most advanced research centers on HIV in Latin America, yet there is ongoing shortage of medicines, they give generic treatments that have received complaints about the highly adverse effects, and have had scandals of distributing faulty brands that didn't contain the actual chemical compounds to treat HIV (Forbes Staff 2020; Redacción Aristegui Noticias 2020; Rodríguez Calva 2020)

This research aims to contribute as well to critical studies of sexuality in the Middle East and Latin America. As Amar delineated, there are five scholarly trends we should look into when

critically studying sexuality globally and in the Middle East that I will expand to Latin American studies. First, we need to be critical of liberal binaries of East/West, sensuality/rationalism, and Islam/secularism, and instead work to disestablish any one religion or rule-making logic or normative system (Amar 2011, 47–48). Simultaneously, for studies of sexuality globally and in Latin America, I propose that we need to be critical of binaries of North and South (in terms of development and in terms of the Americas), of machismo and hypersexualization versus rationalism, and of Catholicism and Evangelism versus secularism. Second, Amar argues that we need to look at studies of coloniality that don't reproduce the obsession of modernity with sexuality as a form of possessive individualism (Amar 2011, 52–53). Instead of universalizing metaphors from liberalism and psychology, sexuality needs to be understood as a globalizing force that is grounded in specificity and comparison of case studies that contest rigid power typologies. Thanks to Guerrero's ontopolitics of sexuality, both the theoretical and empirical analysis in this project will study the colonial legacies of the pharmaceutical industrial complex in Mexico and Egypt, without reproducing the obsession of modernity with sexuality through the uncritical medical gaze, or by limiting it to economically liberal tropes of health.

Paul Amar, sexuality and security studies activist scholar, suggests as well that we need to shift methodologies away from identity and political discourse towards "sensory empiricism". It requires empirical fieldwork and work with activists who develop new legibilities for sensory and erotic social performances and forms of contact, rather than frames of measuring ethnocultural or gender identities (Amar 2011, 53–56). This project will provide a wider perspective that, instead of turning away from identity and political discourses, will examine how they interact with subject formations once synthesized chemical compounds are socialized and co-constitute sexualities. I won't reify static and monolithic identities around sexual behaviors, attractions and desires,

emotions, feelings and thoughts, the same way I won't deny their usefulness as a practical tool by several stakeholders, including activists and populations that want to fight against imposed labels. Instead, I examine which identities coexist with flowing chemical sexualities —ways of *living* sexuality— that are purposely turned static, disciplined and moralized through legal, normative, medical and economic discourses surging at the same time.

1. The political economies of sexuality

It is important to contextualize different literatures around sexuality and the appearance of chemical compounds in the realm of debating to what extent sexuality is a matter of human rights, a matter of markets, or about individual lived experiences. Sexuality was mostly studied within the domain of health, from which we will see common (but not exclusive) debates around the political economy of sexuality. Howard Waitzkin's analyzes medicine and public health in the broader social context of capitalism and imperialism. He invites us to recognize how health is part of an international market of products and services that strengthen the worldwide operations of multinational corporations. Along his work, he defines empire loosely as the expansion of economic activities (including investment, sales, extraction of raw materials, and use of labor to produce commodities and services) beyond national boundaries as well as the social, political, and economic effects of this expansion (Waitzkin and Jasso-Aguilar 2015, 20.2)

Waitzkin and Jasso-Aguilar are sociologists of health in Latin America. Their work is useful particularly for debates around HIV/AIDS that will be part of this research. They explain that in the history of the contemporary political economy of health, the international public health organizations have focused in the last decades on controlling infectious diseases that interfere with international trade. In particular, the authors argue that the International Monetary Fund, the World

Bank, and the General Agreement on Tariffs and Trade were institutions initially created in the 1940s that gradually became mechanisms to enhance the political-economic empires of the United States and Western European countries. However, they also highlight the role of philanthropic foundations that began to impact health services and public health around the world in the early XXth century. Finally, international public health organizations focused on diseases related to international trade, with a history of sanitary authorities arising when epidemics presented threats to trade in different periods of time (Waitzkin and Jasso-Aguilar 2015, 20.6-20.9).

Waitzkin has addressed the particular history of pharmaceutical corporations and the contradictions between free trade agreements that protected patent rights, while ensuring maximum access to effective medicines for endemic infections. Trade agreements like the TRIPS privileged corporate interests over lowest viable commercial price, which caused outburst particularly during the advances of antiretroviral therapies for HIV worldwide, but that weren't accessible due to the pumped prices. For Waitzkin, this was a "vertical or top-down approach" to public health, which favored the provision of specific vaccines and medicines for specific bothersome diseases, contrasted with a "horizontal" approach, which encouraged the formation of a strong public health and primary care infrastructure in less developed countries (Waitzkin 2015, 84–95).

Waitzkin's approach to the economic empire of health is useful for my research to understand not only which actors are involved in the circulation of chemical compounds that then interact with individual bodies and how sexualities are lived. His work with Rebeca Jasso-Aguilar is also useful because it fights back from both a theoretical and methodological approach that looks at activists and individuals as mere passive recipients of the global capitalist projects. Instead, they study cases in Latin America on how popular mobilization isn't only struggling against empires of

health enterprises, but have moved to create alternative models of public health and health services (Waitzkin 2015, 170). However, I also question that capital venturers try to build health as a collapsing framework to strip away sexuality from its pleasurable dimension and rather commodify it and surround it around a medicalized discourse. For example, living with HIV isn't about sexual pleasure, but rather about an infection that could both cause economic distress to the population while creating a pharmaceutical market for those who want to take ARV therapy. Similarly, in Puerto Rico pharmaceutical companies tested new forms of birth control on poor women of color with dangerous drugs proposing to empower them via fertility control. Health becomes capitalized as a universalized concept that in reality hides transnational incentives for lucrative targets for new markets in the Global South (Brun Lie-Spahn 2019, 15).

My particular research does consider the health dimensions, discourses, and ontologies around sexuality meaning formation, but will include how these mobilizations in Egypt and Mexico bring into the fore pleasure, desire, autonomy, civic-political and socio-economic rights. More importantly, I am also mapping the growing demand for public health systems grounded in solidarity rather than profitability, as Waitzkin and Jasso-Aguilar do, but I do so not in contrast or total opposition to the public health policies of global pharmaceutical companies. Instead, I talk about the simultaneous work of these actors in larger debates of the economy of chemical sexualities where local pharmaceutical monopolies in Egypt and Mexico are competing and taking over markets always thought to purely belong to the Global North multinationals.

In their edited volume on technologies that shape gender, sex and sexualities in the Middle East and North Africa, Wynn and Foster argue technologies equally advance normative and non-normative sexual and reproductive roles. Specifically, they argue that contraception and abortion technologies, such as pills, allow women to divorce their sexuality from reproduction, subverting

the power of social norms around their sexuality (Wynn and Foster 2016, 19). However, Brun Lie-Spahn looks at misoprostol as a neoliberal technology that, through its growing use as an off-label abortion inducing pill, leaves users without informed pharmaceutical choices. Brun Lie-Spahn argues that Pfizer —the owner, largest manufacturer and distributor of misoprostol's most known brand name Cytotec— is absent from debates around big pharmaceuticals' role in contributing to precarious economic conditions, extractive environmental practices, and corporate hegemony from, through, and against which underground markets to distribute misoprostol for abortion emerge (Brun Lie-Spahn 2019, 1–25). Despite the divergence around what misoprostol means as a chemical compound in economic debates around reproduction and sexuality, I will show both processes are taking place: on the one hand, we must recognize that Pfizer and other pharmaceutical companies know about the global off-label use of their misoprostol, and continue to sell in a market not designed to guarantee an autonomous sexual and reproductive life for women and other pregnant people; on the other side, activists and user not only subvert the economic power of pharmaceutical companies and pharmacists controlling the circulation of misoprostol, but they start to demand free access and professional accompaniment from the neoliberal state in Egypt and Mexico.

My research is also inspired by Kaushik Sunder Rajan's, an Indian anthropologist of science, who has an innovative proposal around value and the role of pharmaceutical companies in the political economy of health (in my case taken to the specific case of sexuality). Sunder Rajan believes that health got appropriated by capital, in order to instantiate forms of political economic value that are dictated by logics of capital. The global regime that appropriated health is called pharmocracy: the hegemony of the multinational pharmaceutical industry. It operates to institute forms of governance across the world that are beneficial to its own interests. Thus, the global

"harmonization" of clinical trials and intellectual property regimes must be understood in terms of the expansion of this multinational corporate hegemony. Both Dumit and Sunder Rajan trace different global histories of bioeconomies that take place in the XX and XXI c. with the establishment of the US Food and Drug Administration and later on with the General Agreement on Tariffs and Trade rounds (1947 up to 2001). The process of harmonization was part of a larger process of interactions between major pharmaceutical and regulatory players globally who found in intellectual property and biomedicine a growing sector of political and economic global capital (Sunder Rajan 2017, 9–12). Sunder Rajan traces these processes in a north-south divide, where the developing world national regulations are now being instituted to facilitate corporate interests in the developed world.

In a similar vein as Foucault exposed the link of the biological dimension in economic terms, and also on how Dumit looks at the commodification of health through drugs consumption (Dumit 2012), health for Sunder Rajan is no longer an embodied, subjective, experiential state of well-being or disease; it can be abstracted and grown, made valuable to capitalist interests (Sunder Rajan 2017, 6–7). It is this material abstraction that puts the processes of accumulation to work at the level of the body that Cooper and Waldby have talked about (Cooper and Waldby 2014, 12), where value is both the surplus from health once it is appropriated by capital, but also an alternative normative framework to capital (health being the value system, rather than producing value in a capitalist system).

Sunder Rajan conceptualizes value following the Marxian idea of surplus value, but also Dumit's notion of surplus health. If value is simply an attribute which allows the commodity, which is the product of specific and concrete human labor, to figure as abstract labor, value performs the various materializations and abstractions of those things that it is simply supposed to represent.

For the case of pharmocracies, the market value that pharmaceutical capital gains from the potential for future illness of those who might one day consume drugs explains how value creates health that is appropriate to and appropriable capital, alienated from embodied healthiness. In other words, value is that which allows the symptom to figure as abstract health (Sunder Rajan 2017, 20–21)

He envisions value in four registers: as an abstraction with material consequences; as a surplus for capital; in terms of norms and ethics; and as an antinomy, meaning a contradiction in itself. For him, value can be located in how financial capital speculates; in how bioethics establish good clinical practices for biomedical experimentation; in the modes of judicial interpretations of intellectual property law; in how philanthropic projects rationalize corporate monopoly; and how postcolonial actors contest Euro-American corporate and state hegemony through both market and state intervention.

I want to highlight a particular register of values that is useful in the way I'll approach the different debates around chemical sexualities and pill politics. For Rajan, value is contested, and conjoined in multiple jointed senses of market/surplus value and ethical/normative value. There are ongoing alliances across opposing positions, just as there are major disagreements among actors who are otherwise in positions of structural solidarity (Sunder Rajan 2017, 22). My research will center in the added values of circulating chemicals to sexuality in terms of the bioeconomies that form around the exploitation of bodily potential, in terms of the bioconstitution of law and health/life through the management of chemical usages around sexuality, and in terms of sexual ontologies where different normative/ethical systems compete. However, in all cases I will shed light on the possibility of contradiction in the different debates around how the flows of chemical compounds, usually embodied in pills. To do so avoids romanticizing the positioning or action of

any of the stakeholders I include in my analysis: activists, government officials, pharmaceutical companies' employees, representatives of international organizations, and anyone I encounter through my ethnographic work.

Sunder Rajan inspires my pursuit to contribute to the new materialism move in queer and feminist studies in MENA and Latin America (Viteri 2017, 409): the relationship between the chemical enacting an organic change within the body. If I'm looking at that relationship, the value and coding are all cultural and political things, and that cultural and political capture of these basic biochemical processes is a part of the pharmocratic enterprise. If it is political and cultural, it's not natural, thus it's always contestable. That's why drug users, doctors, governments, laws, markets, healthcare providers, newspapers, all claim there are different values to it. I look at how those forms of contestation stem from and traverse through political economic debates of what value is given to certain chemical compounds, their embodiment in certain pills, and their use in certain bodies.

I find it productive because it moves us away from the human regimes of naturalized power. There is nothing natural doctors telling us how to live our sexuality or what to do with our bodies, nor pharmaceutical companies determining how valuable it is to save someone's life through an antiretroviral treatment, an abortifacient compound, or hormonal treatments. It is a political relation to the body and chemical compounds, and what it *means* living our sexuality as a political decision. The multinationals located within the Global South are trying to keep and be part of a global regime, so what I'm trying to do is open up the global history by thinking about a different kind of movement of chemical compounds with biological substrates, that immediately tells you all the economic and political interests.

Sherene Hamdy's (an Egyptian medical anthropologist) work on organ transplantation in Egypt is useful in many dimensions for this research. However, I first want to highlight the importance of her work around the biomedicalization of the body when economic pressures are tremendous around a person and their social context, when there are black markets rising around body parts, and when patients don't fully understand the "political etiologies" of their diseases. For her, there is a link between the understanding of someone about the cause of a disease and the political-economic structures that determine resource distribution (Hamdy 2012, 13). I take the concept of "political etiology" but frame it not around disease, but rather around the causes or manner of causation around how we live our sexuality in terms of those political-economic structures that determine who gets access to ARVs and where; who has access to hormones and why; who can get an abortion and under which circumstances should they pay more or less for it. These are forms of political and economic debates around sexuality that recognize the coexistence of structures and individuals

Hamdy argues that patients connect their illness with the state's failed economic and health policies, but when talking about dialysis patients, she argues they are physically connected to machines that, in turn, connect them to the state infrastructure in a more material and bodily form. She argues that the cyborgian existence requires an extraordinary assemblage of human and nonhuman actors to link them to larger political structures that consist of biotech corporations, the state, nurses, doctors, engineers, electricity, machines, and the human body itself. These assemblages become evident when a link through the chain becomes susceptible to breaking down, making patients experience their own vulnerability every step (Hamdy 2012, 183–84).

From Hamdy's work I rescue how chemicals are connected to larger assemblages of iterating actors (users, healthcare providers, entrepreneurs, government officials, and activists).

People's sexuality has the potential to break away from a passive medicalizing pattern where chemical compounds only belong to the health market's decision over them, and rather think about how all these parts of a broader capitalist enterprise collide, nurture each other, modify each other, or break each other apart, as constitutive parts of how we understand and live sexuality. In other words, I look beyond the doctor's voices defining apparent patients as the starting line of the supply chain, or going into the broader scenario of companies and the state apparatus filtering down their understandings of sexuality based on the economic value they find on selling those pills. I spot how multiple voices, alongside those that do biomedicalize subjects, create new ontopolitical forms of sexuality where they recognize weakness, toxicity, vulnerability, at the same time as autonomy, sorority and freedom of choice in a multilayered and contradictory meaning of sexuality.

2. Governance and bioconstitutionalism of sexuality

There is a legal and judicial dimension on how sexuality is governed, with an interesting shift that came around the same time than the TRIPS agreements in the 1990s. According to Davy *et al.* — British scholars on gender, trans and sexuality studies—, from the 1990s onwards there was a shift towards rights and recognition that pushed citizenship to be used as a lens to investigate intimate life, family relations and sexual expressions, expanding the previous decade's empirical work of the personal into the political sphere (Davy, Santos, and Bertone 2020, 1:46). Jyoti Puri, an Indian sexuality sociologist, talks about the sexual state, arguing sexuality is foundational to state-based governance. In other words, there is a direct and constitutive role of sexuality in the work of the state (Puri 2016, 6). The governance of sexuality, for Puri, entails the way the state manages and

regulates sexual economies and practices to constitute its own imaginations of what it *means* to be that state, and how it *emerges* as a state from those regulations (Puri 2016, 41).

Puri's approach tends to be vertically oriented, where the state decides without any input from non-state actors. However, I will look at the co-constitution not only of the state through the regulation of sexuality by looking at chemical compounds surrounding those regulations, but also of individuals immediately interacting with those same compounds and their vision around the state's role in governing their sexuality. To understand the multi-stakeholders mechanisms of governance of sexuality I keep in mind Jasanoff's work around science and technology, particularly her argument that we need to look at the relationships among biology, its technological applications, and the law. Although I will expand beyond the narrow system of laws, Jasanoff invites us to think this is not a one-way relationship, but rather the mutually constitutive interplay of biological and legal conceptions of life. In other words, changes in life sciences and technologies are bioconstitutional in their consequences, because biological artifacts engage with and reshape our perception of rights and entitlements (Jasanoff 2011a, 14–24).

I don't study life as a whole, but specifically how the relationships between biochemical artifacts engage with and reshape our perception of sexuality, and with it of sexual rights and claims. Jasanoff explains we need to dig below the level at which rights are explicitly recognized as being threatened or violated. To do so makes us question what is worth protecting and why, for and against whom, through which kinds of social and institutional agency, by what means, to what extent, and through what processes (Jasanoff 2011a, 26–27). I look specifically at how the circulation (or obstruction) of some specific chemical compounds (the biological artifacts or technologies she refers to in a more general sense) like antiretrovirals, abortion-inducing chemicals

and hormones, redraw the boundaries of what in terms of sexuality is worth protecting and why: is it health, pleasure, autonomy, security, self-determination, education, information?

To do so, I will bring together different yet complementing epistemological views of governing sexuality: the human rights framework (particularly through the sexual and reproductive health rights approach), and the securitized state framework (particularly around the human-security governance regime). The reason I bring them together is that during the last couple of years doing participant observation and working with both radical and mainstream activists in Egypt and Mexico, the same conversations around revolution and reform continue to arise. However, in every case there are constant contradictions that take place along the path of reclaiming autonomy over one's body, and living different expressions of sexuality.

Multiple critiques to the human rights framework can be clustered into three large debates that Alison Brysk, human rights scholar, identifies. First, Brysk argues that human rights need to expand in range and reach to look at new voices (postcolonial critiques), new delineations and new mobilizations on those who continue to be marginalized (the Marxist critique). Second, despite their ongoing expansion, there is a gap caused by the nation-states resisting to lose sovereignty and the international rights regime claiming to access vulnerable populations in each country (subaltern critiques). Third, there is a backlash and resistance against the expansion of human rights, which reflects both a political and an economic power struggle (the post-structuralists) (Brysk 2018, 10–12). These critiques will serve as foundations to move beyond an understanding of rights as laws towards looking at them as claims. Also, I delineate these critiques to show how alternatives break the binary of public and private (mainly the feminist critique).

Brysk invites us to rethink human rights beyond legalist approaches from the classical liberal canon. Brysk argues that human rights are a set of principles and values, but she also argues

that we need to expand human rights frames towards new claims. We need to expand rights for private wrongs through linking privatized wrongs to the international human rights regime, but also by expanding responsibilities to state's "due diligence" and private parties involvement. We also need to mobilize new actors and new types of campaigns: new layers of local and virtual activism add new claims, repertoires, and reach to the movement. Finally, we need to remake human rights ideas in the vernacular, meaning to be translated into local terms and situated within local contexts of power (Brysk 2018, 31–37; 48–49).

As a response to Brysk's invitation, I include Fierro's proposal to redeploy the rights framework as a way to form radical political subjectivities that exceed conventional juridical boundaries. As an Italian political scientist of Latin America, Fierro's ethnography centered in the Homeless Workers' Movement in Brazil and how they employ rights as a broader strategy of social struggle, where the rights framework disrupts previous subjectivities of dispossession. Instead, they create new possibilities of a rebellious politicisation (Fierro 2019, 402). The same way Brysk argues rights shouldn't be limited to the classical liberal canon of laws, Fierro argues there is always a potential for critical dialogue with legality, and social movements can carry on with struggles with extra-legal tactics and arguments that challenge institutions. This process is a reconciliation of what Brysk maps as the post-structuralist critique of a power struggle that cannot be subverted. Instead, Fierro argues governance and resistance can co-exist, where the latter can be used as a political strategy to be governed differently (Fierro 2019, 408).

When looking at the specific chemical compounds that I do, I aim not to find a middle point between the human rights and the securitization frameworks, but rather to understand that multiple stakeholders may be enacting a human rights discourse around access, circulation and information of HIV ARVs, abortion-inducing pills, and hormone care therapy, while also

expanding the grip of a securitized state that defines morally and sexually reputable subjects under their control. The ensuing reality is that even those in radical positions may have to sit and dialogue with the authorities that represent the same institutions they want to abolish, to safeguard what they value as central to their free exercise of their sexuality. However, those negotiations, fights and protests happen simultaneously to ground-based activism, solidarity movements and horizontal knowledge production that is still critical to those other stakeholders who continue commodifying and pathologizing sexual behaviors, desires and affections.

Most importantly, understanding the capital dimension of value, as I presented earlier, aims not to separate it from the legal and constitutional framework I am diving in right now, but I do so to think about the multiple dimensions that happen simultaneously and that may contradict each other. For example, reclaiming access to antiretrovirals and holding amicable relationships with pharmaceutical companies doesn't take away the "credentials" of radical thinking and protesting of activists who shed light around racism, fetishization, classism and gender-based disparities when talking about sexuality and HIV. Buying abortifacient pills for a lower price so more women and other pregnant people have access to them through civil society organizations may keep the generics industry going, and with it strengthen a local monopoly of Global South-led pharmaceutical giants. However, that shouldn't be in detriment of the ideal of forming sorority networks that take away that decision-making authority from doctors and hospitals and reclaim bodily autonomy stemming from the over-the-counter medicine.

According to Sonia Corrêa, Brazilian feminist activist scholar, feminists added the adjectives of reproductive and sexual to the idea of rights as a political move. Compared to talking about sexual and reproductive health, the implications of adding reproductive and sexual to "rights" implies the capacity to make autonomous decisions, to assume responsibilities and to

fulfill needs, both individual and collective (Corrêa 1997, 110–11).The idea of sexuality and reproduction as components of health left them under the interpretation of biological, socio-economic, and political agendas led by third-parties. For Corrêa, defining them in terms of rights aimed to rebalance power relations and establish new horizons of justice, where the relationship is between the subjects and themselves, along with the relationship between individuals and collectivities (societies, states, and markets). It moves it away from seeking the satisfaction of people's reproductive and sexual needs, and the legal changes to achieve it, through state regulation. According to Corrêa, it becomes a matter of self-determination, particularly against the market and its logic of commercial products, but also of the state and its public policies and laws (Corrêa 1997, 111).

A decade after Correa's initial involvement in the definitions of sexual and reproductive health and rights, she analyzes the promises and limits of sexual rights. She argues that we need to link key questions of political economy to the question of rights, which resembles the proposal I'm making through the initial literature of the economy of sexuality, and now around its governance and bioconstitutionalism. Correa argues that power has the potential to silence and invisibilize, which becomes particularly significant when trying to understand new forms of sexuality, emerging modes of sexual expression, and ways of sexual relations. To achieve sexual freedom we cannot only look at notions of pleasure, but we also need to look at poverty, violence, marginalization and other systems of oppression and forms of exclusion (Corrêa, Petchesky, and Parker 2008, 144–47)

However, she also argues that the language of sexual and reproductive health rights allows social movements to use the norms provided by the human rights framework to base social justice claims, and also the systems of public regulation and accountability to publicize those claims

against corporate and government violators. It allows to challenge market-based and const-effectiveness approaches which only value private preferences or prices. The language of human rights also goes beyond the welfare state and philanthropic approaches who treat the recipients of aid or services as passive victims or clients. Instead, the human rights framework treats people as rights-bearing agents and equal participation in decision making. It moves us away from the reproductive and sexual health services thinking of "consumers" or "users" that reinforce the marketization of health, reproduction and sexuality. Instead, it allows people to feel as having the right to have rights, and to create rights (Corrêa, Petchesky, and Parker 2008, 151–53).

The way Corrêa, Brysk and Fierro argue we can use human rights more critically when is with an eye to deconstructing its implicit exclusions. In other words, we need to confront not only the disciplinary and regulatory side of the human rights framework —for which they suggest we look at them through a lens of claims, radicalization, and the state of social exclusion—, but also how the human rights framework contains an apparent presumption of distinguishing between lives that are human —like sexual citizens that are right bearing (Richardson 2000)—, and lives that are not (Corrêa, Petchesky, and Parker 2008, 159–61). The downfall to the human rights framework has been racialized, violated, gendered, enslaved, sodomized, and, in Amar's word, securitized human subjects.

Amar's work looks more in depth into the disciplining forces that Corrêa identified within the human rights framework, and more broadly in the classical liberal way of thought. During the same time sexual and reproductive health and rights were coming to be, Amar argues that humanity was reconciled and secured through new forms of sexualized and moralized governance that emerged in and circulated between zones of struggle in certain socially militarized and culturally generative polities of the Global South beginning in the 1980s. His understanding of the

governance of sexuality, then, enters the realm of security-sector struggles that aim to discipline dangers and desires to mark the controlled boundaries of the human. The resulting mode of governance is a parahuman: a politically disabled "victim" subject that needs protection by enforcing interventions, regardless of consent or will to be rescued. Amar traces in Egypt and Brazil the dangers that Corrêa identified when power imbalances stemming from capitalist and governmental enterprises invisibilize and silence voices through a process that Amar calls parahuman securitization. The latter means a reconfiguration of political debates and claims around social justice, political participation, or resource distribution into technical assessments of danger, operations of enforcement, and targeting of risk populations (Amar 2013, 1–19)

Although both Corrêa and Amar are looking at the Global South, what becomes useful in terms of my project and the scope of how the governance of sexuality appears in legal debates is looking away from the Global North and recognizing how the Global South can be a geographical, economic and technological geography where modalities of sexualized infantilization and racialization can originate. Although he is linking it mainly through the extended securitization regimes based on enforcements, while blocking "social security" models (Amar 2013, 19–26), I want to focus on how Egypt and Mexico have become semi-peripheral pivots of global capitalist pharmaceutical industries (born within their territories and in constant dialogue with multinational companies), which both shape postcolonial imaginations of what global morals, sexualities, but also industries and markets, can become.

I will expand on Amar's work, along with the group of scholars that he builds on, who focuses on how human rights can be reworked and re-articulated by struggles and signifying practices in the Global South that don't set aside or ignore colonial legacies, military imperatives, or liberal imitations of "disseminated" human-rights internationalism (Amar 2013, 208). The

human rights activists I have worked in the past and will continue to work with are envisioning new legibilities of sexual rights, and what sexuality entails when looking at their interaction with chemical compounds, by explicitly linking them to class, development, processes of racialization and gendering projects. I am taking Amar's work to examine the clashing ways doctrines around intellectual property rights, feminist human-rights frameworks, and development-studies approaches materialize in ontopolitics of chemical sexualities.

Vital to the governance of chemical sexualities are networks of solidarity as resistance to securitized states, which also reconfigure the human rights framework towards radical political subjectivities. Diane Richardson, a British sociologist of sexuality, argues that we are witnessing the making of "new" coalitions that include LGBTQI identities through a process of representational claims-making at local, national and transnational levels, where sexuality is increasingly used in discourses of human rights around sexual orientation and gender identity (Richardson 2018, 1). However, Elpes goes beyond and explains how highly diversified subjects organized under the political umbrella of feminism redefined how they see themselves as political adherents to the feminist agenda, but also how they can see themselves as potential subjects for new alliances under a feminist agency. These networks of activism are doing politics along different axes of oppression that nurture emerging coalitions and agencies among a variety of hybrid political subjects. All of them practice non-normative forms of subjectivities, that could be grounded in broad-based progressive social justice agendas and not only in identity politics (Elpes 2020, 301–6).

Although I recognize the possibility of framing how chemicals circulate and reach individuals through top-down relations of governance, bioconstitutionalism and securitization, I will focus on the multiple voices that co-constitute the legal and non-legal frameworks of chemical

compounds and pills that interact with people's sexuality. To do so in this horizontal approximation changes the history that looks at the role of pharmaceuticals, international organizations regulating the pharmaceutical markets, and the government officials who enact local legislation. Instead, I put all of those stakeholders in conversation with activists who demand certain chemical compounds (in pills, injections, gels or body creams), individuals who form networks of solidarity to access them, platforms that expand markets outside the institutionalized rulings on those chemical compounds, and scholars looking at the interactions between those compounds and human bodies.

3. Social movements and coalition building

It is hard to imagine the current queer and HIV movement without the women's movement and civil rights movement from the 1960s. Past global experiences of coalition building in social movements orients this dissertation to look for pathways of cooperation and joint mobilization around sexual rights and technologies. Holly Boux, a scholar on gender and sexuality politics, invites us to think about a new theory of feminist coalition that understands differences in power among feminists, and non-feminists, while still recognizing the possibility to build coalitions. For her, feminist coalitions are productive partnerships forged not only based on identity politics (self-naming a feminist), but also among those oppressed by systems of domination other than gender, including sexuality. Therefore, multiple stakeholders with their complex lived experiences can make important room for those differences without having to disaggregate every individual aspect of their self-interests. Recognizing inner disagreements while linking different movements' fates to overcome forms of oppression allows us to struggle together for larger social justice ideals, and more democratic forms of relationships and of power itself (Boux 2016, 6 & 17).

The movements around abortion-inducing pills, HIV ARVs and hormones for trans people all share a level of interest to collaborate, or expand their collaboration, in both countries. A sense of social justice around reproduction and sexuality traverses sexual orientations and gender identities for all of them. As we will see, in both countries activists theorize globally around a sense of social justice, even beyond reproductive or sexual justice, as a way to recognize systemic racism and class division trumping their right to enjoy their sexuality freely. There are tensions within movements, as Boux describes, but it is by recognizing those differences without the need to completely disaggregate them that coalition building is possible. An example stemmed from

HIV activists who split between heterosexual and LGBTQ+, or between men and women, but that find a common ground with broader feminist movements around sexual and reproductive rights.

More specifically, I look at Phillip Ayoub's work around political economy, intersectionality and transnational coalitions. As a political scientist, his work is centered on LGBTI movements in Europe, but he has a specific question around post-financial crisis moments for coalition building. For him, the LGBTI activism gains intersectional consciousness to expand during times of financial crisis at a group level. This consciousness means they become aware and responsive of movement organizers to differing inequalities and discrepancies of power and privilege in their surroundings, beyond sexual orientation and gender identity. The joined collaboration allows to make more visible their demands. Although Ayoub believes there is a predominance from international nongovernmental organizations facilitating this consciousness, I look at how Mexico and Egypt's local epistemic communities collaborate horizontally with other local NGOs in their regions to create those networks of solidarity. Particularly, the cisgender women's movement, the LGBTQ+ movement (with a specific emphasis on trans people), and the HIV movement share more and more this consciousness thanks to common claims around their sexuality against restrictive abortion, damaging HIV ARVs, or segregating access to hormones between cis and gender users (Ayoub 2019: 3).

However, in this research project I look more specifically into subject formation, rather than identity formation —as Ayoub has done around LGBTI identity politics, or as Boux suggests we still do within an intersectional feminist framework. Aimee Carrillo, a Chicana feminist scholar, looks at a different understanding of feminist coalition building. For her we need to connect through the subjectivities that are formed within the conjuncture of intimacy and institutional power (where the personal becomes political). The limitation to identity politics is that it tends to

conceptualize the self away from the other, while alliances look at the "we" in broader claims where we all belong. That way, if we move beyond the individualistic foundations of identity politics and towards the collective process of coalitional subjectivity, we can live and experience in a collective sense. Having joint experiences, with joint claims, becomes functions of belonging (Carrillo Rowe 2008, 9—10).

Through this research project, I look less as the individual identities formed around chemical compounds and pills, but rather as the embodied experience of people using them, and those surrounding them. It is the collective experience around an autonomous and celebrated experience of sexuality that brings together the three subjects at the center of my dissertation: women and other pregnant people inducing abortions, people living with HIV taking ARVs, and trans and non-binary people taking hormones.

4. The ontopolitics of sexuality

Sexuality studies have been pushed towards the study of identities versus the study of subject formation. However, what this project aims to do is to reimagine the meaning of sexuality as a political project intersected by objectual-material and semiotic-normative systems. To do so, first I need to establish conceptual distance between chemical molecules (like misoprostol, efavirenz, or estradiol) and intimate products (pills and injections). It is in the road between the creation of that chemical compound and how it is materialized that we see the formation of semiotic-normative systems around sexuality. They ingestion, injection or application of pharmaceutical products that contain certain chemical compounds changes the composition of the body, but also the way social circles around the individual conceive themselves in relation to the "chemical other". Scholars have named the formation of these new communities "chemosocialities". These

are relationships and emergent social forms that arise from chemical exposures and dependencies to those chemicals (such as using abortion-inducing chemicals, sexual hormones, and HIV antiretrovirals) (Shapiro and Kirksey 2017, 484–85).

The exposure to these chemicals through intimate products mediate in social relations and the infrastructure surrounding them, like pharmaceutical companies, hospitals, pharmacies, the street, government offices, and households, among others. Looking at these forms of socializing through the chemical puts added focus on which new communities are forming, like sorority movements of abortion-pill users, or trans people sharing hormones, or people living with HIV sharing ARVs. At the same time, it allows to understand the reasons behind reform and counter hegemonic social movements, like those attempting to restrict sales of misoprostol, those who condemn women and other pregnant people for using abortifacient pills; or those who ostracize people living with HIV once they find out they are taking ARVs, while accepting users of PrEP, which is a preventive measure to acquiring HIV. In other words, it helps me to trace novel, altered, attenuated, or augmented relationships that emerge from shared or shifting chemical ecologies through which individuals and collectives of people circulate (Shapiro and Kirksey 2017, 484).

The work by Torres Cruz and Suárez Díaz on biomedicalization in Latin America is useful to understand how biomedicine (and with it, chemical compounds) participates in the constitution of certain subjects and certain ways of expressing and living their sexuality. In particular, he argues that in Latin America, biomedicalization of certain sexual practices as "risk" has led to the circulation of other HIV-related chemical compounds like pre-exposition and post-exposition prophylaxis (known as PrEP and PEP, which prevent the development of HIV in the system). Torres Cruz and Suárez Díaz reminds us that biomedicine can have a specific impact on sexuality as it can produce binary visions of sex, and has incidence in the production of comprehension of

gender and sexuality in a broader sense (Torres Cruz and Suárez Díaz 2020, 1–2). It does through the "biologization" of the human body —reducing the body merely to biological functions—, as well as through the individualized and genitalized vision of sexual practices that could be intervened by pharmaceuticals —reducing sexuality to sex.

For example, Latin America's approach to the "risky behavior" model around certain sexual practices, such as anal intercourse, was an adaptation of epidemiological criteria coming from the US Centers for Disease Control. However, the access to public health in Latin America fails to cover everyone, and adopting the criteria of biomedical risk causes the lack of attention to other vulnerable groups, like women in heterosexual marriages exposed to HIV transmission, unwanted pregnancies and sexual violence. Similarly, it represents women's sexuality under an identity of "carriers" of viruses and "transmitters" of others, whereas it does the same with certain groups of men while excluding those that are less "risky" (Torres Cruz and Suárez Díaz 2020, 9–10).

Torres Cruz and Suárez Díaz's work heavily focuses on the processes of biomedicalization in Latin America given the influence of transnational pharmaceutical companies and global public health criteria and norms at play. Although I want to focus on the local logics of pharmaceutical companies embedded in global norms at play rather than the top-down historicization of Global North pharmaceutical companies, I will consider an important argument they bring up in the conversation around biomedicalization. For them, the process of norms formation around sexuality is stratified in nature: on the one hand, imported epidemiological accounts unevenly classify particular subjects as at high-risk due to their sexual practices; on the other, local transactional practices of medicines create uneven patterns of distribution and consumption based on "moral economies" —a balanced system of emotional forces and values, with equilibrium points and

constraints (Torres-Cruz and Suárez-Díaz 2020, 599–600). The chemical socialities that form around biomedicalization of sexuality when consuming hormones, ARVs or abortion pills are shaped by affect. As I will show, thanks to networks of activists, friends and allies that look at the ingestion, injection or application of these products not as morally condemnable, but as a way to reaffirm how they want to experience and embody their sexuality.

As a way to fight back that biomedicalization as a state and economic apparatus projects, I want to look at the broader and horizontal debates of how are relationships and social forms arising from chemical exposures (what I will continue referring as "chemical socialities") constituted around sexual behaviors, practices, desires, emotions, feelings and thoughts. However, I will do so at the same time I ask activists and people taking ARVs, abortion-inducing pills and hormones how they live their sexuality through these chemical compounds. I do so in a way that expands the imagination and futurity of sexuality rather than replicating what markets, laws and pharmaceutical companies (local or global) say about it.

To do so, Siobhan Guerrero and Leah Muñoz invite us to think through new ontopolitics of the trans body. They inspire their argument on Annemarie Mol's critique on how the body is studied, mainly that it is divided by disciplines that separate the biological from the social body. The body is ontopolitical in the sense that one cannot separate the ontology of the body from the sociopolitical contexts in which it is situated (Mol 2002). The specific example Guerrero and Muñoz bring up is how biomedicine studies diseases while sociology studies the experience of the disease, but each of these sacrifices not only what the other studies around the body, but also how the body is read in terms of what practices we have with it. The body is biochemical, biomechanical, ontogenetic, anatomic, but also a tool of labor, the site of pleasure, and the lieu of pain. Specifically, Guerrero and Muñoz focus on the trans body as ontopolitical, meaning its

sexuality is not pancultural or ahistorical, neither are the aspects related to its desires, corporality, identity, or orientation. Instead, the trans body is historical, non-scissile, not overdetermined by technologies nor infinitely ductile (Guerrero and Muñoz 2017, 71–74, 80).

Guerrero and Muñoz's work is fundamental for the way I understand the interaction of chemicals with sexualities as those iterations get inscribed and incorporated in the body in its utmost molecular form, all the way to the global economic and political contexts that surround it. The same way Guerrero and Muñoz argue the trans body has those four characteristics — biochemical, biomechanical, ontogenetic and anatomic—, sexualities and their interaction with synthetic chemical compounds do so as well. For them, the trans body has inscribed in it the history of pathologization and abjection; of fetishization, exoticization and objectification as a consumable body that can be disposed. Thus, technological medicines, be it through prosthetics or hormones, pass from being inscribed to being incorporated into the body. But because those technologies are historical as well, their historicity is attached to the historicity of the trans body (Guerrero and Muñoz 2017, 78)

When they argue the trans body is non-scissile, they echo Mol's ontopolitical body, and remind us that we need to understand the social processes that inscribe them with particular meanings or that come with the incorporation of the technologies I just mentioned that transform it. However, when they refer to the non-overdetermination by those technologies, they are responding to Paul Preciado's work. Preciado explains how trans bodies are tied to specific technological contexts of the surge of endocrinology (the synthesis of hormones) and a troubled sexology that couldn't make sense of the psychological sex once they studied its different organic modalities. Instead, Guerrero and Muñoz believe trans bodies bursted through new forms of understanding what being sexed meant within a social body (Guerrero and Muñoz 2017, 75–76).

Finally, when they argue the trans body isn't infinitely ductile, it is because they recognize how trans subjects are presently read today as such due to their interactions with doctors. In other words, while medicine used psychology, physiology and anatomy to explain trans subjects, these subjects used medical expertise to achieve some form of self-fulfillment. Thus, multiple material and discursive agencies of humans, molecules, organs, and social structures, interact to open or close paths to certain subjectivities and corporealities (Guerrero and Muñoz 2017, 79).

Based on the project of an ontopolitical trans body, my project historicizes both the technologies and the bodies in which they're inscribed. To do so allows us to nuance the multiple meanings of sexuality that come to be in the interaction with chemical compounds in ARVs, abortifacient pills and hormone care therapy. However, I will also think through sexualities in its material-objectual form (expressed through their chemical dimension), but also their normative-semiotic composition (mainly the competing normative values arising in debates over the use of the chemical compounds I've talked about before once they enter the realm of sexuality). I won't analyze sexuality as overdetermined by these synthetic technologies, which could turn into reproducing a biomedicalizing trope. Instead, I will shed light on the debates over the use of these chemicals by multiple active agents that co-constitute markets, laws, and normative systems around sexuality. Finally, I will complicate the debate around how ductile the body actually is. Guerrero and Muñoz argue that the interactions between humans, molecules, organs, and social structures open and close certain paths to certain subjectivities and corporealities. However, my research goes more in depth on how much certain paths are opened to certain subjectivities and how much certain paths to other subjectivities are closed. As I stated in the earlier pages of this project, the political economy of sexuality breaks borders through capital once the open up markets that, in consequence, break limits of what sexuality has been understood in terms of bodies

"armored" from the exterior capitalist enterprises. However, active process and denouncing of pharmaceutical exploitation of consumers and right bearing individuals can put a limit to that apparent endless flow of chemicals into sexual beings.

5. Chemical materiality and chemical sexualities

The theory of chemical materiality I look at tries to bridge methodologically and conceptually chemical molecules with intimate products. By creating distance between the chemical compounds, the intimate products, and their economic, legal, and ontological socializations, I am able to understand two processes that are taking place: 1) chemical compounds become animated and toxic once they become intimate products (pills, injections, gels and body creams); 2) these chemical materials form chemical sexualities, or interactions between chemical compounds and humans sexual practices, behaviors, attractions, desires, emotions, feelings and thoughts.

From Mel Chen —an Asian-American linguist and scholar on sexuality, science and technology— there are two interrelated concepts that allow me to track how once the chemical compound transform into pills/injections/gels/body creams they participate in racial, class and gender forms of creating matter. Separating chemical molecules and intimate products allows me to look at how they become animated: objects that, due to their toxicity, they can poison animate beings, and as such achieve its own animacy as agents that can do us harm (M. Y. Chen 2011, 272). Animacy of certain chemical molecules becomes a property, because they can be highly mobile and threatening substances that feed anxieties about what Mel Chen defines as "transgressors of permeable borders", whether of skin or country (Mel Y. Chen 2012, 15). The physical travels (animations) of certain chemical molecules versus their representations as pills, injections, packages, or bottles (the industrial by-product) allows us to observe their critical role in the

representations of gender roles, national and transnational security concerns (trafficking medicines), and racial and bodily integrities. An example of the animation of chemical compounds could be steroids circulating in gyms in Mexico among trans men, which feed anxieties of conservative individuals that reject trans people bodily modifications, and also represent a threat of intoxication to trans men who use them.

Mel Chen argues that the lead painted onto children's toys was animated and racialized as Chinese, whereas its potential victims were depicted as largely white. We could apply a similar framework in Mexico and Egypt. Different government and non-government agents in both countries (conservatives within healthcare providers, faith-based groups and public servants) animated and racialized misoprostol and mifepristone as American or European —in other words, as imperial— whereas the potential victims were the brown and poor women being intoxicated with its off-label use for abortion. Both chemical compounds are "toxic" to the body, because they are prostaglandin analogs that produce heavy bleeding in women's and other pregnant people's bodies. The chemical compounds become animated and toxic when they circulate as pills attempting against a pregnant body's fragile state. However, they are a threat not because of these chemical compounds exist as pills (misoprostol is also used against gastric ulcers, and mifepristone is also used to induce abortion in wanted pregnancies), but because of the representation abortion-inducing pills have in gender roles and security concerns. They threat social codes around reproduction and sexuality, but also around life and death.

Chen's work is relevant for me to understand the micro and the macro dimensions of these products because I can pause and, as Mel Chen suggests, let objects be animate: let them breathe, gender themselves, and enact "animus" in their potentiality and/or negativity (meaning, letting them become a toxic threat) (Mel Y. Chen 2012, 12). Chen's theorization around animacy and

toxicity allows me to look at the molecular level that is, in practice, part of the systemic dimension of the products, and how they rewrite conditions of intimacy (Mel Y. Chen 2012, 3) —meaning the experiential dimension of individuals at the micro level. This way, I am inverting what we would expect to be the realm of agency of chemical compounds (associated with microbiology). By looking at their toxicity in the body and how they alter the way people live their sexuality, I am revisiting their role in the biopolitical sphere, inverting the microbiopolitical into the macro. Similarly, the body, and the individual, become the center of the micro, as the experience of the individual with sexually intimate products such as hormones, antiretrovirals and abortion-inducing drugs challenges the idea of a "coherent body".

Chemical compounds, when ingested, injected or topically applied as medicine, become animated and toxic objects that acquire a sensorial memory (through trauma, stigma, and empowerment) and affects that categorize us. While emtricitabine and tenofovir intoxicate people living with HIV (with damages to the liver, kidneys, and nervous system), it is taking an ARV pill (Truvada, Biktarvy, AZT, and others) that categorize certain sexual subjects as dangerous, criminals, "infectious", or resilient, deserving of love, and sexually active; while misoprostol and mifepristone cause bleeding and irritation to oral and vaginal cavities, Cytotec and the brand's name association with abortion categorizes users as sexually irresponsible, criminals, and morally questionable, or as autonomous, free and sexually empowered; while hormones cause liver and kidney damage, the use of estrogen pills or testosterone injections categorizes users as irresponsible, and stereotyping femininity and masculinity, or as autonomous and living their sexuality and gender identity at its fullest. Taking a pill, getting a shot or putting on a gel isn't only dealing with racialized, gendered, queered, and classed imageries we have around them (the "worldling" around HIV, abortion and trans hormone care). Taking these medicines also means

looking at the borders of the immune system, the reproductive system and the endocrine system as synthetic and symbiotic with toxic chemicals that we ingest while trying to keep us and other alive.

6. Chemical ethnography

Methodologically speaking, the conceptual distance between chemical molecules and intimate products allows me to look at the formation of chemosocialities. As I stated earlier, chemosocialities are the longstanding relationships and emergent social forms that arise from chemical exposures; it involves novel, altered, attenuated, or augmented relationships that emerge from shared or shifting chemical ecologies (Shapiro and Kirksey 2017, 484). To do so, I need to distance the chemical molecules from the intimate product, as the latter is the one that emerges as part of a broader chemical infrastructure. We don't buy the chemical molecules, nor do we consume them. Instead, we practice an intimate performance with the products through which these chemical compounds are translated: we ingest them, we inject them, we spread them on our skin, or we insert them.

To look at this process of translation and formation of chemosocialities renders visible what Jason Pine calls the "transmutting" of products into an "elixir" that radically transforms the way people live, work, and die. As an anthropologist of alternative economies, Pine uses the "method of decomposition" to understand the transformative character of a product that seems so intimate, but that creates shared experiences that transform subject formations (the chemosocial phenomenon) (Pine 2019, xii). He specifically looks at meth and how it decomposes not only users, both the social circles around them.

Pine invites us to think through alchemy: through material objects and the multiple, and ultimately unstable, compositions they can yield (in his case, methamphetamines). He follows how things, people, and lives have come to decompose and bust apart, leading the way toward how they are composed in the first place, and how they are recombining again and again in unforeseen ways. Thus, he distances the household products from the drug they can become (meth) to understand how drugs are woven into forms of governance, not only of policing, but of knowledge production, service work and geographic development (Pine 2019, xiii–xiv). Similarly, by distancing the chemical compounds I study, —which by themselves are commonly synthesized in laboratories— from the pills/injections/gels and body creams I can look at their material life, both within the transit of the chemical compounds to the pills, but also the chemosocialities that form around their use.

Pine's analytical approach is most relevant to my pursuit of the experiential (micro) and systemic (macro) dimensions of these products. It allows me to look at the simultaneous transformations that are happening in the experiential level (the chemical ontopolitics of sexuality) and in the economies and political debates (the chemical economies and politics of sexuality). His method doesn't do an ethnography focused only on meth manufacturers and users. He rather extends his analysis to non-using residents, owners and renters of properties that once housed meth-labs, farmers, teachers, chemists, pharmacists, law enforcement professionals, fundraisers for veterans, shooting clubs' meetings, local libraries and religious spaces around the area (Pine 2019, xvii). This is the chemosociality I would be looking at when meeting with people surrounding the chemical life cycle of the chemical compounds I study. Extending the analysis to multiple stakeholders involved I can truly understand the different intimate relations from these

multiple actors with the chemical compounds (if they manufacture them, sell them, study them, or use them), the pills (if the commercialize them, consume them or distribute them), or both.

Pine explained that his method also included "spending time among objects and materials". Thus, we are both trying to decode and see how certain chemical compounds are important on how they can act with human tissues. At the same time, we both inquire how their value and coding is part of larger cultural and political processes on economic cycles and political debates around access, permissible uses, and penalties when infringing these norms surrounding the materials. However, I go beyond the local experience Pine looks at to trace the global systemic dimensions of these products, as well as to compare the experiential dimensions across geographies. I spend time at pharmacies, reading medical leaflets, but most important, sensing the pills and if possible the chemical compounds themselves in Mexico and Egypt, while tracing their global iterations and circulations in global, regional, and local economies. Pine spends time with the materials with a voice that follows Stengers "ecology of practices". With it, his voice isn't floating above the stories of the people and objects he encounters, but instead are thoughts within the matter that composes them; in other words, he works through the materials he studies to express how writing is also part of the matter of life.

I conducted fieldwork between the Summer of 2018 and the Winter of 2021. I spent three Summers in Cairo, where I interviewed different activists, government officials and healthcare providers. I did an internship at UNFPA Egypt that allowed me to understand better the positioning on sexual and reproductive health rights from the government and international agencies, while I dialogued outside my work hours with grass-root movements and people that graciously made me part of their intimate experiences with living their sexuality in Egypt. Once in Mexico, between 2020 and 2021, I practiced more intentionally something scholars have been naming "activist

ethnography", "militant ethnography", or "observant participation" (Fierro 2019; Valenzuela-Fuentes 2019). The people I interviewed were part of social movements I also participated in. The intention behind inverting participant observation is to develop knowledge which can be useful for the movements themselves.

During my fieldwork in Mexico, I became member of four NGOs: one on HIV activism, one on LGBT+ youth activism, one on reproductive justice activism, and one on trans activism. In all of them I conducted projects that stayed in the repositories of the organizations, as well as interviews that are for public distribution in Spanish. It was a fundamental intention of my research to be something that can be socialized among the populations I am writing about, but also to build this research in dialogue with them. Later on I continued to bridge conversations with Egyptian activists and ideas stemming from Mexico, with the future endeavor to strengthen those bridges inside and outside academia. I also published interviews I conducted with Egyptian activists in Mexico, and in Spanish, as a way to spread awareness and knowledge of a country's movement that is not always seen, understood or even thought about in my home country.

I continue to participate in public policy debates, protests, advocacy campaigns and research projects with activists, government offices and international institutions that have looked at the potential of bridging economic, legal and individual experiences around sexuality that were not put into conversation before. Although I have theoretical endeavors behind the concept of "chemical sexualities", the utmost goal for my research is to be socially useful for those that continue to experience and practice their sexuality in the margins, not by choice, but by force stemming from economic and political interests. When it was not possible for me to be in touch with activists that could speak on behalf of broader movements, organizations or institutions, I preferred using testimonies and collections of stories they pointed me to, as a way to protect their

current situation. Although the Mexican activist landscape is in less security constraints than the one in Egypt, I alway went through the interview transcripts with those who kindly shared their thoughts and reflections with me. Anything they wanted to remove, they were allowed to. Some interviews didn't make the public eye, as some participants preferred to be kept anonymous or out of the project after a second thought. Fortunately, all of them help me follow the traces of the chemical compounds to other voices who are visible and in a position of safety to publicly speak about these chemical sexualities. To all of them I am grateful and in debt.

Most importantly, my work aims to break a cycle taking place both in Latin America and the Middle East that transited from economic extractivism to epistemic and ontological ones. Grosfoguel puts into conversation Alberto Acosta, Leanne Betasamosake Simpson and Silvia Rivera Cusicanqui's work on how knowledge stemming from the Global South is decontextualized and depoliticized by scholars that continue reproducing racist and hierarchical knowledge that remains in the Global North (Grosfoguel 2016). Only things that seem useful from these geographies get extracted and assimilated without regard for the people and the knowledge that created it.

While doing so I contest romanticizing tropes of grass-root work as a purified revolutionary act. I learn from the pragmatism that filters through their daily basis need to survive and thrive. Although I've been mostly located in the capitals of both countries, I've also fostered conversations among activists in both countries, be it in academic settings or among themselves. To do so is also a revolutionary practice of fostering bridges and creating collaborative mechanisms that haven't been there before between both countries, or that have been focused on other topics that haven't included the role of synthetic chemical compounds in debates around sexuality.

My initial data sources are the pills themselves, as well as their packaging and medical leaflets. These have histories of production lines, market openings, branding, legal obstacles and oral histories. All of these are part of emerging social forms that arise around them and that have changed through time since their invention, through the rise of generic production after the TRIPS agreement, and under current stages of expansion. The chemical compounds allowed me to find the brands of all the available pills in the Egyptian Drugs Authority (EDA) and the Mexican Federal Commission for the Protection against Sanitary Risks (COFEPRIS in Spanish) digital archives. After creating my own databases with all the information about their chemical composition, secondary effects, I also look at the information of the companies under which they're registered, the years in which they were approved, and the histories of market competition they faced.

The best example of thinking the material through alchemy is misoprostol. The chemical compound itself was developed by Searle in the US for the treatment of peptic ulcer. However, when the drug went through the US Food and Drug Administration's approval process, the reviewers considered the gastrointestinal effects were overshadowed by the abortifacient effect of the drug. More importantly, once in the market, legislators and pharmaceutical companies realized how in Brazil, where abortion was illegal, had a widespread abuse over a number of years of pills containing misoprostol to induce abortion. Templeton attributes its worldwide spread in form of a tablet (a type of pill) to how misoprostol is a viscous oil which is susceptible to chemical degradation, but once it's stabilized into a solid form, it has a shelf life of several years and can be easily stored and transported by an extremely low cost (Templeton 1998).

The material life of this pill/injection/gel/body cream transforms from its viscous form of the chemical compound that is not accessible, unrecognizable and delicate to maintain, into an

accessible, privately consumed and easily recognized intimate product. By distancing the chemical compound from the pill I am able to trace the new use of a chemical compound that was originally destined for gastric ulcer, and with it to understand the chemosocialities that developed around the pills as an abortifacient. More specifically, I looked at how they transform not only physically into this solid form, but also in terms of discourse and imaginaries in a wider chemical infrastructure. I do the same with antiretroviral chemical compounds that transform into cocktails of pills, and with hormones that transform into a variety of intimate products that make them easier or harder to access (pills versus injections, for example).

7. Structure of the dissertation

In chapter 1, I will discuss the debates that come from the chemical economies of HIV ARVs, abortion-inducing pills, and hormones. There are two main arguments we can take away from the way markets around sexuality are being configured: these chemical compounds are not designed looking at the autonomous and pleasurable exercise of sexuality, but on profit-making and cost efficiency; however, despite the markets weren't created for sexually non-conforming users, grass-root movements and other individuals formed alternative markets (black markets and cooperative markets) against fragile borders imposed by economic players. Chapter 2 will revolve around the bioconstitutional debates of who governs sexuality through these compounds and how. I look at intertwining debates of activists and users radicalizing the human rights discourse of sexual rights, while governing institutions attempt to claim control, debilitates sexualized individuals, and reproduce moral panic over non-conforming chemical sexualities. In chapter 3, I look at the surge of chemical ontopolitics of sexual non-conforming subjects, and how chemical sexualities participate in that formation.

The chemical economies that result from these interactions allow for debates about 1) how these chemical compounds were, and can be, marketed for contesting embodiments of sexuality; and 2) how there are horizontal and grass-root based markets that can contest the black markets exploiting these compounds for profit. The chemical governance and bioconstitutionalism that come out of the interactions between chemical compounds and laws allow us to question: 1) the possibilities to radicalize the human rights framework of sexual rights; and 2) the extent to which securitized states will continue claiming control, debilitating sexualized individuals, and reifying new moral panics over non-conforming chemical sexualities. Finally, the chemical ontologies that surge out of these interactions allow to have new debates beyond individual sexual identity formations and into the formation of sexual subject formations altered by chemical compounds.

II. CHEMICAL ECONOMIES

On January 2022, trans men in Mexico started publishing on social media about the dangers some trans men were subjected to as private distributors were selling fake testosterone (Aquino 2022). A couple of months later, civil society organizations started posting on how hard it became to find certain brands of testosterone in pharmacies, to the point of not being able to find a single one. This was a country-wide shortage that led to Máximo Carrasco, a trans man and Technical Secretary in the Diversity Committee of Mexico's Congress, to contact a group of activists, including me, asking for help. Máximo was desperate, seeking help on which steps to follow. Trans men throughout the country did not know why there was a shortage, how to target their political leverage, which legislative changes to lobby for towards trans people's access to hormones, and more immediately how to get more testosterone (Fuentes Carreño 2022j). I explained to him that this is part of a global supply chain shortage of many medicines, such as hormones, anti-retroviral treatments for HIV, and abortion-inducing medicine, all around the world. Mexico, among other manufacturing countries that depend on active chemical compounds from a larger global supply chains necessary to finish these medicines saw shortages that signaled a broader problem: why, despite being a manufacturing giant of pharmaceutical products, Mexico faced medicine shortages?

I went through national intellectual property records and sanitary records in Mexico's Federal Commission for Protection against Sanitary Risks (COFEPRIS, or the Mexican equivalent of the US Federal Drug Authority) to understand the supply chain of these hormones. I found that there was a concentration of only four available testosterone brands in the country, owned by two transnational companies who licensed, manufactured, and circulated them. Bayer Mexico, one of

these two companies in 2022 records, responded to Máximo's demand for more testosterone with awe. Bayer's sales representative was not aware there was a specific demand among trans people for testosterone, and explained that the government did not request a new batch earlier this year, even though it is provided in several states with gender-affirming care in public hospitals.

Shortages started since last year in the public healthcare system in states that now include trans hormone therapies as part of people's overall healthcare provisions, yet Bayer didn't see it as a concern. Bayer's representative added that he could put the order in, but the company could not be legally responsible for the effects of using testosterone outside the indicated instructions in the medical leaflet. What the salesman didn't know is that without his periodic testosterone intake, Máximo was undergoing similar effects to drug withdrawal. His body was physically aching for not taking his testosterone shots, like having rheumatism. Additionally, he felt depressed and not himself. According to him, it was until he started getting the testosterone shots back that he felt renewed, and was thankful to his doctor to continue providing gender affirming care to him.

The possibility to fully live the material corporeality of what being trans means to some men using hormones is under threat when capital infrastructures around the world, like those of the hormone market, link them to a chain so susceptible to breaking down that without a larger profit they're not visible to the pharmas' eyes. Hormone therapies are not designed to include a vision of sexuality —either as a right or as a market— outside the scope of what health, and sexual health, means to others than heterosexual and cisgender people. Trans people experience a form of capitalist-induced obstruction to full enjoyment of their sexuality through every moment hormones are delayed, under the fear they could simply not arrive.

Hormone shortages are part of a global breakdown of supply chains of many other medical products worsened during the COVID-19 pandemic. However, the lack of government

involvement to look at the demand for certain chemical compounds related to sexuality is not endemic to Mexico, to trans people, or to the COVID-19 worsened shortages. During the 1990s global discourses of sexual and reproductive health achieved a breakthrough with the Cairo Conference on Population and Development (1994), where sexual and reproductive health rights were defined for the first time (UNFPA 1994). However, in between lines it linked sexuality to health, and disconnected it from sexual freedom, autonomy, privacy, equity, pleasure, emotional expression, information, and education. It ripped it away from a broader understanding of sexuality that secured freedom over ones sexual behaviors, attractions, desires, emotions, feelings and thoughts.

In an interview with Siobhan Guerrero, trans Mexican philosopher of science, she emphasized that the discovery and research of these chemical compounds does not mean they constituted a market right away. Nevertheless, Mexico managed to become the global center of pharmaceutical production of hormones for around two decades, making it a strong pharmaceutical competitor worldwide. An oligopoly of three European pharmaceutical companies that created the industry in the 1930s was displaced by the Mexican manufacturing capacity of a medicinal plant that made it easier to massively produce a very diverse set of hormones (including those for contraceptive pills and other hormone therapies for menopause and andropause). By the end of the 1950s, Mexico manufactured between 80-90% of the global production of steroid hormones (Gereffi 1977, 501).

By the 1970s, Mexico and Egypt, among other developing nations, were considered countries manufacturing most of the intermediate chemicals required for the global pharmaceutical industry (beyond hormones), while undertaking local research and manufacturing some of the products themselves. At that time, while the Mexican pharmaceutical market was 85% held by

foreign firms, in Egypt they only represented 14% (Gereffi 2017, 213). Although in Egypt the control of the manufacturing sites was in the hands of the national government, due to its nationalization program of all local pharmaceutical plants in 1963, three out of the four transnational companies established in the country had the highest profit rates by 1967 (115% for Hoechst, 53% for Pfizer, and 52% for a Swiss consortium) (Gereffi 2017, 191). The shift towards the control of multinational companies entering in partnerships increased during the 1970s, to the point where 95% of the Egyptian pharmaceutical market was supplied through manufacturing local firms and plants operated by multinationals (Iskander 2013, 10).

In both cases, the 1990s came to change how their industries worked, as both of them were required to strengthen patenting capabilities in terms of pharmaceutical products. It is important, as in both markets the generics currently dominate the pharmaceutical industry, but for these sexuality-related products neither Mexico or Egypt have had that level of penetration of generics —thus keeping the products patented, the prices high, and the circulation low.

As I explained earlier, Mexico entered the NAFTA agreement in 1994, and was forced to improve its protections over patents —particularly pharmaceuticals. However, facing the federal government decision, the Secretary of Health decided to open up a market of generics with new legislation that created a figure of “generic interchangeable" medicine. The new law also created a figure of “similar” medicine, which had more flexibilities to enter into the market with a lower price and without scientific studies to proof its chemical reaction in people’s bodies (Domínguez Pérez and Pérez Rul 2009, 81). Although the law was approved until 1998, a new franchise of drugstores called *Farmacias Similares* (that could be translated as Pharmacies of Similar Products) formed in September 1997. They expanded the market of untested generics under a campaign advertising “similar” products at lower prices (Becerril-Ruiz et al. 2018, 89). A broader range of

generic products entered the market and dominated to the current levels of penetration —90% by 2022. The current negotiation of the USMCA Treaty also strengthen the Mexican pharmaceutical market. It increased barriers in the entry of foreign generic medicines, as a way to strengthen the Mexican local production by Mexican companies, but also removed the attempt by American pharmaceutical companies to extend patent protections to biological medicines. Now, they can only get 5 additional years if there was an unreasonable delay that made the process last more than 5 years (Gutiérrez 2020; Wiseman, Johnson, and Freking 2019).

In Egypt, the request to extend the period of compliance with the TRIPS agreement allowed them to reform their intellectual property legislation in 2002, but also to register as many generics as possible before the 2005 deadline expired. By the time new patenting legislation was enforced, the Egyptian pharmaceutical market was in little need of new patented medicine. However, Egypt became a country of assemblage of imported chemical compounds, with 85% of raw material being imported by 2006, and a growth in the market share of multinational corporations operating in Egypt to 48% around the same time (Iskander 2013, 12–22). By 2022, multinationals didn't loose much terrain, despite the 2011 uprising and consequent economic changes. They still hold 44% of the Egyptian pharmaceutical market (Holguín García 2022).

In the late 1980s, a group of 12 transnational companies from the pharmaceutical, software and entertainment industries in the US, Europe and Japan, crafted in the draft for the TRIPs agreement enforced in 1995 (Chan 2015, 76). With it, medicine became entrenched into a neoliberal understanding of commodity, narrowing down access to health to access to medicines, medical technology, and information technology. The World Health Organization turned away from the sociomedical roots of global health from the 1970s and 1980s and towards a focus on how to make it "patentable", in collaboration with the World Trade Organization (WTO) (Pedraza

Farina 2021, 244). Pharmaceutical companies rooted in the Global North entered aggressively the local markets in the Global South by striking licensing agreements with local generic producers —a move to continue their control.

This trade wall between access to medicine, access to health, and enjoyment sexuality, was worsened as the global health discourses became dominated with an analytical framework of economics. Global pharmaceuticals, the WTO, and the WHO sponsored the idea that intellectual property rights will benefit the development and innovation of pharmaceutical products, improving the access to healthcare worldwide. However, this discourse was taking place at the same time that global access to abortion and HIV chemical compounds were under dispute (Pinho 2001, 42; Chan 2015, 80). I talk about the compounds and not the medicine, because of this shift towards technical debates over who can develop drugs. Through these shifts it was not visible clear how to guarantee individual sexual rights, not even among global HIV activists or abortion activists. The chemical debates looked at access to patented medicine that represented life-or-death decisions when delayed in the medical markets. Patents preventing generic medicines, while inflating the costs, was seen as a matter of survival at this point, rather than of enjoyment.

This brief recount of the early 1990s serves to set the period of time I am currently interested in, and the geographies that haven't been looked at. Scholars on intellectual property rights and different stakeholders contesting pharmaceutical domination look at exemplary cases of competing discourses and policies from the Global South: South Africa, Brazil, Thailand, and India, among others (Correa 2014; Chan 2015; Löfgren and Williams 2013; Pedraza Farina 2021; Matthews 2011; Fourie and Meyer 2010). However, the contradictory flows of circulation, control, contestation and obstruction of chemical compounds in countries that complied with the TRIPS, but that also became regional competitors, remains to be explored more in depth.

The work of scholars trying to look at the more recent political economy of pharmaceuticals in the Global South argue for more diversity in patterns of pharmaceutical production and supply one to two decades after the TRIPS agreement was enforced. Although they invite us to think the role of global donors, distinct compositions of local health sectors, and joint ventures between transnational companies and local firms, we can explore more on a multilevel impact of those economic debates around chemical compounds. In this chapter I try to rescue the individual and community based economies that circulate in parallel and connected to the global, regional, and national pharmaceutical markets in Mexico and Egypt from 2005 and onwards.

As explained in the introduction, I will not take a vertical or top-down approach to economic debates around sexuality (Waitzkin 2015), nor will look at activists and individual people as passive recipients of these global imperial discourses and policies around access to chemical compounds. The year of 2005 was the limit for developing countries who requested an extension to comply with the TRIPS agreement and harmonize national IP laws. Mexico, complied almost immediately due to imposed requisites in NAFTA in terms of stronger IP laws (Castro Guerrero 2022, 7). Other countries, however, requested that extension, and among them we see some regional pharmaceutical leaders nowadays: India, Brazil and Egypt, for example (WTO 2006).

I chose Egypt and Mexico because both of them are regional leaders in pharmaceutical productions, despite their different approaches to the growing generics markets in both of them. Mexico is the second largest market of Latin America's pharmaceutical industry (behind Brazil), with 14 out of the 15 most important transnational pharmaceutical companies present in the country (Orozco Rivera 2020, 6). Even more, since 2018 Mexico was the largest exporter of

pharmaceutical products in Latin America (COFEPRIS 2018)—sustained at least until 2020 according to available data (Statista Research Department 2021). Since the decade of 2010, generics are taking over the pharmaceutical market, to the point that 9 out of 10 medicines in the country were generic by 2020 (Coronel 2012; Celis 2020). Similarly, Egypt is now the second largest pharmaceutical market in the Middle East and Africa (behind Saudi Arabia), and is the largest manufacturing producer of pharmaceuticals in the Middle East and North Africa. The same way than Mexico, in 2022 reports we find that 9 in 10 drugs in the country are generic and locally produced (Holguín García 2022). In none of these cases do sexuality-related appear at the top chemicals, pills or medicines produced in either country. For both, there is a deep presence of transnational companies which collaborate with local partners to license, manufacture and circulate abortion-inducing medicine, HIV antiretrovirals, and hormones.

As I explained before, I ask what are the consequences of chemical compounds interacting with people's sexuality, particularly the aforementioned chemicals. I argue that global flows of control, contestation, circulation and obstruction translate those interactions into debates —the current one on "chemical economies". Those debates revolve around new added values attractive to public and private markets that compete with community-led and individual experiences of chemical sexualities. There are two specific chemical economic debates I will attend to: 1) what is their intended purpose, and 2) how accessible they are. The first one is that these chemical compounds (to induce abortion, to treat HIV, and to affirm gender) created markets that look for profit, not sexual health, pleasure or autonomy. Sexuality was not what they were intended for, which is being contested by local and transnational activisms that want to move away from the origins of those markets to make them accessible, as well as oriented towards sexual and gender non-conforming markets. The second debate is that the current established markets do not respond

to the current demand in quantity, quality and purpose for fully enjoying sexuality —they aren't accessible. Thus, new markets constantly arise —black markets, alternative private markets, and cooperative markets— to contest how circulation works by breaking, expanding or making their limits more fungible.

1. Pharmaceutical markets for profit, not for pleasure

Despite the importance of the pharmaceutical industries in both countries, hormones, antiretrovirals for HIV and abortion-inducing chemicals are still not as readily accessible as other medicine not related to sexuality. Since the early 2000s, both countries established manufacturing sites —either through transnational partnerships or fully local companies— that could produce local versions of all of these medicines. After building 6 databases with data from the Egyptian Drug Authority, and the COFEPRIS in Mexico over the course of 4 years (2018-2022), I found the following list of medicines, either in solid or liquid forms: 4 versions in Egypt and 11 in Mexico of abortion-inducing tablets (mifepristone or misoprostol); 34 HIV anti-retroviral tablets in Egypt and 106 in Mexico; 138 hormones (mostly tablets) in Egypt and 85 in Mexico (mostly tablets and liquid solutions) that could be used for gender affirming therapy for trans people. Out of all these labelled medicines in the 6 databases, only the HIV antiretrovirals in Mexico are explicitly indicated for HIV treatment —meaning, an intended use within the realm of sexual health.

Egypt does not include the therapeutic use for any of its medicines in the data bases from the EDA, and in Mexico most of them are labelled for different uses in COFEPRIS's website. The abortion inducing medicines do not indicate they are for abortion, but rather to treat gastric ulcers (in the case of misoprostol) or uterine fibroid (in the case of mifepristone), even though abortion was legalized in Mexico City since 2006. The different forms of estrogens, progesterones and

testosterones are labelled as contraceptives and diuretics in both countries. When they are labelled for hormone replacement therapy, they refer to cisgender hormonal unbalances or deficiencies. In the case of HIV antiretrovirals, out of the 106 listed brands and generics in Mexico, only 68 indicate they are, indeed, to treat HIV. The rest are indicated just as antiretrovirals, without specifying which type (an example would be if they were for treating COVID-19) (EDA 2022; COFEPRIS 2022).

The reason people constantly say they can't find the medicine in both countries is because companies do not care for creating a market for them —mainly abortion and trans hormone therapy, and to certain extent HIV ARVs. I have cited the work of Sunder Rajan, and how health gets appropriated by capital, in order to instantiate forms of political economic value that are dictated by logics of capital. In this particular scenario, where they profit from added values given by individuals queering those chemical compounds, and producing new meanings to how they can be used, they either choose not do improve their medicine (like abortion pills not being sold in quantities and packages for abortion, better HIV ARVs not arriving without patents, and hormones not designed for trans people), or simply don't supply enough quantities for small pockets of populations in both countries whose sexuality is expressed in contestatory terms. Instead, individuals and organizations demand, protest and contest the imposed borders of for-profit understandings of sexuality that aim to control and obstruct the circulation of abortion-inducing pills, hormones used for trans hormone care, and HIV medicine without severe hard effects. HIV ARVs are available in both countries, but in both cases there is a problem with access to less damaging medicine that doesn't focus solely on the reduction of HIV infections, but also on sexual pleasure and better life quality. Abortion-inducing pills are not labelled for such purpose, but at least misoprostol is available as medicine for gastric ulcers in both countries, regardless of legal

differences on abortion. Hormones are the least regulated of these markets in both countries, simply because companies, pharmacies and government officials do not see them as a market targeting trans people at all.

a. Abortion pills and the hardening of a broader market

Out of the two chemical compounds used for abortion, misoprostol was the first one that entered the Mexican market under the name Cytotec, in 1986 (IMPI 2019b). It was owned by Searle back in the day, until it was absorbed by Pfizer in 2003 (Pfizer 2003). Mexico is central to the global economy of abortion because it was the very first country outside the United States were it was introduced —the same year this new chemical compound was sold in the world market (R. C. Allen 1986, 329). Cytotec was the only patented pill with misoprostol in Mexico until 1992. Then, Searle registered Arthrotec (misoprostol plus a painkiller), strengthening the company's monopoly over the market of misoprostol in the country (IMPI, 2019a). This new version responded to a pharmocratic goal over health by curving an invisible threat of the pill: heavy abdominal pain followed by blood discharges, thus commodifying pain and the cost of avoiding it. Pfizer rendered visible how sexual behaviors and emotions are altered through the interaction with synthetic enzymes. To fight against the stigma of performing an abortion, and reducing the "punishment" one must go through (meaning the pain of other forms of induced abortion), there is an option for a fair price: buying Pfizer's products that are less painful.

This particular secondary effect has been commodified as an asset to the marketing of Pfizer's products worldwide outside the company's intended message. The company did not apply for licenses for any reproductive health indications when it first circulated the chemical compound, probably to avoid damaging discussions to their sales about the drug's use for inducing abortion

in the previous decade (Weeks and Safar 2005: 269). The company assessed damaging discussions through a profit-loss analysis before applying for a (quite expensive) drug license. However, the company choosing to market misoprostol globally only for ulcers has a positive consequence in terms of costs for the consumers. Because continuous use is needed for the prevention of gastric ulcers, misoprostol has been priced for high doses (usually 4 tablets a day). To induce abortion patients need less than one tablet, thus making it a very affordable treatment (Weeks and Safar 2005: 270-271).

Pfizer's patent over misoprostol expired worldwide in 2005, opening the market to new competitors. We can find in Mexico and Egypt transnational and local companies that developed their own versions and displaced Pfizer's brand product. Based on the available data bases from the EDA between 2018 and 2022, there were between 3 and 4 registered brands of misoprostol in Egypt since the early 2000s. The reality is that Cytotec is also available, but as an illegally imported product. The monopoly that Egyptian companies developed during the first decade of the 2000s has allowed them to produce generic versions for the same price. However, Cytotec is still desired by those who can travel, as accessing the generic versions in Egypt.

Most importantly, as I argue that the first debate around these chemical economies means that markets look for profit and not for sexual health or autonomy, no company in Egypt or Mexico changed the labelling for their medicine after 2012, when the World Health Organization published its guidelines on abortion care. In it, they included the different routes to administer misoprostol and mifepristone for medical abortion (World Health Organization 2012, 3). The Egyptian pharmaceutical landscape doesn't want to create a market to compete for in terms of abortion, as out of the available pills, only one of them has in its medical leaflet gyneco-obstetric uses (Vagiprost), while the rest are indicated for gastric ulcers as well. The same way Pfizer didn't want

to register its brand name of misoprostol as a chemical compound for abortion, no Mexican or Egyptian license holder registered for it, even in recent years with the WHO guidelines. It seems that it is more profitable to sell their medicine as a something that the general audience can relate to (gastric ulcers) than what women and other people who can get pregnant could use it for.

The reason I am simultaneously talking about chemical compounds and pills is because of the queering process between both of them. An example in Mexico would be Cyrux, which is currently known as a pill containing misoprostol, marketed by Serral Laboratories. It was not designed or marketed as an abortion-inducing medicine. It was first introduced in Mexico in 2000 by United Phosphorus of Mexico (IMPI 2019a), who later joined UPL Mexico, a laboratory dedicated to produce chemical substances for agricultural (UPL 2009). Cyrux was initially an insecticide (Agrobase México 2019), and it was until 10 years later that it entered the Mexican market for gastrointestinal uses. This is why pills become active and queer agents with fractured temporalities. Looking at the chemical compounds in them let us know how a pill acquires different added values in different territories and times.

To understand better those added values and how users contested what should be added on them, I interviewed Dahlia Bat, co-founder of Morras Help Morras, an organization for sexual and reproductive health (particularly abortion) in Aguascalientes state, Mexico [redacted] Dahlia described to me that 2005 was a great shift in access to misoprostol, as well as the soon arrival of mifepristone —now the best chemical compound for abortion. She narrated that in 2005, the last year Pfizer held the patent, she got an abortion but it was extremely expensive and really hard to find abortion-inducing medicine. She remembers the only one available was Cytotec, and it costed around $250 USD to the current exchange rate. Back in those

days talking about misoprostol as an alternative for autonomous and non-surgical abortion was not common, and it was thanks to the growing circulation of information among feminist circles that people started learning that it could be used beyond the labelled indications and for abortion. A practice of bodily autonomy contested the economic limits that for-profit thinking imposed on the circulation of these abortion-inducing medicine. This expression of chemical sexuality, where chemicals alter the way people live their sexuality, becomes a moment that translates one use of the chemical compound (for profit, and for gastric ulcers) into vibrant matter that allows for women and other pregnant people to take control over limiting markets and governments (for autonomy and for abortion).

Pharmaceutical companies, as she narrates, intentionally rejected the use of misoprostol as an abortion-inducing pill. Something Dahlia traced through the years was that Cyrux started adding an extra coating to its pills as a way to avoid it getting easily dissolved. The most popular method for abortion requires sublingual intakes, which won't work due to the added layer. When activists in Mexico started noticing this they tried different methods to contest pharmaceutical controls over a market they aim to retain under the scope of what is sexually appropriate (in this case, nothing related to sexuality at all). Dahlia narrates now she identifies several other pills that do the same. She and other activists now managed to circulate an easy solution to the problem: one simply soaks the pill for a couple of minutes in water and it removes that extra coating without fully dissolving it beyond the needed doses.

Even more, Dahlia questions why haven't companies changed their medicine to be more friendly for abortion, despite the WHO recommending the sublingual method over the oral intake. She insists she is worried that the medicine continues to be distributed as a pill that is indicated to be taken orally. The problem is that having to hold the pill inside the mouth irritates the tongue

and burns the throat. Research is available on these side effects and better intake routes. She complains misoprostol continues being used the same way, even if there is already an argument around it that frames it as a basic chemical compound for abortion, not only for gastric ulcers (Bat 2019; Fuentes Carreño 2022h). Her concern reflects an insistence from pharmaceutical companies to view medicine such as abortion inducing pills as a for-profit endeavors, rather than something that facilitates people access to safe, effective and painful-free abortions. It is almost as if the hardened coating on pills embodies the material hardening of pharmaceutical companies against opening up their medicine beyond the current market's scope. Despite the income they generate, these women don't do it for profit, as they offer excellent peer-to-peer support through the process of taking the medicine, rather than being distant pharmacists, healthcare providers or vendors interested only in making money. Some organizations also sell the kits based on socioeconomic differences from users that reach them out. That way, they can continue buying them and giving them for free to those who can't afford it (Fuentes Carreño 2022h). What Dahlia described is the formation of a new market that contests a top-down approach that pharmaceutical companies, and the government institutions regulating them, allow to be called a market. This overcomes the idea of added values only being for pharmocratic interests and shows the possibility of the interaction between the chemicals and the goal to live ones sexual and reproductive life freely shatter the walls imposed by global capitalist interests.

Mexican activists and users are breaking the limits to what markets around misoprostol and mifepristone have imposed not only in Mexico, but worldwide. Mifepristone is banned in many countries, and even in Mexico it is only available where abortion is legal, due to its high efficacy to induce it. Dahlia narrates that the arrival of mifepristone created a very interesting feminist market. She knows women that sell bundles of misoprostol and mifepristone, and they either send

it to users' homes, buying it from states where abortion is legal and selling both pills is allowed. For Dahlia, this is a network of women that started as comrades, but due to the excessive demand, they started selling more than 100 daily kits that recognizes the physical and emotion labor it takes to accompany someone through an abortion.

[redacted] They started closing the entry of a wider variety of imported medicines, including Cytotec (Hosam El-Din 2016; Behary 2016; Abdel Rahman 2017). This coincides with the data from the EDA I found in 2018. In 2016-2017, Egypt registered the four currently available abortion-inducing pills as having passed the stability testing for imported finished medicine, out of which 3 of them are owned by Egyptian companies (EDA 2022).

[redacted] Isabel Fuldá, deputy director of the Information Group on Reproductive Choice (GIRE), agree that by itself the medicine is not expensive. In Egypt, pharmacies sell it for no more than 50 EGP (around $2 USD to 2022 prices) for a strip of pills, while in Mexico it can cost around 600 MXN (around $30 USD to 2022 prices) for a box between 20 and 28 tablets. From the available data in the EDA, we can see prices range between 10 and 40 EGP for a strip of 10 tables of misoprostol in Egypt, while activists in different states of Mexico can confirm the price could range between 300-600 MXN, depending on the pharmacies and available discounts.

However, Isabel points out at something that other medicines, such as HIV ARVs, don't have that expands to global abortion-inducing pills' markets. For Isabel, access to misoprostol concerns less to public policies and more to the market itself. Despite the elevated cost in earlier years, its free circulation around the market without medical prescriptions, without major restrictions, makes it accessible for a wide majority of people. It is not the same with mifepristone, which is a medically regulated pill that is usually administered only in medical environments —unless abortion is decriminalized in the corresponding territory. She argues that even if policies and laws don't change, the free access in the markets makes abortion become safer, and allows to move away from the image of death that it carried for a long time in Latin America (Fuentes Carreño 2022g). Similarly, in Egypt the barriers aren't necessarily from the market, as the medicine is available and locally produced, but rather legal or ontopolitical from pharmacists refusing to sell them based on legal or religious arguments, or government officials spreading moral panics over people's sexuality, thus users being too scared to go ahead and buy them. We can read through one of the latest public demands for safe abortion by the Egyptian Initiative for Personal Rights (EIPR, and the feminist global alliance Realizing Sexual and Reproductive Justice (RESURJ). They demanded in 2017 to amend the abortion law and to ratify the protocol on the rights of women in Africa (EIPR and RESURJ 2017). As I will explain in the following chapter, the law is currently under an amendment process, but access to misoprostol in the pharmaceutical market was not included in that letter from 2017, nor in the advocacy activists carried on for the new bill to be amended.

b. HIV and a debilitating market

In both countries, the most established market is for HIV antiretrovirals, where there is an openly and specifically targeted population to receive them: people living with HIV, regardless of their

sexual orientation or gender identity. However, people's sexuality was not, and continues without being, the main goal since the establishment of those industries in both countries. It is rather an epidemiological control and a profit making mechanism than an attempt to ensure the maximum access to effective medicines for endemic infections. This access will not only guarantees people improved quality of life, but it encourages full enjoyment of one's sexuality. Silvia Carmona, founder of Casa David, a shelter for people living with HIV in Mexico City, explains that in the late 1990s she would take Indinavir and AZT, but they were not given by the public healthcare system. Private vendors will set outside the clinics and hospitals reselling them, but the cost ascended to 790 USD (prices at 2017) for a month of medicine (Torres López, Herrera, and Ciriaco 2017).

A transnational pharmaceutical in Mexico, Abbot Laboratories, launched Kaletra in 2001, and became popularized in the Mexican market, to the point that by 2016 it represented 10% of the total expenditure by the Mexican Center for Prevention and control of HIV (CENSIDA). In 2011, Stendhal laboratories and Maypo Pharmaceuticals, both transnational companies as well, launched Atripla in Mexico, a revolutionary one single pill that could substitute the "cocktail" formulas preceding it. By 2016, Atripla represented 40% of the total expenses from the Secretary of Health, and they held the patent until 2018. The costs were even higher than for Atripla, for which the Mexican government needed to invest more than 10 thousand USD in a year to cover the demand (Torres López, Herrera, and Ciriaco 2017).

Carlos Ahedo, HIV Coordinator at Yaaj Mexico (an LGBT+ nationwide civil society organization), explained to me that by the 1990s there were already ARVs in Mexico. Nevertheless, without specific regulations the government didn't care for procuring the medicines and let those who could afford it buy it in the private market. It was until 2001, when the former UN

Commission on Human Rights (reformed into the UN Human Rights Council in 2006) declared access for HIV ARVs as a human right that the Mexican government started distributing the medicine, regardless of social security status, and under new economic regulations. More importantly, Carlos continuously protest in public spaces —digital and in person— on how sexuality was never considered in clinical trials when these ARVs were developed, nor when doing market research to incorporate the perspective of PLHIV. They have always been regarded as patients and users, not as people who suffer the secondary effects on their physical health (like lipodystrophy and liver damage), or their mental health (exacerbated anxiety and depression due to the chemical reactions). As Carlos narrates: the only thing that mattered was controlling the virus (Fuentes Carreño 2022a).

With this change, they started the massive signing of deals with specific biddings between companies (Fuentes Carreño 2022a). However, the market was still not designed to provide medicine for free or at low cost to guarantee the goals of CENSIDA: reduce the number of new HIV infections and other sexually transmitted infections (STI); eliminate vertical transmission of HIV at birth; and —what is constantly relegated— guarantee the optimal life quality of people affected by HIV and other STIs (CENSIDA 2022). As Carlos narrates, Mexican free trade agreements forced the country to buy most innovative brand medicine from abroad, making it almost impossible to invest in local research and development. Despite the manufacturing capacity, the technical expertise remains outside the transnationally operated pharmaceutical laboratories in Mexico.

PODER, an organization advocating for transparency and accountability of companies in Latin America, collaborated with other HIV activists in the country to do an exposé on overpricing, corruption, and government failure to face pharmaceutical capital interests over people's health.

In 2021, they published a report where they pointed at the Coordinating Commission that negotiated the prices of medicine and health supplies in Mexico as the responsible between 2008 and 2018 for signing deals overpriced deals on HIV ARVs. They analyzed hacked data to show Truvada alone was overpriced by 438% in those 10 years, paying more than 9 million Mexican pesos. The negotiations always took place behind closed doors, so activists weren't able to advocate directly in the table. Despite the current government of Obrador dissolved that commission, but the new administration still doesn't allow civil society organizations to enter and negotiate the prices. What frustrates activists the most, according to a testimony by AIDS Health Foundation in Mexico, is that the new USMCA Treaty does not force Mexico anymore to buy patented and innovative medicine anymore (Balderas and Aspra 2021), yet capital interests remain at the center of the purchases and distribution.

Activists I interviewed —who have been fighting for better HIV treatment for years— have been questioning the lack of full coverage of HIV ARVs for people through Mexico for decades, and the difficulties not only to access it to low costs, but also to better treatments. In 2010, Carlos Abelleyra Cordero, director of Stendhal, negotiated with Rafael Castro, director at Novartis Mexico, to bribe government officials to gain the government bids on HIV ARVs (Aguirre M. 2010; El Economista 2010). Stendhal is the company that won for a second time the government bid six years later (2016) to supply more than 60% of the public healthcare system with Atripla, as the sole company with the monopoly over the pill in Mexico, and sole representative of Gilead to distribute their pill. In 2018, Stendhal once again won a nationwide bid against Landsteiner and Sandoz, two important transnational pharmaceutical companies. They renegotiated their offer when the system where they registered to bid surprisingly crashed and turned Stendhal's proposal into the cheapest one (Ismael 2018). Stendhal perdured over two different presidencies (the one of

Peña Nieto's center-right PRI party, and now MORENA, López Obrador's left party), in managing to overcharge for a life saving medicine.

The moment Gilead lost the patent for Atripla, thousands of people in the country lost their treatment, because Gilead simply stopped producing it, Carlos Ahedo narrates. Alaín Pinzón, founder of VIHve Libre, an organization advocating for PLHIV rights, has protested for years against stigma, discrimination, and insufficient access to HIV medicine in Mexico. The supply shortages due to the COVID-19 pandemic led to constant protests by HIV-centered organizations, to the point of being physically assaulted by police officers outside the Mexican Senate while demanding a response to the worsening crisis of ARVs in the middle of the pandemic (Animal Político 2020). Alaín has publicly contested the role of the pharma industry in terms of HIV by asking who is actually interested in developing a cure for the virus. In an article he published in 2020 he reflects on who keeps getting paid from this pandemic that has lasted for so many decades, which government offices and institutions are investing in research and clinical trials to find a cure, and if pharmaceutical companies are more interested in selling ARVs that bring millions of dollars annually to their budgets, or if they actually want to find a cure. He argues HIV for the pharma industry is not a niche to improve their treatments and offer a better life quality for people, but rather an opportunity to increase dividends in their stocks on a daily basis. For him, the problem is not the disease, but looking for a cure against institutional barriers to access the medical treatment, to bureaucracy and the way they treat PLHIV as disposable, and to pharma banking from people's lives disappearing through the decades (Pinzón 2020).

Carlos has started debates on social media and in-person spaces of public education around the new market for Pre-Exposure Prophylaxis on HIV (PrEP) as another example of markets not caring for people living with HIV's enjoyment of sexuality, access to medicine, or quality of life.

Between 2021 and 2022 Mexico began a nationwide pilot to distribute PrEP in the public healthcare system. Carlos criticizes that the research focused on men who have sex with men, and ended up excluding trans women and sex workers that could also benefit from the product to guarantee safer sex practices. Carlos argues the pilot program didn't do research on how a broader audience will react to PrEP being distributed or how much demand will actually be beyond men who have sex with men. Even worse, the results of the studies showed the only ones with economic and cultural access to PrEP will be, in its majority, gay cisgender and middle-to-upper class men. Mexico, according to Carlos, doesn't have the infrastructure to manufacture, or even distribute imported HIV medicine, while trying to open up this new market of PrEP. The difference is the targeted audience, as compared to HIV ARVs, PrEP will be available in pharmacies and the public healthcare system for a lower price. All of this economic decisions are happening in parallel with people living with HIV that are still using treatments with efavirenz, rather than the less damaging bictegravir, or who don't even have constant access to medicine due to supply chain complications with new purchase systems put into place in the country since 2020 (Fuentes Carreño 2022a).

The Egyptian context is more dire, as even today most of the treatment available in the country requires taking two pills, rather than modern versions like Atripla or Biktarvy. Although Biktarvy is registered in Egypt since 2020, in an interview I had with the UNAIDS Country Representative, Dr. Waleed Kamal (former Director of the National AIDS Control Programme at the Ministry of Health), he only mentioned Truvada (from Gilead) or Tivicay (from GlaxoSmithKline) as the most common medicines in the country (Kamal 2022). The Egyptian National AIDS Program was established in 1987, but HIV ARVs were only available until 2008. Before that, people had to buy them out of pocket, and even with the introduction of ARVs, not everyone was given the subsidized medicine (Salama 2007). If we look at the registered HIV ARTs

in the EDA, there was little variety before 2008. Only 9 brands were available, most of them Zidovudine or Lamivudine, and only two of them licensed by Egyptian companies. Most of them were licensed by Viiv Healthcare, a subsidiary branch in the United Kingdom for Pfizer and GlaxoSmithKline, two of the most important pharmaceutical companies in the world. Testimonies from 2008 narrate how people had to pay up to 6,000 EGP in 2008 (around $1,128 USD to current exchange rates) (Salama 2007). The current prices for all of those imported medicines continue to go between 460 and 1340 EGP, with some new ones reaching the 12,550 EGP per monthly batch, in comparison to those locally produce that range between 30 and 165 EGP (EDA 2022). However, as Dr. Kamal narrated, the mostly available ones are the imported ones, which rise the cost to sustain access to innovative for everyone.

Transnational pharmaceutical companies have not intended to reduce the prices for medicine that people haven't had stable access to in Egypt since 1996, when the first ARV, Retrovir, was registered in the country. As Sunder Rajan argues, the commodification of life and health for people living with HIV in Egypt removes them from an experience of embodied state of well-being or disease, and is rather abstracted into valuable or not valuable capitalist interests based on who can afford it. The same way Carlos argues about the Mexican scenario, the late access to the HIV ARVs market for Egypt still reproduced the same logics of capital: pharmaceutical companies did not design the medicine to be free or at low cost, even in a country with a lower economic capacity as Egypt, in comparison to Mexico. Egypt also has the manufacturing capacity to overcome that economic dependence, as scholars and government officials continue to claim nowadays, but the economic interests of the market show resemblances of what Waitzkin and Jasso already mapped: the TRIPS privileged corporate interests from pharmaceutical companies over lowest viable commercial prices. Limited access to HIV ARVs

due to pumped prices is seen in both cases not only as transnational companies profiting from this form of chemical economic control over people's sexuality —particularly with medicine that reduces moral panics around the sexual lives of people living with HIV. It is also government officials and local entrepreneurs that profit from obstructing the flow of ARVs and channeling funds for their own benefit —as we saw in the Mexican cases of corruption and overpricing through the years.

Dr. Muhammad Hamad's narration of the history of the ARV market in Egypt sheds light on how these markets were never created for people's wellbeing, but rather as a commodity that not even the Egyptian government could afford. Dr. Hammad was the Director of the Health and Scientific Research United from 2012 to 2014. He narrated that lack of medicine during the first decade of the 2000s became a crisis in Egypt, and it prompted patients to buy medicines from India and Brazil. Similar to Mexico, American brands were too expensive and those countries managed to overcome patent limitations to produce cheaper generics. Even more, the Ministry of Health simply told people who could afford it to buy the drug themselves, leaving them out of the Ministry's lists of patients (Abu Shahba 2022). This scenario resembles what Carlos narrated about the Mexican government, when the market was let loose in the early 1990s before the UN's declaration of ARVs as a human right.

Egyptian scholars and activists argued that the ARV treatment was expensive in all the region through the 2000s (Elsayed and Hassany 2020, 15). Dr. Waleed Kamal, who at that moment was the Director of the National AIDS Control Programme at the Ministry of Health, argued international organizations had no interest in funding Egypt at that time. After we look at the data base of available medicines for HIV in the country today, we see there is still no interest in lowering the prices of all imported ARVs. Even when funding was available, the main purpose was always

profit for parties involved. During an interview I did with Waleed Kamal in 2022, now as head of UNAIDS Egypt, he explained to me that the Global Fund, an international non-governmental organization fighting HIV, tuberculosis and malaria, granted funds to Egypt for a period of four years, starting in 2008 for almost 31 million USD (2008 currency). The agreement was that the government will transition to funding ARV acquisition with a domestic budget starting 2014, and that by 2017 Egypt would be fully covering the cost of HIV ARVs in the country (Kamal 2022). However, in 2015 the organization accused the Egyptian National AIDS Program, along with the Ministry of Health, of fraudulent practices and other procurement irregularities between 2008 and 2012. There were problems with the suppliers of the ARVs, among other irregularities, leading UNICEF having to take over, receive the funds directly, and handle the health products as an outsourced partner (Mada Masr 2015).

A year after the scandal, new testimonies of HIV ARV users reached the news about 1) people still getting zidovudine (even though newer drugs were already in the Egyptian market since 2007), which can cause anemia; 2) the Egyptian government not spending the money on treatment, but mostly on “trainings” that didn’t happen; and 3) medicine either not arriving or being expired (El-Garhey 2014). This continued happening at least until 2015, according to the representatives of Friends of Life, an NGO for people living with HIV in Alexandria. Hany, the NGOs co-director, explained that medicine for HIV was frequently unavailable in distribution centers at the Fever Hospitals, and that money supposedly destined for NGOs working along with the Ministry of Health was not being disbursed. Those shortages prompted healthcare officials to alter dosages, give expired medicine, substitute them, or simply deny the refill for a lot of people (Reeve 2015). Following the agreements Dr. Kamal laid out, by 2018 the Ministry of Health encouraged local pharmaceutical companies to register all first-line ARVs, which supposedly

would cover 97% of the drugs needed in Egypt, according to a representative of the National AIDS Program in Egypt (Elsayed and Hassany 2020, 1). However, between 2017 and 2022, less than half of the newly registered drugs were registered local, according to the data bases I gathered.

Similar to Mexico, most of these drugs, although manufactured locally, still need an active chemical compound imported from abroad, making Egypt dependent on transnational companies procuring supplies for their local market. Also, the local market demand exceeds the capacity for local manufacturers to produce the necessary amount to supply either country, but in Egypt it is more alarming as only 30-60% of the population living with HIV takes ARVs (UNAIDS 2020a, 7). It was clear Egypt didn't have sanitary autonomy nor an interest for looking at HIV through a lens of sexual freedom, pleasure or autonomy during the COVID-19 pandemic, because the ARVs shortages continued while access to PrEP is not even considered. As I described the Mexican case, HIV activists look at PrEP programs in the country as a public policy that could collapse the access for people living with HIV to medicine due to lack of manufacturing and logistics capacities to supply both systems. In contrast, in Egypt the government is refusing to implement it, despite UN recommendations, while still not providing proper and sustained access to ARVs for people already living with HIV. Scholars and government officials argue that Egypt doesn't have legal restrictions to locally produce the pills, and has the manufacturing capacity to produce the, (Mohamed et al. 2020). However, there is no access of PrEP to a general audience beyond healthcare providers in emergency cases —the last fact being confirmed during my interview with Dr. Kamal. So, while Mexico has both systems, and none of them is properly working due to markets being designed for profit and not for sexual autonomy, in Egypt none of the systems is being properly implemented due to markets being designed for the same reason.

The COVID-19 pandemic pushed for a wider demand, as in Mexico, for regular and sustained access to medicine in Egypt. According to the same scholars from the Cairo University Hospital, and a representative of the Egyptian Patent Office, Egypt could produce patent-free HIV ARVs in the country that fall into an acceptable scheme for treatment (either a combination of zidovudine/lamivudine, or a combination of efavirenz/tenofovir/emtricitabine). Yet, the treatment that the government has been following since 2017 requires chemical compounds that despite not having a license in the country continue being imported. In Egypt, Gilead does not locally produce Truvada, or any other version of tenofovir and emtricitabine, because they were not granted the patent over it (Cordie, El-Kotamy, and Esmat 2020, 1). Thus, they entered into a partnership with Eva Pharma and Akhnaton Trading & Distribution, according to Dr. Kamal, to manufacture and distribute for them in the local market the only two products with the most modern available combination (emtricitabine/tenofovir). However, as the Egyptian government continues to import the brand patented version, it , a medicine that, as COVID-19 supply shortages showed, turned access to medicine into a severe crisis. The other modern medicine that should have been available was dolutegravir. However, this is a product from Viiv Healthcare, which I explained belongs to Glaxosmithkline and Pfizer. The company is under a patent dispute with the Egyptian government as well, and although the Egyptian Patent Office representative claims the patent filling was technically rejected, according to the EDA records it appears as an imported product (Cordie, El-Kotamy, and Esmat 2020, 1).

Activism in Egypt around HIV has had a different dynamic in the last couple of years. With the current government reducing the capacities, budgeting and presence of civil society organizations with critical points of view, I was not able to find more updated demands for ARV treatments, or further advocacy to break the HIV ARVs market oligopoly in the country. Al-Shehab

is known as one of the most important organization in the country working for PLHIV, as they particularly focus on women, including sex workers. Although they do not openly contest pharmaceutical and government decision-making around profit and supply of ARVs, they participate with researchers and consultants on needs assessments for HIV services in Egypt, as well as barriers on access to ARVs (Gamaleldin 2021; Kabbash, Zidan, and Shehata 2019). Back in 2011, right after the January 2011 revolution, a group of 14 Egyptian organizations organized the Forum to Fight Stigma and Discrimination Against People Living with HIV/AIDS. In it they launched two projects: Letters from Egypt, a compilation of 20 pages with testimonials of people facing stigma and discrimination against HIV (A. Amin 2011); and a report titled "Combating HIV/AIDS Related Stigma in Egypt: Situation Analysis and Advocacy Recommendation" (Morrow and Samir 2011).

Although the press release did not focus on access to HIV ARV after the revolution, but rather the freedom to speak publicly about living with HIV in such a moment of transition (Massoud 2011), they protested that civil society organizations (particularly those involved in the forum) were not involved with the government planning on the National AIDS Plan. They argued they can provide a human rights perspective, and they did a more specific policy recommendation to empower people living with HIV with greater access to ARTs, healthcare services, and support from the HIV-positive community (Morrow and Samir 2011, 10). In 2014, EIPR, which was part of the Forum, demanded the Egyptian government to avoid importing a new drug for Hepatitis C that Gilead was trying to patent into the local market. EIPR argued civil society organizations have collaborated in the past with the Egyptian government to reduce prices for HIV drugs, for which they could collaborate the same way on this occasion. Without mentioning which organizations they referred to, they argued the managed to bring down prices from $10,000 USD per patient to

only $100 (EIPR 2014). The current government has severed its relationship with the EIPR to the point of incarcerating its Executive Director in 2020, thus making it complicated to openly oppose pharmaceutical enterprises in Egypt's HIV ARVs market (Lewis 2020).

c. The unfulfilled market of hormones

Medicine that doesn't consider the actual use people are giving to them makes it harder for calculating the actual need for that medicine, and translates the debates around chemical economies of sexualities into forms of obstruction. Usage outside the indicated therapeutic use takes place regardless, but the pharmacies, knowingly for decades about the possibility to use hormones for trans people, do not allow for market strategies or to cover sexuality related needs. The medicine is not even seen to cover public health needs, as we saw with HIV medicine. Siobhan argues that there is not a specific hormones market for trans people globally, and even less in Mexico. She argues people imagine trans people are a market strong enough to make impressive analysis on how pharmaceutical companies have a specific interest on them. However, it is the exact opposite for her, because it is not only small in size, but also scarce in capital to participate as consumers. We cannot imagine this is a form of perverse capitalism targeting anti-trans efforts, but rather a pharmaceutical capitalism that is not interested in who trans people are, what they do, or what they need (Fuentes Carreño 2022d).

As I introduced earlier, companies producing hormones worldwide never linked their market goals to the possibility of a product directed to trans people. Even when Mexico could have become a global player in the hormones' market, the competition for cheaper forms of synthesis displaced the country as a research hub, and turned it instead into a manufacturing one. Even local pharmaceutical franchises, and Mexican laboratories, do not intend to open up a market they don't

even map. This is paired with local Mexican authorities from COFEPRIS that do not understand how these chemicals translate into a matter of life and death for trans people. In a interview with Máximo Carrasco, the trans government official I worked with to solve the shortage of testosterone in Mexico, explained to me that during the process of convincing Bayer to send new testosterone lots to Mexico the company was not only unaware of what they were needed for, but were behind production for a long time due to institutional barriers in the country.

The lack of interest within the hormones' market to look towards the trans community in Mexico dates back since the 1950s. Siobhan narrated to me that the first gender affirming surgery for a trans person in the American continent was in 1953, in Mexico. It is also the first registered case of a trans person undergoing hormone affirming care in the country, signaling some version of feminizing hormones were available at that time. There are photographic records in the 1970s as well, from an exhibit in the *Centro de la Imagen,* that show trans women that, according to Siobhan, had visible signs of taking hormones without medical supervision (Fuentes Carreño 2022d). Ibrahim Carrillo, a trans activist in Yucatán, in the southwest of Mexico, confirms that there has never been a specific market or treatment designed for trans women. She explains that they have to take contraceptive pills or hormones with doses designed for cisgender women. Even though the chemical compounds are the same, there are designed to be taken for temporary periods of time, while trans people need to take them for the rest of their lives, making them costly and inaccessible for trans people without enough monetary resources.

An example of how the hormones market is designed for cisgender people can be centered on two presentations of estrogen: estradiol valerate and ethinyl estradiol. The latter, Ibrahim explains, is great, but you can't take it for longer terms due to secondary effects (Fuentes Carreño 2022e). However, I participated in the panel of experts that redesigned the LGBT+ Health Protocol

from the Secretary of Health. In the previous version they included as possible hormone care therapies ethinyl estradiol (like Ibrahim suggested) and conjugated estrogens (Secretaría de Salud de México 2020, 67). As we worked on the new draft (still unpublished) Dr. Daniela Muñoz, a trans doctor and founder of the Transsalud Clinic in Mexico City, explained to me these are dangerous for trans women's health, so she removed them from the suggested clinical framework in the protocol. No clinical testing has been done by pharmaceutical companies around the effects of circulating chemical compounds that trans people then have to adapt themselves, through empirical research by some doctors. In other words, what Ibrahim mapped from local knowledge from doctors outside Mexico City, where most research and support is given for trans hormone care, Dr. Muñoz could confirm is actually worse than people imagine. They are simply too dangerous for trans people to consume them in a way they could get that care.

As I introduced in this chapter, the testosterone shortage in Mexico began in 2020. Although there are several brands available in the country, there is a monopoly by Bayer. According to data I requested from the National Institute of Social Security (IMSS in Spanish), I found out that from the total purchases of testosterone for the public hospitals in all Mexico belonging to the IMSS system 91.2% came solely from Bayer Mexico for both 2021 and 2022. The remaining 8.8% was covered only by 5 other local pharmaceutical companies (Unidad de Transparencia 2022). Máximo explained to me that Bayer intended to expand its manufacturing sites in the country around that time, but COFEPRIS always came back with new requirements to stall the process. They got their permit denied to expand and had to close down for around a year. Máximo questions who is COFEPRIS really serving, and if they are truly interested in regulating medicines, serve pharmaceutical interests, or have their own individual, political and economic interests on how much they can get out of granting permissions (Fuentes Carreño 2022j). To that

I would question why does Bayer dominate so much the testosterone market in the public healthcare system in Mexico, yet did not manage to win over the Mexican authorities to authorize their expansion.

The shortage became so evident through the country once we see Bayer is the main supplier of testosterone nationwide, being a laboratory and a regulating government authority not aware of the needs of trans people for more supply. Máximo and other trans men are contesting the limits to the market not stemming from Bayer alone, but form the government authorities that, without knowing, obstructed the circulation of a chemical compound with a vital added value for trans men. Trans men narrated that the shortage had different effects depending on how long had trans men and non-binary people been taking the testosterone. Izack Zacarías, the founder of Impulso Trans in Jalisco state, explained that he started showing signs of menopause when he stopped taking his hormones regularly. Other people started getting their period back, and even bleeding. Dante Urea, another trans activist in the north of Mexico, explains that trans people that underwent hysterectomies (uterus removal) oophorectomies (removal of ovaries), face harsher effects to their sexual, reproductive and overall life. Without natural producers of hormones (in this case estrogens and progesterone), and without a substitute like testosterone, the body just can't produce enough hormones to regulate blood pressure or calcium production through the blood (VB 2022). There is a real debate of how chemical economies have a material impact over chemical sexualities for trans people. This demand led to a number of activists in Mexico, including me, to participate in a session at the Mexican Congress to demand a new LGBT annual budget where COFEPRIS and the Mexican healthcare system will need to include public spending to buy hormones that the market doesn't recognize as necessary for trans people (Cámara de Diputados de México 2022).

As trans activists and government officials kept telling me, there is no real market, thus the added value to the current chemical economies around hormones is added by the users, not by the merchants. The politics of not doing are also a form of obstruction from a market that won't look towards trans people. The lack of research, and the lack of a real targeted production of hormones for trans people, come with lack of clinically tried information for them. The empirical testing, and the dangers that come with it, are the only way trans people can face the obstructions to the circulation of hormones that aren't designed for them. Izack Zacarías, the founder of Impulso Trans in Jalisco state, explained to me that he started taking hormones ten years ago, and he knows people how have been using testosterone for years before he started, up to 15 years. Since then, he argues medicine was not designed, proved or marketed for trans people, and there are no regulations to the point that they can simply get them from the pharmacy. What determines which hormones to buy is not which ones the pharmaceutical companies designed, or what doctors sometimes consider could be useful, but rather which ones are cheaper. The problem with that decision making process, Izack explains, is that trans people don't really know which ones are good or bad for certain bodies, and which physiological and mental consequences can come with them. Because of high prices for patented testosterone (that we saw are mostly controlled by Bayer), he has had to change between brands that are less expensive. However, many trans men —including him— have had adverse effects from switching between testosterone brands. Obstruction comes with income, as well, where the barriers are set by prices that aren't affordable for a population that, in general, tends to be more impoverished than other sectors (Fuentes Carreño 2022b).

Egypt faces a similar scenario where the pharmaceutical industry of hormones seems to be growing, but is not interested in producing for a trans market that is legally excluded in the country.

However, the hormones market in Egypt is bigger than in Mexico, with 138 hormones I was able to find in the EDA. Egypt, compared to Mexico, is pushing for a wider local pharmaceutical industry of hormones that can produce generic versions. If we look at the databases for both countries, in Mexico only 40.5% of the available hormones are generic, while in Egypt it is almost 60%. Even more, the Egyptian government started working in 2019 with American and European companies to create the recently unveiled Gypto Pharma City, in the al-Khanka region in Qalyubia. It covers 120,000 square meters dedicated to the manufacture of drugs, and will have a specialized area for manufacturing cancer drugs and hormones. Although no specific timeline, this seems to be an attempt to consolidate a local-transnational partnerships to improve the Egyptian manufacturing capacity and, according to news outlets, to prevent monopolies and control prices against imported medicines (Gomaa 2021; Sky News Arabia 2021).

If we look at archives of medical journals on medical treatments for trans people in Egypt, along with public interviews and testimonies, we can identify three stages of the evolution of trans people having access to hormones, despite the market not designing them for such purposes. Between the 1980s and until 2003, public hospitals only provided limited psychiatric treatment, for which any use of hormones by trans people was not usually allowed within medical practice —like the case of Sally Abdallah, who received estrogen for a year before undergoing surgery and was forced to stop later on as they were not supposed to be used for that (S. Amin 2020; Ibrahim Abd el Atti 2009; Skovguard-Peterson 1995). It became a more visible market in the 2000s, after a new law from 2003 that criminalized healthcare practitioners performing gender care surgeries. Hormone care therapy became recurrently available in private pharmacies and hospitals, while the public healthcare system didn't integrate them for trans users (Murdock 2016; Nader 2019). Finally, around 2013 public hospitals started providing hormones and surgical treatment with

legislative changes, although suspensions from the committee meeting to accept cases to undergo the treatment and change official documentation ran between 2014 and 2017. It caused people going back to the private market to seek for hormones that were still not designed for them, but at least they were available.

Bedayaa, an LGBT+ organization in Egypt, interviewed two pharmacists in Cairo to understand the barriers of the hormones' market in Egypt. Similar to the Mexican market, there are two routes to supply medicine in Egypt: public hospitals through public spending, and private pharmacies through individual purchases. While the Mexican government does buy hormones that allegedly include the necessary supply for trans people —like Clínica Condesa, which confirmed they were trying to buy more testosterone, but it was simply out of stock (Ureta 2022)— in Egypt the government does not create a demand for companies to satisfy that includes trans people, even with new legislation that allows for hormone therapy. As Siobhan explained in the Mexican case, in Egypt also the trans community is small and impoverished when thinking about creating a market that government officials and companies can map.

The only other venue to hormones are private pharmacies' limited demand for companies. The pharmacists explained that the market for selling hormones in Egypt depends on how pharmacies process demands for them. The pharmacies provide the manufacturing laboratories with the expected size of the demand, and each pharmacy decides how they destine their supplies based on recurrent clients they have. However, the specific case of hormones complicates their accessibility beyond uses intended for cisgender people. The pharmacists narrate vendors put in the requests for supply based on the needs of their regular clients, which tend to be few in each neighborhood. Each pharmacy usually sells them to specific customers, making it hard for trans

people to become “distinguished customers”, as pharmacists supply does not include them (Bedayaa 2021, 30).

2. Chemical markets and alternatives to marginalization

The first chemical economic debate I talked about centered on how individuals and organizations transgress the limits imposed by markets that produce chemical compounds not designed for them by creating a demand for them, protesting the side effects and pressuring to be included in the design of innovative versions of those products. The second debate I want to focus on is how activists and users actually contest and circulate them against economic forms of control and obstruction. They compete with for-profit private users and pharmacies that also circulate them in new markets. However, I want to highlight how centering sexual wellbeing, dignity, autonomy and pleasure, rather than making profit, allows to break these capitalist boundaries. Although all of these contestatory forms of circulation and distribution could fall into a broad definition of black markets —any transaction otherwise done outside legally authorized channels—, I distinguish between them and other markets. In all the forms of markets I look at there is an added economic value to how chemical compounds related to sexuality operate. I’m looking at black markets as a form of evasion of price control and intended limit of distribution where it tends to be overcharging and exploitation, adulteration and other forms of abuse against consumers. By alternative markets, I will refer to those that incorporate practices that reconcile for profit purposes with social solidarity. In alternative markets, the added value is not necessarily economic surplus, but rather building networks of accessible medicine to different prices that will allow to continue circulating them at redistributed pricing. Both forms of non-compliance to pharmocratic enterprises contests the control companies and governments may try to hold on as an added value to chemical

economies. Instead, a horizontal approach to these economies allows to revitalize the rebellious possibility of reshaping that control and expand the circulation of chemicals that liberate sexual pleasures, desires and practices.

a. Black markets and social decomposition

It is known, as an open secret, that all these pills, injectable solutions, tablets, gels and body lotions in both countries are a) sold in pharmacies but purposely retained by vendors; b) smuggled through the black market; and c) produced and controlled by local companies as generic versions, or by transnational companies as patented versions. The ongoing supply of these chemical compounds raises questions about the role of pharmaceutical companies in the process of management and politics of life, health and reproductive technologies, but more importantly, how individuals and organizations revert attempts of pharmocratic control and abusive forms of circulation over their sexuality. The formation of black markets are a form of what Pine will look as social decomposition. The chemosociality of these markets show that people surrounding the chemical life cycle of the chemical compounds I study are abused, exploited and left in a form of vulnerability that is contributing to the pervasive dimension of a commodified sexuality.

Hussein Gohar, Head of the Gohar Women's Health Clinic and advocate for decriminalizing abortion in Egypt, referenced in a 2013 article that the available brand of misoprostol in pharmacies was Misotac. However, a testimony of Mona, a woman who wanted to terminate an early pregnancy, explains that she could not find Misotac in any pharmacy in Cairo. After trying in more than 30 locations, she had to call a doctor, who charged her a large amount of money, to bring it from Fayoum, the capital of a governorate to the south of Cairo (Shalaby 2013).

In Egypt, pharmacists have taken away a major degree of authority in providing misoprostol, due to the black market developing around Cytotec (imported), and the unavailability of local brands controlled by Egyptian pharmaceuticals (like Misotac). As some of the testimonies of consumers and pharmacists narrate, Cytotec was available early in the 2000s in Egypt over-the-counter. Different pharmacists narrated that the government slowly banned it, causing the price to rise up between 50 to 200 EGP per blister pack, when it used to be around 11 EGP (0.60 USD at the price of 2017) (Abdel Rahman 2017; Behary 2016). However, the government decided to restrict its distribution in 2009, thus allowing only hospitals to circulate them, under the supervision of the treating physician (Abd al-Salam 2014).

Ongoing regulations over pharmacies and the possibility to get shut down has led pharmacists to pretend they do not have the pills, although they do. A pharmacist, Shadi Abdel-Hafiz, narrated that Misotac was also available for a very low price in pharmacies around 2017, but the government banned it. However, no officials have ever followed up on how many pills he has sold afterwards (Abdel Rahman 2017). Wael Ahmed, another pharmacist, said that both Mifepristone and Misoprostol are actually available in pharmacies, but not sold to consumers because they fear that women coming in to ask for it were trying to abort. Even more, they feared the costumers were unmarried women and female sex-workers. Another pharmacist, Noha Al-Sayed, further explained that the latter came to buy them regularly, so the Ministry of Health banned their sale outside hospitals (A. Abdel Rahman 2017; Behary 2016; Shalaby 2013).

[redacted]

In Mexico changes in legal restrictions to abortion made the price for pills change through time. Kelly Ramírez, activist in Igualdad Sustantiva in Yucatán, explains that the black market of abortion pills in Mexico started as early as the 1990s, because they entered through clandestine clinics in the northern border states that, according to Kelly, didn't have a gender perspective. They aimed to generate profit, and some companies continue doing so today (Fuentes Carreño 2022c). A more recent example was narrated to me by Dahlia, who said that black markets continue in states that still forbid abortion. Some websites will sell Cytotec and scare users by saying no other brand will work. Although Dahlia recognized Cytotec is easily absorbed, in comparison with

Cyrux that has an extra coating, other brands work just fine (Fuentes Carreño 2022h). However, the recognition of the brand due to its monopoly for so long, as well as the fact it is foreign, allows for panic to circulate with generic and local competition associated with being untested. The problem with black markets is that they can circulate profit without clear limits, thus making capital a barrier breaker of the law and the geographical borders. However, black markets may or may not improve access to abortion for everyone, as gendered, racial and class differences tailors the demand and the economic power to buy it. Simultaneously it can be a mechanism to contest legal and economic borders imposed in different jurisdictions, such as the Mexico-US one, or the Egypt-Turkey.

Kelly continues explaining the downside of black markets, particularly the association with coerced sexuality and an apparent economic punishment. She narrates that misoprostol is supposed to circulate freely, in comparison with mifepristone. Instead, pharmacies' conservative values —rather than the lack of supply or the pharmaceutical companies' manufacturing limitations— are responsible for restricting the access to abortion pills —thus creating black markets. She narrates a story of a woman that had to get misoprostol from the black market, and that she was able to get the pills, but she was harassed and humiliated, scaring her that she will die before she performed the abortion. This verbal violence came with an exorbitant price: $10,000 Mexican pesos (around $500 USD to 2022 exchange rates) just for the pill and medical follow-up. Some other people pay similar prices for the pill and don't even get the follow-up, or if they do it is stigmatizing to their sexual life, works for profit, and is not done with a gender perspective (follow ups shouldn't be charged additionally) (Fuentes Carreño 2022c).

As a way to counter these abuses, Kelly explains that Igualdad Sustantiva, as many other feminist organizations in Mexico and globally, develop media campaigns that remind people that

misoprostol is free for sale, and it should go beyond certain price. They also mapped 75 pharmacies in Mérida city to be able to inform individual requests on how much misoprostol costs in each, if there are discounts, if they require a doctor's prescription, how easily do they sell it to women versus men, and any other information to avoid users being scammed in black markets. Geographic, gendered, classed and racialized differentials are central to Kelly's analysis of access to misoprostol. The arrival of generics that compete with Pfizer (which could cost up to $3,000 Mexican pesos, or $150 USD in the current exchange rate), allowed for people outside the capital to access the medicine. Women tend to have less luck in conservative pharmacies as well, and women in the peripheries, as Kelly describes, tend to be the more exposed to these abusive capitalist enterprises (Fuentes Carreño 2022c).

The history of the black market of HIV pills has been going on since the arrival of ARVs to Mexico, according to Carlos Ahedo and other activists, and continues to this day. As Silvia Carmona narrated, before the treatment was given for free by the Secretary of Health in Mexico, it was really expensive to buy it. This was known by people who will stand outside clinics in Mexico to market and sale them. They were given at higher prices, which will equal more than $800 USD to the current exchange rate for a monthly supply. Silvia explained that young people took advantage from the lack of support from the government during the 1990s, selling already open bottles of medicine, mostly with missing doses. They will sell whatever leftovers they had, and even though these were only a few pills, they managed to sell them to exorbitant prices (Torres López, Herrera, and Ciriaco 2017).

Carlos explains there is a differentiated impact on the black markets of HIV ARVs that continues to be unsolved. There is a group of vulnerable people, those with affiliation to the public healthcare system, but who still don't have any other income to properly sustain their daily

expenses. A lot of people since the 1990s did not want to enter the public healthcare system registration of people living with HIV, so they will buy their medicine in the black market and get tested in private laboratories. This demand will take advantage of vulnerable people who will sell their ARVs given for free in the public healthcare system, that will be comparatively cheap than if they tried to buy them from local pharmacies at the regular prices big pharma set. Carlos remembers some treatments will ascend to $20,000 Mexican pesos (around $1,000 USD to current exchange rates), while they could find them for $50-100 USD in the black market. What we see nowadays is people openly selling them in Facebook groups, but what has transformed them is the introduction of PrEP into the global market.

Before 2021, PrEP was only available through a research protocol between 2017 and 2021 in Mexico, with results that showed its accessibility mostly among white, cisgender, educated and middle-upper class men in urban settings, with worrying lack of access to racialized trans, young, and economically and educationally marginalized people (Gudiño 2022; Mundo De Hoy 2022). Carlos narrates that people will buy HIV ARVs and use them as PrEP. The consequences are multiple: 1) people who need the ARVs do not take them, thus worsening the state of infection in their bodies; 2) people who buy them as PrEP ingest more chemicals that cause additional and unnecessary damages to their organs (like efavirenz, the chemical with severe nervous system damages). The same way Mel Chen talks about mercury and led in toys, the mutability of the global markets and new demands to live sexuality as pleasure becomes punished through lack of access to proper medicine both for people living with HIV and for those who do live with HIV but face economic scarcity. Particularly, the physical travel of toxic chemicals into people's bodies not living with HIV racialize, gender and economically segregate them. Victims of economic exploitation (people living with HIV) have to give up their life-saving medicines to white,

cisgender, middle-upper class men who can afford enjoying their sexuality through a lens of pleasure. However, they become victims of the toxic animation of ARVs that are not designed for their bodies in need only of emtricitabine and tenofovir like the ones in ARVs.

Similarly, in testimonies Alyaa Abu-Shaba (a journalist that dedicated almost 10 years on HIV in Egypt) compiled between 2013 and 2021, we find differences in class translating a black market into an option or not for some Egyptians. Khaled, a man who got diagnosed in 2018, explained that in 2019 there started to be a shortage of ARVs in the Abbasiya Fever Hospital. Officials' only explanation was they were delayed in customs, and they would have to wait some additional weeks. However, he is not the first one dealing with apparent delays in customs, as there are delays since 2008, when the Global Fund awarded Egypt the first grant to start importing the medicine. Fouad Bashir, Head of Customs Systems and Procedures at the Customs Authority, confirmed shipments of medicines between 2008 and 2015 arrived on time, and that releasing them after clinical testing shouldn't take more than 21 days (Abu Shahba 2022, 101). However, corruption within the customs turns access to medicine that is supposed to be free into a black market in itself. Shehab, a man that got his treatment as a donation from an American organization in 2015, started facing obstacles from customs, who started charging him imaginary medical fees through each arrival. The fees went from less than a dollar to almost $100 USD to get them released. He complained that corrupt government officials in customs only see people living with HIV as a source of income (Fathi 2016).

Khaled went ahead and tried to contact the same organization in the US, but after 2015 those apparent medical fees for imported medicines kept going on to 5,000 EGP by 2021 (around $319 USD to exchange rates of 2021). Khaled ended up getting them from the black market through a worker from the Abbasiya Fever Hospital, who got it from one patient that sold them

due to economic burdens. Class differences impose additional barriers to the circulation of these chemical compounds, even if the actual regulated market is supposed to make them accessible and free. A contrasting example was from Nermeen, a wealthy woman from Ismailia, a city to the north-east of the country. To avoid any shortages from the Egyptian healthcare system, she simply buys it from an American friend who sells them in the black market. She pays $300 USD per month, which in comparison to Khaled, doesn't represent an economic burden to her, and gets them disguised as vitamins so people won't suspect when sending them in (Abu Shahba 2022, 79–82; 146–51).

Abu Shahba is very aware of the black markets that circulate around medicine in Egypt, but her narratives allows us to point at the differences in these markets embedded in the pervasive results of TRIPS over the global market of ARVs. Abu Shahba also put Khaled in contact with other people living with HIV that were selling the medicine. They got the ARVs from contacts smuggling them into Egypt through India or Brazil, who beat the WTO's patenting laws and were able to manufacture their own generic versions of ARVs since the early 2000s. As Abu Shahba narrates, the medicine from India and Brazil, although smuggled as well, is much cheaper than the American counterpart. Global South black markets around HIV ARVs circulate more easily and have an apparently different added value than with abortion. What we saw from Mexico and Egypt around abortion is that Cytotec continues ruling the market, with an exorbitant price that is justified with branding around effectivity. In the case of HIV ARVs in Egypt, price supersedes branding when there is no other choice. However, those who can afford the expensive American version do prefer it. Abu Shahba explains it is the alternative to the drug types the Ministry of Health dispenses, which usually come with difficult side effects.

Black markets circulating American pills that are preferred for lower side effects can be confirmed by other testimonies from 2016. The same American organization was mentioned in another article where Chehab, a person living with HIV, tried contacting them after the recommendation of a doctor. At the time, the Egyptian Ministry of Health gave Truvada with Sustiva, or Combivir with Sustiva, while this American organization was giving Stribild (Fathi 2016). The latter, according to the testimonies gather in 2016, is felt to have less side effects, and can be confirmed just by looking at its chemical composition. Stribild is an HIV ARV owned by Gilead, who also owns the Truvada that the Egyptian government circulates in Egypt up to today. However, the therapy that is approved in the country includes taking Sustiva, which has the generic chemical compound efavirenz —the one with harsh side effects on the nervous system. Stribild, in comparison, has a combination of four ingredients in one pill: elvitegravir, cobicistat, emtricitabine, and tenofovir disoproxil fumarate (Gilead 2021).

By 2022, Waleed Kamal, from UNAIDS, confirmed the government continues giving the two-pills system, despite Biktarvy is already registered in the country. The most popular therapy along with the ones mentioned with Truvada include Tivicay (dolutegravir), which can be used as a one-pill treatment. Both Tivicay and Stribild are a one-pill therapy, making it easier for adherence, although the component of Tivicay is cheaper to produce, and in Egypt it was awarded licensing to a discounted price. However, Tivicay is known for side effects like nightmares, depression, insomnia and anxiety, like efavirenz, while Stribild is reported in these testimonies to be more bearable. Tivicay is the only authorized medicine with dolutegravir in Egypt, meaning aside from Biktarvy, from Gilead, the GlaxoSmithKline has the other only medicine that requires to take just one pill. Following Chen's method of animacy and toxicity, we can think about the physical travels of certain ARVs and not others from the US to Egypt as animating them as

impoverishing and toxic, whereas improved versions are animated as modern and pertaining to the Global North. In this context, the labelling of "American brand The physical travels —or animations, according to Chen (Mel Y. Chen 2012, 15)— between the US and Egypt of certain chemical compounds not accessible in the local markets translates its original purpose (improving people's health and reducing side effects) into commodified versions (pills circulated in black markets).

For the black market of hormones in Mexico and Egypt, both of them were embedded into gendered and classed translations of who will get them and why. I found similarities as to how animations of different chemical compounds work for both of them: in both cases, as hormones circulate easily in the unregulated market, it is the intimate experience of finding some form of "specialist" (certified or not) that will then prescribe, and even sell, those hormones to them. Ibrahim explains that in Mexico it is not that trans women will buy "Bolivarian hormones" in a black market, but rather trans women share information between each other about what hormones work best for each. However, Ibrahim is concerned that bodies are so different, and hormones aren't designed for trans people, that the real risk comes from taking the advice from unprepared people, rather than by the hormones themselves. Without proper follow-up, a lot of trans women see no changes and get desperate. Instead of following a paced and regulated process of hormone care, they find surgeons that aren't trained on gender affirming surgeries, who will give them low prices or just inject them with biopolymers. This is a different intimate performance of the hormones that goes beyond the borders of the body, because it is not the intake which causes the black market to rise, but rather the lack of proper intake that, without results, leads to more catastrophic results.

Tanya Vázquez, spokesperson of Trans Famosas de Toluca y Aliados, explains that 25 years ago (right during the formation of the generics market in Mexico), she started taking hormones without any medical supervision at the age of 14. However, she stopped as she didn't see any immediate changes, but started seeing other trans women with kidney failure and skin problems. Years later, around 2007-2008, she looked in illegal markets for "biopolymers", as silicon injections are usually called among the trans community in Mexico. These fillers are illicit, and extremely dangerous. However, since then they were very cheap ways to see immediate results without having to pay for the expensive costs of cosmetic surgery. It was hard to find people to do the fillers, Tanya narrates, and they will sell them as a combination of collagen, elastin and something to fix it on people's bodies (Fuentes Carreño 2022i). Unfortunately, it is a health hazard that prevails up to today where trans women get amputated due to infections, death tissue and other health conditions associated to the use of these biopolymers. These chemicals transform the readily accessible hormones into one piece of a larger infrastructure where economic interests without proper healthcare provision render them almost useless. Without significant changes into people's sexuality, including their desires to live their bodies in certain ways, they end up transforming the way people live their corporeality by using even more dangerous products like fillers.

In Egypt, what we see black markets surging in what at this point of the debates of chemical economies, is a central space of intimate circulation and obstruction of sexualities: the pharmacies. There are some healthcare providers in charge of trans hormone care in Egypt that argue they provide hormones to any trans patient they take care of in the three hospitals with trans-specific healthcare (Cairoscene Staff 2015). All of the cases are initially taken by psychiatry divisions in each of them, who then approve for hormone treatment with the endocrinologist. However, activists and healthcare providers outside the psychiatric world confirm that people buy hormones

in local pharmacies without medical prescriptions (Magid 2015). There is a differentiated access to hormones, some of them being more readily available than others. “Gamila”, a pseudonym of a healthcare provider that agreed to comment, explained to me that in Egypt there seems to be no limit to start hormone care therapy, meaning adolescents can do it, if allowed by Al-Azhar and the specific committee formed to take cases on trans people. She explained that estrogen is not dealt in a black market as if they were narcotics, because they can get easily accessed, as they already are prescribed by gyneco-obstetricians to cisgender women. The problem, she argues, is for testosterone blockers. Gamila mentioned Androcur as a very popular one, but that Egypt stopped importing for unknown reasons. There is currently no alternative for Androcur in the country, except for a diuretic she couldn’t remember the name from.

Androcur is licensed both in Mexico and Egypt by Bayer as an imported medicine. According to the available data I gathered from the EDA, Androcur’s license expired in 2021, when I interviewed Gamila. However, other medicine in Egypt still circulate despite having expired licenses. If Bayer in Egypt is facing anything like what Bayer in Mexico faced, then the sudden standstill of imports may be associated to the global disruption of supply of active pharmaceutical ingredients. Androcur, although now used for trans hormone care, has a more popular use besides those related to gender care: cancer. Since the early 2000s, Androcur became one of the most popular medicines to treat solid tumors due to the cyproterone, its main component (Cravath Swaine & Moore 2006). Although they lost the patent a long time ago, this anti-androgen (once again, not design for trans hormone care) is in very high demand to fight cancer worldwide. Trade wars with China, and the COVID-19 pandemic, interrupted the supply of this API not only for Egypt, but for all the world (Dunleavy 2022), making it a very desired product in the black market among trans people.

In Mexico, trans men are facing a different type of black market, with a very visible gendered process of translation. Both Izack Zacarías and Máximo Carrasco told me stories of trainers and other people at gyms trying to sell them steroids and testosterone. Both of them told me there is a culture at the gym of using unlicensed medicine that is not approved nor legally sold for humans. Izack explains there is a process of muscle growth, but not a real process of masculinization, while Máximo narrated how he actually used Testoviron. He said it was extremely damaging to his body, giving him regular headaches and body pain. Izack also told stories of people at the gym trying to sell him horse and bull steroids. One trans man he knows was using illegal steroids for bulls did it for 15 to 20 years, but now his health is extremely deteriorated, and has had multiple brain strokes. Twice Izack bought testosterone from different providers. The first one was through a gym trainer who gave him a first package that seem legitimate. However, the following ones were missing letters in the box and they were the label was not well placed, so he stopped. The second time he got them from someone that used to work at Bayer, and argued he could get them in bulk when there was an error in labelling. However, every vial has a registration number, and when Izack tried looking them up it said the medicine belonged to a different laboratory. Máximo reminds us about the dangers of the black markets that trans people are vulnerable to: you can go into Facebook and buy it, but what guarantee do you have it is the actual medicine, that it is clean and that it is regulated? (Fuentes Carreño 2022b; 2022j).

b. Cooperative markets and contestations to pharmocracies

When we want to study the global pharmaceutical market, political scientists and political economist tend to agree on the deep root of neoliberalism in the current project of global health governance. Health and health policy are subject to market-based policy responses, to

commodification, privatization, liberalization of health and healthcare, and to the individualization of risk and responsibility for health, according to Rushton and Williams (Rushton and Williams 2012, 163). Against this individualistic views of people, people using sexuality-related medicine offer us an insight of agency in a forcibly individualized economic system. The forms of alternative market making that I look at different to black markets because they are cooperative in nature, without always meaning there is not profit made in it. Instead, it moves away from translating the added value of these pills as material expressions of commodified health and sexuality that can be easily exploited, and towards an added value of medicine that build networks of social justice and care.

Dahlia built a network of mobilizing medicine in a very conservative state where abortion for any reason is still not enforced —despite the Supreme Court ruling for it in Mexico in 2021 (SCJN 2021). She narrated Morras Help Morras built a network of supply of misoprostol and mifepristone with local pharmacies, donors, and clinics from Mexico city where both pills are legal for abortion since 2006. Farmacias Similares, which is one of the two pharmacies currently dominating the generics market in the country, has deals of several medicines that can be bought at lower prices certain days of the week. Dahlia explains it is their sales model which benefits them as abortion pills' users, because employees get commissions from sales. Compared to other pharmacies, like Farmacias Benavides, which are owned by a religious family and order no misoprostol can be sold without a prescription, Farmacias Similares doesn't require one, and even sell you misoprostol along with ibuprofen —for the abdominal pain that comes along inducing an abortion. Dahlia explains they prefer a commission over moral values and unnecessary obstacles, turning them into real allies. Pharmacies and other donors also give away medicine that is about

to expire, so they rather donate it to pro-abortion organizations, particularly in states where abortion is already legal (Fuentes Carreño 2022h).

There are other two models activists for abortion rights in Mexico have put together that I want to highlight: the first one empowers the users, and the second one empowers the organizations providing abortion care. Dahlia explains that Morras Help Morras has a specific model for women or any other pregnant person that needs an abortion pill to go to the pharmacy themselves. She says that when someone comes in, they usually are in a state of crisis, shock, or stress, due to the unwanted pregnancy. The fact that they start taking care of the process themselves disables the sense of crisis by distracting them. Morras Help Morras gives them the initial instructions as to where to go, what to ask for, and options in case they can't get it during the first try. Once they come back with the pills, Dahlia tells me, they come with a different attitude: triumphant that they're already have way through the process.

The second model is based on organizations that have started creating small stocks of misoprostol they keep in their facilities and work it out as a "solidarity-based economy". They buy the boxes and resell them, but to prices that are accessible to users. For example, she narrates that if the box costs $380 Mexican pesos ($16 USD to current exchange rates), they will sell it to $200 MXN ($10 USD) for the exact amount of pills, rather than the whole package. That way they can generate income to reinvest in more pills, while making it accessible for more users. Dahlia points at the economic benefits of this circular economy, but also how it recognizes the emotional and physical labor it implicates accompanying abortions.

[redacted] is imported and, as in Mexico, it's considered the most effective misoprostol pill to induce abortion (although other

brands are available in Egypt). Against the management of sexuality as an economic object that can be commodified under moral panic values —like the fear of women being unmarried or sex workers— women in Egypt join private Facebook groups vetted in the country as feminists. [redacted]

People seek abortion-inducing pills here, and they inform each other on how to use them — although not always accurate.

The history of community oriented support around HIV medicine is embedded with the history of the invention of those ARVs. In Mexico, Alaín Pinzón founded VIHve Libre in 2019, an organization that gives free medicine, psychological support, and free STI testing to people all through the country. As medicine is becoming less accessible with the supply chain disruptions derived from the COVID-19 pandemic, Alaín circulated medicine against government's inability to buy them on time and distribute them in the public healthcare system. In an interview last year, Alaín explained that his organization started without any money, and until today it lacks sustained funding, thus most of the people working in it are volunteers. However, their grass-root work delivering medicine in subway stations, sending ARVs and other medicines through the postal office all through the country, and the constant posting of donations and deliveries on social media, gives hope to PLHIV and support from government institutions and other users. In 2022 the most common medicine he is getting requests for are Biktarvy (the latest medicine from Gilead, thus the most expensive and currently facing delays in purchase by the Mexican government), either brand of Dolutegravir (only two currently registered by GlaxoSmithKline), Tremixclar (from Sandoz) and Goltrec (by Landsteiner).

Alaín narrates most of the medicine he gets is from people who passed away and left treatment behind, or those who changed their ARV scheme. Alaín explains it is hard to get them sometimes, because all of them are catalogued as first-level medicine. This means it is the first option of treatment giving to someone with a positive result of HIV whose body doesn't need additional treatment. Analyzing more than 3,200 tweets from Alaín between November 29, 2021, and October 2022 in NVivo, protests, comments, preoccupations and demands for medicines appeared at least 138 times. Most importantly, Alaín recurrently comments that along with donating medicine, he also includes in the packages lubricant, condoms, stickers, and notes of support that usually read "you're not alone", or "we send you these pills with a lot of love" (Pinzón 2021). He is also an activist who circulates donations for co-infections and co-morbidities PLHIV may face, as well as hormones for trans people, PrEP for people not living with HIV, and any other medicine. Alaín's message of solidarity and grass-root support is paired with the enjoyment of sexuality at its fullest. In a tweet he joked around being responsible for circulating ARVs and taking care of people adhering to their treatment, but also of people "barebacking" —meaning unprotected sex (Pinzón 2022b). His vision of reintroducing medicine into people's lives that is not being allocated efficiently by markets and government institutions re-animates it in a different fashion: it is an actual opportunity to live one's life and sexuality without the stigma that getting them from the hospital feels like. The sense of solidarity stemming from pills handed directly from someone living with HIV, donated by someone else who lived or is living with HIV, allows for a sensation of community that top-down approaches of purchase and distribution lack.

It is harder to find cases of cooperative support in Egypt, where medicine is very centralized in the Ministry of Health. Although the government announced that thanks to the high manufacturing capacity of Eva Pharma they were going to start distributing HIV medicine in

private pharmacies, the reality is that it hasn't been implemented since it was announced back on December 2020. In 2018, I interviewed a healthcare provider who, along with his wife, worked on HIV in Cairo in a hospital. The way he did activism around HIV is associated with the landscape of stigma and securitization around the virus in the country. He doesn't work with an NGO, but rather an entrepreneurs' program that he set up. In it, he brings together peer-to-peer groups of men, while his wife work with women's groups, that are living with HIV. The groups are publicly marketed as part of a consulting program he runs, but are actually for peer-to-peer support. He narrated to me these groups serve to meet other people living with HIV, but also to redistribute medicine that is missing from each other. As he narrated, they pool in the medicine and everyone takes back home enough to keep going until the next meeting. Due to security concerns, he had to leave the country years after, for which those groups may have closed down. However, he worked for more than a decade on HIV in Egypt with a community based approach. He commented that, unfortunately, the black market of information around people living with HIV, as well as of medicine, prevails in the country. Knowingly or not, the model of support he set up for his peers allowed to circumvent the abusive nature of those markets exploiting people's, and rather translated the lack of regular medicine into a group of solidarity and material support.

Tanya Vazquez explains a different community-based approach that contests at least two things: first, the commodification of sexuality by hormone producers that continue designing hormones only for cisgender women's bodies; and second, what trans embodiment means to trans women when certain chemicals aren't accessible or don't produce the results they want. For Tanya, Las Famosas de Toluca is a sorority group now comprised of 40 trans women in the State of Mexico (different from Mexico City, the capital). She argues trans women in her association left hormones behind, because it is too expensive to have an endocrinologist giving consultation, and

having to pay a hormonal treatment in a state that still doesn't give them away in the public healthcare service (like Mexico City does).

What they do instead is put together a community-based saving account in which everyone puts in some money. They list all the people participating in it and, one by one, they start using it to pay for other ways to undergo any small procedure that makes them feel more feminine. For example, Tanya talks about laser sessions to remove body and facial hair, some others get breast implants, and some others facial surgeries. She argues that, financially, it ends up costing the same as a long-term hormone treatment. Tanya is proud about the sorority-based model of accompanying each other, stating they support each other into achieving the bodies they want. She recognizes that achieving the body they want may not follow standards of femininity, as trans women have hyper-sexualized and hyper-feminized themselves, but it's a matter of simply feeling feminine enough. That community based model also responds to a reality Tanya talked about. A lot of trans women don't have access to the workforce, thus being unable to pay hormones, plastic surgery, or any other cosmetic procedure. Thus, even if other states outside Mexico City recognized trans people's rights to hormone care in their state-level healthcare systems, they wouldn't be able to join through the current scheme that requires having a paid job with social security.

This is a form of contestation to unaffordable markets for trans people. It comes to light that access to hormones is also a classed, geographic and gendered process of reaching a desired corporality and living one's sexuality through these chemical alterations. We see, instead, trans women form the peripheries of a centralist country substitute hormones with other immediate surgical procedures. Temporality plays a central role here, as in financial terms they argue it's cheaper in the long run to undergo surgical procedures, despite the high initial costs. It is also a matter of immediacy: sexuality needs to be enjoyed, lived and embodied today, in the present.

Thus, there is an urgency to see those changes happen now —laser surgeries to remove body hair; implants and biopolymers to see bodily forms change as fast as minutes. It all comes within a community grass-root based economy of solidarity. When there is lack of access to bank loans or jobs that can pay off the debts, they build a savings account with each other.

In Egypt I haven't been close enough to the trans community to know other models of cooperative markets around hormones, or other chemical compounds surrounding their sexuality. However, Bedayaa described that there exists some solidarity from some pharmacists. The same way some local vendors abuse the need of trans people to get their hormones, and some others simply deny them the possibility to buy them, there are others supportive of the trans community in Egypt, according to testimonies given to Bedayaa. In a report on trans people's pathways from 2019 to 2021, Bedayaa argues that the same way a lot of trans people resort to black markets, they also resort to supportive pharmacies or members of the queer community to buy the required hormones. The difference is that those supporting them will sell them at the official price, while getting them from the black market, or from people that are less supportive, will sell them up to three times more expensive (Bedayaa 2021, 30).

III. CHEMICAL BIOCONSTITUTIONS

Competing sovereignties are in the game when laws, protocols and other forms of normative define reproduction, health and sexuality. Using abortion-inducing pills, trans hormone care and ARVs for HIV have added values beyond markets. There is a simultaneous competition between users, healthcare providers, government officials, pharmaceutical companies and civil society organizations around the governance and bioconstitutionalism of sexuality. In this chapter I focus on contradictory frameworks: the human rights framework, under which the idea of sexual and reproductive health rights gained traction to translate accessibility of those chemical compounds into full enjoyment of sexuality; and the securitized state framework, under which a human-security governance regimes intends to create moral panics to govern sexuality through antagonistic laws (normalcy/deviance, cleansing/immorality).

Most scholars on human rights, as well as international organizations themselves, recognize the difficulty to find a global consensus around sexual rights, despite the advances on sexual health, reproductive health, and reproductive rights into a global grammar. However, the incorporation of liberal principles to alternatives that allow us to expand and advance SRHR have had implications for their global governance in three ways: 1) the global governance of SRHR cannot be dissociated with other systems of governance that are gendering and gendered (gender, race, class, ethnic group, religion, nationality, ability/disability); 2) SRHR are interdependent with social and economic rights beyond poverty and health, and towards pleasure and development; 3) shifting epistemologies around the body with global epidemics and competing global discourses around sexuality, reproduction and rights.

During the 1980s and 1990s, feminists were able to reassert the importance of looking at women's health through human rights rhetoric and toolkits, which became the immediate precursors of global debates on sexual and reproductive health rights. In 1981, the CEDAW entered into force as the first global instrument to pressure in favor of women's health. According to Yamin, the CEDAW linked women's rights in a transversal approach of civil/political, and economic/social/cultural. With it, women's health was formulated as achievable only through the access and fulfillment to other rights without discrimination. This intersectional approach is now part of the global governance of sexuality and reproduction that recognizes both spheres as political and beyond binary divides. There is an ongoing recognition by international organizations, national governments, and both transnational and local activists of their stretch link to the fulfillment of social, economic and cultural rights.

Global conversations on health became spaces on bio and necropolitics that reasserted the role of the political over the body, and developed over the developing world. In 1984, during the International Conference on Population and Development in Mexico City, the United States (US) issued a Reagan administration policy. In it, the government threatened to defund any non-governmental organization (NGO) in countries which offered abortion as one of the methods for family planning programs. USAID continued allocating money to Egypt from 1977 to 1993 under the Reagan policy, because the National Egyptian Family Planning program didn't recognize abortion as a method of family planning. However, it had a larger impact on research dealing with abortion in overall in the country. Egypt held a conference in 1984 on the consequences of contraceptive failure, in which the USAID mission in Egypt issued a letter reaffirming their threat to deny applications to USAID to any country involved in projects that promoted abortion. If we

look at the research produced in Egypt between 1970 and 1990, we realize research on abortion between 1984 and 1993 virtually ceased.

According to Wolff, the global reach of HIV/AIDS reframed our understanding of the human right to health. First, it rendered visible the intersection of health with the fulfillment of every other right fundamental to SRHR: the right to non-discrimination, the right of free mobility, the right of labor, the right to education, and the right to life. Second, it allowed scholars and practitioners of health to pin down responsibilities to fulfill the human right to health into multiple actors. When governments couldn't comply with their obligation to provide treatment, the international community had a duty to assist them. When national governments refused to act, it was the responsibility of the international community to apply pressure to bring it to act as it should. And when the drugs were available, companies were forced into lowering their prices and partnering up with external funders towards providing access to anyone who needed them. The global understanding of capital flows that render visible inequalities between and within geographies to fulfill these rights reveal how reproduction and sexuality are controlled through similar global processes, but also the tight relationship of the once divided political & civil rights with the social, economic and cultural ones.

During the 2000s there was an emergence of the struggle for gender identity and the fight against multiple forms of discrimination in the global institutions governing human rights. By 2007, the Yogyakarta Principles became the first internationally publicized and designed strategy of this new stage of sexual rights. It was signed by activists from all around the world and explicit its concerns about discrimination based on sexual orientation and gender identity (SOGI). It doesn't have any article related to sexual life or sexual pleasure, but rather is fighting against discrimination based on SOGI that hinders access to basic civil rights. The latest shifts in the global

governance of sexual rights follow a more comprehensive approach that merges models of violation (violence based on same-sex sexual behavior and gender identity) and of promotion (protection of identities and conducts) of rights. The language of "sexual rights as human rights" is now engaging with sexuality as a characteristic of all human beings, in a way as well for activists to build effective coalitions across other sectors.

The United Nations Fund for Population and Development held an international conference in 1994, in Cairo (thus, referred as the Cairo Conference). The delegations agreed on a Programme of Action that served as a framework for each country on population and development, and since its first edition it provided a definition of sexual and reproductive health rights (SRHR). These recognize the basic right of all couples and individuals to make decisions concerning reproduction free of discrimination, coercion and violence (UNFPA, 1994). Its last revision, in 2014, recognized as part of those rights the full equality and non-discrimination to women and (explicitly) persons of diverse sexual orientation or gender identity (UNFPA, 2014b: 7-10). The Conference celebrated its 2020 conference in Nairobi, and updated their definition of comprehensive sexual and reproductive health and rights. In them, they included safe abortion services and treatment of unsafe abortion, prevention and treatment of HIV and other STIs, and counseling and services for sexual health and wellbeing. Specifically, the document argues that interventions around SRHR are critical for treatment of HIV, and the implications of legislation around vulnerable groups, such as LGBTI+ people and people undergoing abortions (UNFPA 2019, 12).

The reality of Egypt and Mexico is most contrasting in the chemical politics debates. Progressively, Mexico is making steps of legislation where access to these chemical compounds related to sexuality are included in legislation, protocols and other norms that allow for people to enjoy them as rights. On the contrary, Egypt retains criminalizing laws that enforce a security state

contested by users that also use the human rights discourse. The possibility that ongoing activism has opened for Mexico allows them to move beyond sexuality as a matter of health, and independent from reproduction, while in Egypt the government transition towards Abdel Fattah al-Sisi led to a reduction in a lot of legal arenas.

1. Abortion laws and reproductive justice

Advances of biology and its conceptions of life have been constitutive in the design of laws. According to Jasanoff, this is what bioconstitutionalism entails: biology focuses on the definition of life, while law focuses on its entitlements. They coproduce and leave ambiguities between biological knowledge and its translation into material forms (Jasanoff 2011b, 3). I would like to add that chemical sexualities are intervened by legislative and extra-legal regulations —meaning they're not necessarily encoded in laws, but present in non-legally binding protocols and other guidelines—, as the interaction between these chemicals and the sexual behaviors and desires are restricted, negotiated and contested to emancipate or to discipline the possibility to practice one's sexual life without being penalized if reproduction is not desired.

In 2018, I interviewed Omar Feliciano, Communications Manager at GIRE, before he passed away in 2020. He narrated to me that after the popularization of abortion pills worldwide in the 1980s and 1990s, Mexico established a "pentarchy" known as the Alianza Nacional por el Derecho a Decidir (ANDAR, National Alliance for the Right to Choose). It was a joint effort between five well established organizations in Mexico to advance the abortion agenda in the country: IPAS, GIRE, Católicas por el Derecho a Decidir (CDD, Catholics for the Right to Chose), the Population Council and Equidad de Género (Gender Equity) (Feliciano 2019) (Sánchez Fuentes and Ubaldi Garcete 2008, 30). Each of them dedicated themselves to different spheres of

action on the agenda. GIRE, and Equidad de Género focused on the legal work (here called bioconstitutional politics, as laws determining life and death are integral to the multiple local constitutions and the national one); CDD focused on the socialization of abortion among a country with high faith practices that condemned abortion; Population Council and particularly IPAS focused on the medical training and awareness raising for healthcare providers and politicians across the country, as well as towards the development of medical protocols (Feliciano 2019).

The multiple organizations were part of a global circulation rebellious politics that looked not only to Europe, but mainly to Latin America, to find ways to circumvent the legal restrictions that governments and companies held over mifepristone and misoprostol. Dahlia, from Morras Help Morras, remembers some of the first organizations talking about misoprostol were Women on Waves, around 2005. After that, a Chilean group called Línea Aborto Libre (Free Abortion Phone Line) also started demanding affordable access to misoprostol. Later on, she recognizes Morras Help Morras is one of the first organizations replicating those demands, specifically on abortion pills (Bat 2019). I bring in Dahlia's narrative because it is in 2005 that the World Health Organization includes in its List of Essential Drugs that countries are recommended to make accessible under their own laws both mifepristone and misoprostol (WHO 2006, 36). Local organizations worldwide started using this resolution as a figure of authority to demand affordable access to abortion pills in the country.

The organizations that were part of ANDAR fought for reforms in legislation criminalizing abortion that got its first victory in 2000 (Paulina's case, who was sexually assaulted at 13, ending up in pregnancy). From there on, the alliance managed to put enough pressure to decriminalize abortion under any circumstance in Mexico City in 2007 (Sánchez Fuentes and Ubaldi Garcete 2008, 15–24), and now in Oaxaca in 2019. However, the specific debates towards access of

misoprostol and mifepristone were not negotiated solely through reforms to the penal codes, but rather through the syllabus governing healthcare providers and through awareness raising among pharmacists that didn't know much about the off-label uses of misoprostol, nor the properties of mifepristone.

For example, IPAS started since 2001 a project to support universities in their syllabi regarding sexual and reproductive health, including the multiple dimensions of abortion. The syllabi in multiple universities didn't include mifepristone and misoprostol as methods for ending a pregnancy (González de León et al. 2002; González de León, Billings, and Ramírez 2008, 259; 263). According to some qualitative studies during those times mention that induced abortion was described in legal medicine books as "criminal abortion", and to qualify those who perform one as "professional abortion performers" (Sánchez Fuentes and Ubaldi Garcete 2008, 263). When bioethics became part of the curricula that students in medicine school had to take, similar tropes of homicide and death were all over the texts. Thus, the interaction between law, biochemistry and sexuality demonized certain sexual behaviors as punishable, turning healthcare providers against their patients. Similarly, it allows for the consolidation of an imaginary of sexual intercourse only with reproductive ends.

After 2007, with the decriminalization of misoprostol in Mexico city, the consumption of misoprostol escalated and became part of a nationwide debate. Since 2008, the Chief of Department in Reproductive Health of the Institution Nacional del Seguro Social (the National Social Security Institute) declared that the Secretary of Health already knew that misoprostol was being used nationwide as an abortifacient (Farías 2008). The problem after abortion was legalized has been the rise in pro-life groups trying to use medicine and law to hinder access to abortion. In the last couple of years, Dahlia narrates that the problem hasn't been an increase in prices of

misoprostol through the years, but rather the increase in restrictions to get it. The Frente Nacional por la Familia (National Family Front, a pro-life nationwide organization formed in 2016), and other pro-life groups before them, have been pressuring the local offices of the Secretary of Health to force pharmacies to require a prescription before selling misoprostol.

As every misoprostol brand in Mexico is just patented for gastrointestinal uses, and not gyneco-obstetric ones, there is no need for a prescription. However, depending on the political stance of each local government (PAN politicians, who are right wing, for example), the manage to even meet with the Secretaries themselves. Dahlia says that years ago there wouldn't be a problem, but now cases like Aguascalientes have faced strict orders to all the pharmacies to require a prescription for each time someone buys misoprostol. As a response, Morras Help Morras submitted an official complaint to the National Human Rights Commission, as this is considered a human right violation to health (meaning access to a counter medicine), and won (Bat 2019). For years, Women on Waves in Mexico has listed all the pills that can be sold in the country, and has been updating with time which ones are becoming harder to get, and which ones are only sold with prescription (Worrell 2019).

Against this project, Rafaela Schiavon, from IPAS, contends that all the legal and medical evidence that has been circulated globally and nationally protects professional healthcare providers. However, it also obliges them. If there's all this knowledge, we cannot ignore it. She does not think there should be a possibility to prescribe, but it is instead a professional duty: an ethical duty. It depends on medical healthcare providers to have an ethical behavior through which their first obligation is to "consider women's wellbeing; the protection of their health and their life, including their privacy —that's linked to professional secrecy and confidentiality of medical appointments" (Schiavon 2010).

Isabel Fuldá added another layer to the debate that links sexuality, health and reproduction with competing frameworks between human rights and securitized states. For her, there is an abysm between Latin American healthcare protocols and the recommendations from the WHO on abortion medicine. In 2022, the WHO launched a new guideline for abortion that once against recommends medical abortion over surgical abortion. However, as many states within Mexico haven't incorporated the ruling from the Supreme Court decriminalizing abortion, local healthcare providers aren't trained to understand medical abortion is less invasive and poses less risks for people. In some cases, they continue doing curettages, which requires scraping the inner lining of the uterus to remove any tissue. It becomes a contradiction when abortion is becoming legal at the state level that it is still dangerous going to public healthcare providers, rather than doing it at home with support from NGOs.

The problem with the governance of abortion, and thus abortion pills, in Mexico is that the mechanisms to conduct an abortion itself are not regulated in Mexican legislation, says Isabel. There is a bill, called NOM 046, which is focused on sexual violence and access to abortion — particularly under sexual assault. Other legal tools that exist in the country include the penal codes, the medical protocols and this bill (or "norma" in the Mexican universe of legal tools). The problem with any of them is that they don't explain what are the techniques to conduct an abortion, and healthcare practitioners are supposed to follow the WHO guidelines —which they do not do in practice. It was until the pandemic that the National Center for Gender Equality and Reproductive Health published guidelines from the Secretary of Health that specifically mentioned medical abortions (meaning pills) should be something people must have access to during times like the COVID-19 pandemic.

Most importantly, Isabel explains a different approach that tries to bridge the securitized state of abortion that narrows the topic down to making it legal or not, and the human rights approach that talks about full access or not. Isabel compares the US approach to abortion to what Latin America is doing in terms of political discourse. In her analysis, the US feminist movements in the Anglo-sphere approached abortion as a matter of privacy and individual rights over one's body that the government should have no right to interfere on. However, in Latin America there is a positive understanding of rights, not a negative one. In other words, it means that feminist movements in the region want governments to get involved and provide services, with a perspective of social and racial justice. Mexican activists, Isabel narrates, continue to push for public policies where access to misoprostol is always available, not as a matter of making it legal to be used for abortion —which will mean changing its denomination in market controls from gastric uses to gyneco-obstetric. Instead, she aims to make it freely available in the public healthcare system. She explains that although the price is not that high, it should be provided by the State, and that healthcare providers should know how to use it along with mifepristone. The fact that feminists are demanding access to it doesn't mean they want the state to stay away as it would do under the "pro-choice" human rights framework.

With the rise of trans-excluding radical feminist (TERF) tropes in the Mexican feminist movements, there is a rising intersection between the trans movement and the feminist movement that also expands our understanding of chemical debates around sexuality. During my fieldwork in Mexico between March 2020 and December 2021 I participated in LGBT+ protests, and worked with feminist organizations advocating for reproductive justice in the country. Something I noticed was the rising demand to include trans men and non-binary people in discourses around abortion, as a way of reclaiming reproductive justice beyond binaries that TERFs started to use in abortion

debates, but also to understand the intersections of abortion and sexuality outside reproduction. This demand did not start in 2020, as during my first interview with Dahlia, from Morras Help Morras, in 2019, we already talked about how her organization, although not accompanying trans men at that time to have an abortion at home, was training peers to accompany other trans men in case they needed it.

Sony Rangel, a trans activist and government official in Mexico City, protested several times that there are many obstacles for trans men to abort. It is a complex form of discrimination where healthcare centers, even in Mexico City where abortion is legal, won't provide the service if the medical team doesn't feel like performing it based on lack of sexual education on gender non-conforming people. Luz Kimball, another trans activist in the northern state of Sonora working with Diverciudad, explains there is a large history of bodily dispossession against trans people. Medicine pathologized their bodies and identities, for which they have to fight against narratives of "being in the wrong body", so they can decide autonomously over them —including over abortion. More specifically, trans men like Sony are echoing an American-wide project to look at abortion as part of sexual and non-reproductive health. The *Red de Colectivos Americanos de Hombres Trans y personas disidentes del género femenino asignado al nacer* (REDCAHT+ in Spanish), is a continent-wide coalition of trans men in the Americas, from which Mexico is part of. They argue that we cannot limit the debate of abortion to reproduction and reproductive justice, but to specifically look at the trans experience around pregnancy to think about sexual and non-reproductive health. For them, the fight for abortion needs to guarantee the access to sexual education and comprehensive sexual health for everyone. The latter includes access to contraceptive methods along with medical abortion. Ese Montenegro, a trans activist from Argentina, commented in an interview with Sony (from Mexico) and other trans peers from Peru

and Guatemala, that trans men in the region don't only think about the need for decriminalizing abortion, but a broader agenda for their sexuality and existence as trans people (G. González 2020; P. G. González 2019).

Healthcare providers are still given freedom to refuse to perform an abortion, as it happens in other states where conscientious objection is becoming a legal tool by conservative people. He believes trans people should be included in public policies on reproduction, abortion and menstruation, because they are still excluded (G. González 2020; 2019). In the 8M protest in 2022 in Mexico City, the trans-led grass-root movement Juntrans Fest participated with a group of trans and nonbinary activists along with the rest of the protestors. In their communication and ongoing slogans they brought up the same message Isabel mentioned in her reflections. Juntrans Fest demanded not only safe and legal abortion, but also free for all as part of the broader reproductive life of people (Peláez 2022). In its press release after the Supreme Court in Mexico decriminalized abortion nationwide, GIRE finished by saying that they hope that in all the country, women and people with capacity of getting pregnant, have the conditions and freedom to determine their reproductive destiny (GIRE 2021).

During the 1990s, narratives in Egypt on abortion and new abortion technologies were unclear, because articles by religious leaders and secular commentators tended to ambiguity on when to permit or forbid abortion. In an article published on 7 September 1994, the Sheikh of al-Azhar, Gad al-Haqq Ali Gad al-Haqq, called upon doctors to be mindful when determining if a mother's life was in danger, because unlawful and unnecessary abortions were sinful (Bowen 2007: 171). However, Bowen doesn't look at the implications of pharmacists or companies selling the pills (actual abortion pills or labour inducing ones). The transnational links and the extent of

actors involved in reproductive politics was still very focused on the state and the traditional non-state actors up to the 1990s.

In 2004, Abdel Azim Ramadan, a council member in the Shoura Council proposed a draft law to legalize abortion. It was rejected by the Parliament in 2005, a year after its submission. Summer Said refers to Muhammad Sayed Tantawi, the Grand Sheikh of Al-Azhar, endorsing the draft law to allow women to abort a pregnancy that was the result of rape. However other members of Al-Azhar rejected Tantawi's position (Summer 2005). The debate over the draft bill of 2004 was only on including rape as a valid reason to have an abortion, but no discussions seemed to take place regarding the legal regime for essential drugs required for medical abortion, nor the off-label use of medicines that were already circulating in the market.

Summer's article recognizes that the industry of abortion is profitable for physicians, but excludes how other health care providers can capitalize the moment; even more, it ignores the abortifacients' industry: as long as there is a demand, and the law is kept restricted, the prices of the pills in the black market will remain high and allow for a black market to strive. Penalties are put over physicians, midwives and pharmacists only (Penal Code 1937: art. 263), but nothing is mentioned about transnational or local companies still circulating the medicine, regardless of the therapeutic indications they come with. Off-label uses of pills as abortifacients can be a double sword: it allows physicians to justify their inaction through lego-medical limits, but it also allows women to buy labor inducing pills at the price of the labeled use (such as misoprostol, marketed for gastric ulcers).

Agency and counter agency revolved around abortion in Egypt since 2015, but also around medical practice in overall. Since 2015, the Doctor's Syndicate in Egypt drafted a law on medical liability that canceled imprisonment as a punishment for medical errors. They propose a fine,

instead, only if doctors commit an error inside their licensed medical workplace. However, they propose to be released from responsibility for the results of the treatment, particularly if the patients do not follow instructions (Egypt Independent 2015). In 2017, the bill passed to the Parliament and is still under revision. The bill also clarifies the circumstances for abortion procedures. The proposed law provides a legal framework for permissible abortions that are compatible with Islamic law, and limits the procedure of surgical abortion to specialists in gynecology and obstetrics (M. Abdel Rahman 2018; Egypt Today 2017).

On 26 September 2016, the EIPR along with the global alliance "Realizing Sexual and Reproductive Justice (RESURJ)" called on the Egyptian legislative power to amend legal provisions on abortion. They called for it as a way to remember the 20th anniversary of the women's health movement declaring September 28 to be a day for global action for the decriminalization of abortion. They noted that the current Egyptian Penal Code only allows abortion under the physicians' Code of Ethics, which permits doctors to conduct one as a moral duty, not legal, if the mother's life or her health are under threat. However, the EIPR demands to amend the Penal Code, particularly art. 262, to stop levying penalties on women who have illegal abortions. They also want the law to guarantee that doctors and medical services are duly provided in defined cases. The only two cases they are advocating for are safe abortions in it threats the woman's life or health, or if the pregnancy is the result of rape (EIPR 2016).

That discourse is continuously evolving, contesting the state of securitization and contesting the limits of the human rights discourse. In 2018, a feminist task-force named "the United Law for Combating Violence Against Women" was formed with six Egyptian organizations fighting for women's rights. In 2021, they tried to revive a bill from 2017 to counter violence against women that included in the article 33 that "pregnant women shall not be punished for

abortion without the partner's consent". However, the law will only focuses on coerced abortion, so women could perform one in cases of rape by health providers, family members, or their spouses. The problem is that it will require consent form their partners, making it mandatory they need a husband's consent. [redacted]

[redacted]

2. HIV governance outside epidemic control

The first government led program on HIV in Mexico was founded in 1986: the National Committee for the Prevention of Aids (CONASIDA in Spanish). It underwent a reform in 1994, thanks to a new approach less based on moral judgment and more towards the epidemic control of the virus, work with civil society, human rights, and prevention campaigns. In 1996, Luis Adrián Quiroz, representative of the Group of Patients Living with HIV/Aids from the Mexican Institute of Social Security (Dvvimss in Spanish) went to the World Aids Conference in Vancouver as part of the Mexican Communist Party, and decided to come protest back in Mexico for access to ARVs. That year the protease inhibitors (like Kaletra, that I mentioned in the previous chapter) entered the international market, and along with National Front of People Affected by the HIV (Frenpavih in Spanish), he took the streets and demanded their right for health, including medicine (Montalvo Fuentes 2011) (LaSalud.mx 2007).

Since 1996, they started to mobilize for the legal commitment from the government to procure ARV treatment for Mexicans, to the point of filling a lawsuit against the Secretary of Health and the former CONASIDA in 1997 under the argument the state was violating their Constitutional right to health. The lawsuit was followed with ongoing protests with the message of access to ARVs, quality treatment, and the regularization of supply of ARVs available at the moment (zidovudine, zalcitabine, didanosine and protease inhibitors), as the public healthcare system did not recognize HIV treatment as part of the free services they would offer. They managed to guarantee the Mexican government would invest $73.5 million USD (exchange rate of 2000, according to the source) by 1998, and to establish the trust fund FONSIDA. Unfortunately, this only covered 10% of the population, with a specific focus on women and children, and failed by 2001 (Ibarra 2018, 10–12). As a response to the inequality in access among the most economically

marginalized, and by pressure from NGOs, in Mexico City the federal government inaugurated the Specialized Condesa Clinic in 2000. It was the first research center and healthcare provider to offer services to those without any form of social security and of low income (Mino 2000).

A new wave of protests in 2000 helped reform it by the end of the next year. It was until 2001-2002 that the CONASIDA underwent another reform to become an autonomous entity from the Secretary of Health and became the National Center for the Prevention and Controls of HIV/Aids (CENSIDA in Spanish), thanks to the NOM 010 from 2000 (DOF 2000), or the Mexican Official Norm on prevention and control of HIV. In the norm we see a clear shift in global discourses around HIV and the human rights discourse, with an approach that aimed for grass-root movement participation. The bill says that NGOs and collectives should participate in the design of policies and programs to address the epidemic. Among the 16 organizations that joined the CENSIDA, Luis Adrián's organization was included, along with Frenpavih. Mexican activists participated in global conferences in 2002 protesting that access to ARVs was only a drop of help in a sea of missing programs to cover up the demand for universal and comprehensive healthcare for people living with HIV (Ibarra 2018, 10–12).

However, the movement started to face ruptures between those who entered the government institutions, thus working through reform, and those outside of it, which continued the social protests out in the streets (Ibarra 2018, 14). We continue to see that division today, where activists like Luis Adrián continue to participate in CENSIDA's roundtables and policy making decisions, while Alaín and his organization (VIHve Libre) have been physically assaulted by police officers in protests, continue to take the streets and reject entering the party politics discourse to guarantee his rights as a person living with HIV. In a story by La Lista News, Alaín reiterated that

improvements or hope cannot come from any party, or any legislative apparatus, but rather from the people who organize themselves to demand their rights (Ortiz 2021).

We see the two simultaneous process of securitization and human rights as a radical tool happening at the same time. Those activists that took their political activity within the institutions could fall into what Amar considers a securitized state that attempted to discipline activism on sexuality rights as a sanitized version of their work (Amar 2013). Other scholars, like Alison Brysk, would see this as a strategy to speak rights to power within the institutions they are now part of, as they attempted to modify the language, culture and focus from within the institutions —making them care through a solidarity project within the government ranks (Brysk 2013, 15). However, Fierro introduces a different theoretical approach that imagines the possibilities for human rights to be redeployed in a radically different way. What Fierro proposes is that we should think about rights not as a tool for contemporary governance that cannot help collective efforts to limit and counter state power. It is exactly because rights are part of a liberal/legal framework in the global discourse that it can be employed as a counter-strategy against governmental institutions. It can be done by activists that rework social rights and ground them in radical subjectivities (Fierro 2019, 401). What Alaín does is taking the protest as a mechanism to speak rights to power, while reframing the idea of rights as something community-based, originating from the grass-root to contest what the state understands as rights. A similar process happened in abortion activism in Mexico and Egypt, which contested liberal conceptions of the right to choose over one's body, with the individualist approach it comes with, and geared it towards a social and reproductive justice reframing of abortion pills as a tool to achieve it.

Despite that in 2001 the former UN Commission on Human Rights had declared the access to ARV as a universal human right. Dr. Gustavo Reyes, founder of the Center for Research in

Infectious Diseases (CIENI) recognized that the initiative was established in Mexico until 2003 thanks to a group of activists that, unfortunately, died years after due to complications related to Aids. He also pointed out that there are broader structural problems we need to address along with access to ARVs since then. Through the years, Dr. Reyes argued ARV provision is essential, but we cannot offer it partially outside broader community-based investment, but the Mexican Congress and the government continued arguing in media outlets the epidemic was already under control due to the alleged increase in ARVs purchases (CIENI 2011, 20–25).

This perspective of a broader sense of health rights and socioeconomic rights traverses access to chemical compounds used in the realm of sexuality. The medicalization of sexuality and the circulation of these chemical compounds as medicines controlled by healthcare providers make them essentially related to health. However, activists from the Global South have been conscious about the realities that separate the Global North's larger investment in public health infrastructure with the ones in Latin America or Africa. The Mexican case, as narrated by Dr. Reyes, always looked at Brazil as a referent to increase access for a country with not enough government resources destined for HIV prevention at that time, but also that couldn't afford the costs of ARVs imported from the US. Altogether, there was a recognition that a great portion of the Mexican population did not have formal jobs that allowed them to enter the public healthcare system and its free HIV treatments (CIENI 2011, 22–25).

During the decade of 2000 and 2010, the ongoing debate Alejandro Brito, an important journalist and HIV activist in Mexico, had with the Mexican bioconstitutional regime was the lack of access of people that didn't have a formal job, thus couldn't be added to the Mexican healthcare system. The idea of comprehensive healthcare goes beyond access to ARVs, but access to healthcare services in overall. There is a continuous debate around economic and social rights

under which sexual rights fell under. Brito contested the assigned budgets between 2000 and 2012 on HIV programs, because the government designed ambitious Programs of Action that remained as empty shells to budgetary abandonment. Brito's research found that in 10 years ARV treatment given in the public healthcare service only moved increase from 23.41% to 50%, leaving the other half of the people that do not have social security out of any possibility of getting help (CIENI 2011, 49–52).

When I asked Carlos Ahedo, from Yaaj Mexico, how has legislation around HIV ARVs changed in the country through the years, he also emphasized that if we think universal and free access to ARVs is the only legislation we need, then we are not looking at the broader socioeconomic contexts in which people are embedded. The HIV pandemic, he explains, is stained with discrimination, stigma, and additional barriers that make it hard to follow up with one's treatment. It requires proper care for mental health, access to proper housing, nutritious food, and the right for all people to be covered by health insurances, regardless of their sexual orientation or current job affiliation. The problem that he finds in legislation is that it is not looking at the HIV epidemic beyond the medical without the social. He asks how will someone take their medicine if they have to travel to a clinic that will take away their entire morning, when they have to go to work in an informal market, for example, to survive. The public healthcare system says treatment is free, but they require you have a national identification ID and some proof of residence, making people going through housing insecurity, forced migration, or trans people that haven't harmonized their official documentation be immediately excluded (Fuentes Carreño 2022a).

Sexuality and the sexual life of people is excluded from the design of legislation and public policies, Carlos argues. As an example, he makes us question ourselves how could a trans sex worker living with HIV, which is supposed to be a key population to provide care for, get her

ARVs, if she is lives in a hotel that shuts down during a pandemic like the one of COVID-19. Carlos represents a new wave of activism that did not experience the HIV crisis in the 1990s and early 2000s where ARVs didn't exist, and when they did, they wouldn't arrive to Mexico. He's experiencing one where ARVs exist and purchased, but don't arrive to the corresponding healthcare centers (hospitals and CAPASITS, which are ambulatory centers for HIV), and where we can focus on a broader discourse of socioeconomic rights. Carlos protests Mexico continues spending their time buying ARVs, "filling people with pills and nothing else" (Fuentes Carreño 2022a), which doesn't come with proper access to nutrition services, dental care, non-stigmatizing psychologic support, and access to a labor force free of stigma.

In Mexico the approach to ARVs for HIV is still centered into the pills, where it translates into a success when it arrives to the users, seen as patients, and keeps the virus under epidemiological control. However, there is no specialization among healthcare providers on the way people living with HIV want to live their sexual and reproductive life along with other rights. According to Carlos, there aren't social workers or nurses, for example, that understand different realities around HIV of injected drug users, sex workers, and LGBTI+ people, that traverse them in terms of their sexual, economic and political dimensions (Fuentes Carreño 2022a). And even the current programming around ARV acquisition is failing, as Alaín Pinzón has constantly reiterated through his protests against supply shortages. In a tweet from 2021, he challenged LGBTI+ activism's goal for equal marriage and pledge for the LGBTI+ movement to start demanding ARVs for all the people living with HIV, particularly trans women, rather than wanting to get married (Pinzón 2022a).

Carlos reminds us, like Alaín, that the idea of equal marriage is not enough, because it just becomes an additional stamp to the collection of legislations that are still not operating between

each other, and are rather an isolated portraits of apparent victories. Carlos highlights that people living with HIV don't only live through the road of their homes to the pharmacy and the medical appointment that gives them their ARVs. They are people who work, who get married, who fall in love, who even get incarcerated. They do thousands of things like the rest of the people, but their experiences aren't taken into consideration, thus facing broader structural barriers to a comprehensive intervention to the HIV pandemic (Fuentes Carreño 2022a). Through Carlos thoughts we can see how the pill becomes a barrier additional to the virus, that then gets an additional layer on top of it when there is no access to that pill, to broader healthcare services, to job opportunities, and to social security.

Through the decades, the Mexican HIV activism is managing to underscore the problems of what Amar has mapped in securitized states. The idea of governing the ARVs distribution as the solution to the HIV pandemic is living in new forms of sexualized and moralized governance that only performs and apparent sense security to people. However, new waves of activisms like Carlos and Alaín look at the flaws of the government attempts that disable people by only giving them the mere necessary to survive (the pill), and not an integral understanding of sexual health rights (like the ones mentioned by Carlos). Moreover, apparent gains from the LGBTI+ movement, like the idea of equal marriage criticized by Alaín, are insufficient when it doesn't translate into actual practices of human rights' reforms. Working with Yaaj Mexico, Casa de las Muñecas Tiresias (a trans-led advocacy group that built the first trans shelter in the country), and briefly with Inspira (an organization for HIV advocacy), I constantly heard testimonies of same-sex couples, in which some of them were living with HIV, and that wouldn't have access to the social security benefits from their partners. The human rights framework around HIV can also become limiting when it is only framed as the idea of the right to universal access to medicine, as most activists contest now.

Instead, the same way as abortion-led activism, there is a broader defense for social justice that looks at the intersections of impoverishing factors that lead to interrupted intake and access to those apparently free ARVs.

Egypt established its National AIDS Program (NAP) in 1987, and started developing 5-year National Strategic Plans since 1995, and the latest running from 2018-2022. The government did not produce any progress report until 2010, for which there is little available data during the first years around ARV access. By 2010, only 332 adults and 27 children were in ARV treatment provided by the government, and they were only available in Cairo. By 2019, they provided ARV treatment to 8,365 out of the 22,000 estimated people living with HIV in the country, which represents 38% of the total sample (Egypt's National AIDS Program 2020, 4). It was until that year that they expanded the access to 5 more governorates to what are known as Fever Hospitals (Egypt's National AIDS Program 2010, 15). Walid Kamal, from UNAIDS, explained to me that despite the increase in access to other governorates, ARVs are only available in the governorate capitals (Kamal 2022). In other words, there is only one center at every governorate responsible for the distribution.

Different news articles, along with official reports from the NAP, constantly report shortages of ARV treatment for people who need to keep consistent access to their pills. Despite this alleged increase in access, and distribution, by 2015 people still preferred Abbasiya and Imbaba in Cairo —with the exception of Tanta in the Delta— to get their treatment, mainly because of the degree of anonymity in contrast to smaller provincial hospitals (W. Hassan 2015, 52). This fosters Cairo's urban healthcare landscape to remain as the governing body over HIV care in the country.

Although discriminatory laws in Mexico can still criminalize HIV when not disclosed in certain settings, the type of police harassment and dangers of caring HIV ARVs is more prevalent in their debates around governance of HIV in Egypt. Walid Kamal told me in our interview that there is no legislation or law around the circulation of treatment beyond people having to get them from the public hospitals under the Ministry of Health. Anyone can be in possession of it without troubles, and even when coming from abroad one can bring individual ARVs. According to him, it is also legally procured in private pharmacies, despite the high costs. However, there are constant testimonies of people being arrested under charges of drug possession, even if they are HIV medicine (El-Garhey 2014).

A similar problem to the one mapped by HIV activists in Mexico prevails in Egypt. Although not as explicitly articulated as activists I interviewed in Mexico, those in Egypt also recognize the interdependence of socioeconomic rights with the possibility of fulfilling sexual rights along the way. In Abu Shahba's collection of testimonies, she argues that the governance of HIV ARVs distribution is responsible for negligence and deficiency in access to health. In her stories she narrates how a couple had to travel from Suez to Cairo to get their medicine, but it was usually delayed, making the couple travel weekly to be able to find it. They lived in a level of poverty that awarded them subsidies from the government, but the costs of transportation were still too high. The ongoing expenses made the husband give up and eventually pass away in 2013 (Abu Shahba 2022, 97). A similar case happened with another man who worked at a crafts workshop, from which he made barely any money, and mostly survived from a 300 EGP (approx. $44 USD at 2013 exchange rates). Trying to go get his medicine at the Imbaba Fever hospital was difficult, because it meant taking a day off and not always getting his medicine on time, and being far away from the laboratory he needed to go to for testing (Abu Shahba 2022, 97). The same way

in Mexico HIV ARVs are still the focus of the Egyptian government's policy, there is no attempt to circumvent broader structural socioeconomic problems that come along with the idea of health rights.

A critique to the approach of HIV within the framework of health in Egypt that should be replicated came from Wesam Hassan, former UNFPA Egypt Program Associate, and currently PhD student at Oxford University. In her Master's thesis ethnography, Hassan interviewed women living with HIV that participated in the Egyptian government's program to test the scandalous "Complete Cure". In 2014, military doctors claimed they found the cure for HIV, and that they designed a device that could detect both HIV and Hepatitis C in people's bodies by just scanning them. The machine would work like dialysis and the residual of the virus could then bee eaten like a kofta (Attalah 2014; Attalah and Mohie 2012; Yousry 2014).

During her years of activism before her dissertation, Wesam would work directly with people living with HIV to inform them about their legal and medical rights, particularly to deal with officials at the Ministry of Health's hospitals when getting their treatment and any other service (Hassan 2015, 16). With her later research, she pointed out how access to the government program of the "Complete Cure" was, for some, a matter of trust in government entities providing for healthcare, while others did it to get the allowance provided to participate in the experiment. She goes on and argues that we need to look at the intersection of deploying one's body at the risk of stopping ARVs intake with other sociopolitical forces: frustration with government's bad management and hopes for Sisi's arrival, the need to sustain their families, and competing understandings of health being a responsibility of individuals or the state (Hassan 2015, 22). Similar to Mexican government officials through the 2000s wanting to portray the end of the HIV ARVs crisis with flamboyant displays of programming and budgeting, the Egyptian military

attempted to display a groundbreaking discovery that will make the new government look as providing security to its citizens, not under a scope of human rights, but of governance of life in a broader sense. The translation of chemical compounds here, however, into hope for a better cure puts into the center of the debate the level of penetration from government's bioconstitutional discourses. The risk of halting a treatment that could be mortal under the hope that less chemically invasive methods are around almost infantilizes the socioeconomic needs of people left in the sexual margins of human rights protections.

Even more, Wesam narrates how Egypt's economic conditions make it hard both for users and providers of HIV services. There is no investment in salaries for doctors specializing in HIV treatment, nor in proper infrastructure to think even start thinking about health rights. During the trials, people were put into some form of blood dialysis, and later on a bottle with brown pills with no label or medical leaflet. These were given my military officers, and no doctors with "white coats" were present during the trials. This take over from the military over medical facilities, while giving substitute pills with no clear explanation, were new modalities of sexualized securitization where the idea of a rights framework was not even present: no right to information, no right to proper healthcare, and no right have justice made if attempting to sue the military.

Since the formation of the National Aids Program, civil society were invited to participate. However, it is them who have had to cover for governmental inefficiencies that doesn't look at sexual rights as such, but rather continue to enforce a securitized state that looks at people living with HIV as a social threat. Civil society organizations serve as breakers of the economic and political barriers HIV ARVs pose for certain individuals. In 2016, a Syrian refugee named Amin narrated he could not get his ARVs because Egyptian government authorities still enforced prohibitions of people living with HIV entering the country. He was scared of approaching the

government health institutions, who would catalogue him as a security threat rather than a human rights bearer, so he spent more than a year without his ARVs. A UNAIDS Egypt officer narrated how a shelter in Zamalek was giving free HIV treatment to refugees, so they channeled Amin with them to get medicine. The organization was supported by other UN agencies, and was known for respecting the data privacy that official healthcare providers do not (Fathi 2016). Amin perceived himself as a threat to social standing and the possibility to continue working without being registered by the Ministry of Health as living with HIV. Simultaneously, the current chemical politics in the country look at migrants as unsuitable subjects who find in organizations refuge as well.

3. Medicalization of hormone care

Despite trans people participated in the Mexican LGBT+ movement since the late 1970s, political engagement as individual organizations became visible in the early 2000s when they started using the human rights and civil rights discourse. Eon and Travestis México worked for the "right to be", to be named, and to non-discrimination (Sandoval Rebollo 2011, 119). Sandoval Rebollo argues that the demands from the trans community in Mexico jumped from the private sphere to the public debates very quickly, between 2008 and 2011, with new organizations under the umbrella "Frente Ciudadano por Derechos de Transexuales y Transgéneros" (Citizen Front for Transexuals and Transgenders' Rights). Trans activists openly reported violence based on gender identity in media outlets, participated in round tables on human rights, lobbied to pass bills in favor of gender identity recognition since 2006 and, since 2008, demanding not only the right to change their official documentation but also that the government offered them medical healthcare —including hormone care and gender reaffirming surgery (Sandoval Rebollo 2011, 122–25).

Until this day, the main fight of trans movements across the country are for bills on trans identity rights, which they consider being the root for the violation of other rights that encompass the same approach that HIV activists and abortion activists have mentioned. However, their fight extends beyond, as they think of the universe of rights as interdependent: lack of access to civil rights, like the right to identity, deprive them from any other socioeconomic right, like a dignified job, housing, and social security. All of the latter require some form of identification, thus rendering it visible these rights cannot be disconnected from each other.

The trans movement fought between 2007 and 2009 to pass a bill in Mexico City that guaranteed two things in the framework of human rights: the first is the recognition of their identity, and second, the recognition of comprehensive healthcare. Unfortunately, the media coverage around those years focused so much on the medical part that it fetishized the law as a project to allow people to undergo surgeries, with a tone that pretended to create scandal around the government financing and, to certain extent, authorizing such procedures. The media coverage led the leftist party at that moment, the PRD, to propose a new bill that was passed late in 2008 only to recognize their right to identity (Sandoval Rebollo 2011, 27–28; Rea Tizcareño 2009). The argument of then chief of government of the Federal District (today Mexico City), Marcelo Ebrard (current Secretary of Foreign Affairs), was that there was no budget to cover gender affirming surgeries, thus making it impossible to modify the health bill to include it (Cuenca 2008).

However, the Clínica Condesa, one of the most important research centers and healthcare clinics in Mexico on HIV, began a hormone care program along with the new trans identity bill. Activists complained that even though the law allowed trans people to change their official documents, it was too expensive, as it required appeals that the impoverished trans community could rarely afford. The economic inequality they were facing in the access of civil rights found

an echo in their access to socioeconomic rights as well. Activists kept protesting for the local Congress of Mexico's capital to reform the local health code to guarantee trans people had access to proper healthcare services, including gender affirming surgery. Activists from Letra Ese, a pioneer organization advocating for LGBTI+ rights in the country, congratulated the Clínica Condesa's support. They narrated the legal counseling, therapy and hormone care they started providing reduced the economic, social and health costs that the trans community faced on a daily basis (NotiEse 2009).

In Mexico City, in 2021, the city's government inaugurated the first clinic for trans care in the country. It became the culmination of two decades of activism around the vision trans people had about comprehensive trans healthcare. The clinic offers hormone care, along with other medical specialties like endocrinology, urology, dermatology, nutrition, psychiatry and clinical psychology, sexology, and internal medicine (SDP Noticias 2021). However, gender reaffirming surgery is still not included, and it is still widely unavailable in the public healthcare system.

Siobhan narrates to me that there aren't as many legal tools, norms, protocols or any other forms of bioconstitutional regulations around hormone care, or even trans rights in Mexico. Even with the inauguration of the Trans Clinic, along with the services the Condesa Clinic was already offering, Siobhan contests this is a still a geographic privilege, not a right. It is only a service available for those living in Mexico City. Being part of health rights for trans people, it should be available at the federal level through other public healthcare services like IMSS, ISSSTE, or other hospitals. The entire federal health system should, at least, give hormones to trans people. Unfortunately, the responds tends to be that there is no budget and local healthcare authorities won't be able to get it.

What Mexico has, that seems to be the global strategy as well, are protocols that inter-twin international and local knowledge. The World Professional Association for Transgender Health developed medical guidelines in several languages (Coleman et al. 2022), Siobhan explains to me, that government institutions in the country sometimes follow. At the same time the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) still circulates among several healthcare providers that don't use the latest edition. In Mexico the Trans Clinic and the Condesa Clinics have their own protocols. Talking with one of the coordinators from the Trans Clinic during my fieldwork, they confirmed they are developing a full written document, but most of it comes from spread out documents that need to be compiled. However, Siobhan highlighted that in Mexico, compared to other countries (like Egypt) doesn't regulate hormone care. She continued explaining to me that any medical procedures or treatments are independent to civil rights' recognition (which could be related to the history of the state separating trans civil from socioeconomic rights in the early reforms before 2010). The good side of it is that you don't need any medical proof to get your identity officially recognized, but the downside is that decisions are left entirely in the hands of healthcare providers. Geographic differences makes access to stigma-free services dramatically different, because Siobhan and other trans activists I interviewed recognized there are remnants of pathologization of trans people. They are looked as having mental disorders in need of a diagnosis to be allowed to see an endocrinologist.

There is a new organization, the Transgender Professional Association for Transgender Health (TPATH), which is led by trans people for trans people's health. They advocate to improve the design of the WPATH's protocols, but Mexico's participation is still very incipient. During my time in Mexico I only met two trans experts that were part of it: Siobhan, and Dr. Daniela Muñoz, founder of the Trans Salud clinic. Dr. Muñoz explained to me it is very expensive to become a

member, and Siobhan explained the organization is still very centered in the Anglosphere and the European world. Even the Latin American representation like Argentina or Uruguay are not very visible (Fuentes Carreño 2022d). Despite international differences, the creation of the TPATH gives us some hope of local contestations against not only pathologization of trans people, but also against cisgender control over their sexuality, even when being allies. The few open doors for trans people in Mexico that the recognition of their civil rights came with is allowing for a new cohort of specialized and trained activists, scholars and healthcare providers within the trans community to take over their community's sexual care. Sexual health, then is reclaimed away from cis people.

From one perspective, Siobhan thinks that the debate around chemical politics of hormones in Mexico is not in the public healthcare system, where people can complain about the violation to their right to health, but in the private healthcare system. This is something Dr. Muñoz also commented: these are spaces of opaque practices, where no established protocols for trans healthcare are available, and the costs of hormones are not covered by private insurances (Fuentes Carreño 2022d). Opposite to this, Izack in Jalisco believes there is a reverse process where the lack of proper protocols and legislation for civil and socioeconomic rights as a whole makes it hard to go through hormone care and gender affirming surgeries in public hospitals (Fuentes Carreño 2022b). He is worried all these obstacles and apparent benevolent medical steps for gender affirming care end up pathologizing trans people and delay their possibility to live their bodies how they prefer it. Izack argues that a lot of trans people want to start looking at changes in their bodies as soon as possible to feel more confident and have the courage to continue living. He is worried that vis à vis the lack of regulation, both in the private and in the public healthcare system, will then swing to a very restrictive bill that sets one specific path on how to live one's sexuality as a trans person (Fuentes Carreño 2022b).

Without protocols or norms ruling over trans people's access to hormones is now forcing a lot of them to have to get their documentation changed before healthcare providers prescribe hormone care treatment. Documentation changes are still difficult to get, despite Jalisco being the first state to allow for trans identity rights including minors in the country. Added to the obstructions in the civic rights governance of trans people, healthcare providers are asking for chromosome mapping before they can be referred to an endocrinologist. Healthcare providers argue it's a health measure to prevent mortal diseases to develop with hormone care treatment, but the problem comes with the associated costs to try to get those laboratory results. The process becomes frustrating when, after undergoing psychological therapy, hormone care, and all the documentation changes, a lot of public hospitals do not have doctors trained on gender affirming surgery, if it is the process a trans person wants to go through (Fuentes Carreño 2022b).

Tanya, who inhabits in Mexico state, the territorial demarcation next to the capital, also reminds us about the geographical and gendered differences between both federal entities. She states that even though they live in Toluca, the capital of the state, which is an hour away from Mexico city, she feels it is an abysm in comparison to the services offered there. She protests it is impossible for trans women there to exercise their human rights. There are no public policies, and no legislation on healthcare. They barely got approved the bill that recognized trans identities for adults, but she reclaims the government is still in debt to them for social security, the right to work free of discrimination, and the right to access healthcare. Most importantly, she recognizes the failure of the human rights framework in protecting them with a gender perspective, because Mexico state has two federal-level alerts of gender-based violence that are worse against trans women based on their gender identity. She looks at activism for trans rights to be encompassing,

where hormones are part of a dignified way of living for trans people, led by them (Fuentes Carreño 2022i).

In the Global South there is less regulation, allowing for the circulation and contestation to blurry boundaries to access medicine. It becomes less about legislation obstructing it and more about chemical economies making them inaccessible. Trans activists are proposing a different understanding of state control that revitalizes the idea of human rights and the intervention of the state. It is not about creating new legislation that restricts the use of hormones to certain spaces, but comprehensive bills of social security for trans people that allows for proper hormone care. To what extent does that move the responsibility between healthcare providers and government officials' rulings is still up to be discovered, but it proposes a different interaction between the body and the chemical: one free of stigma, but accompanied rather than left to individual responsibility.

Before 2003, medical archives in Egypt show that healthcare for trans people was very pathologized and mostly psychiatric. Despite the first case of a gender affirming surgery for a trans woman took place in 1982. Sally's case openly documented treatment of hormones for a year, but attention and controversies about it shut down the legislation or any medical protocol enactment for two decades. At that moment, al Azhar University rejected the procedure and determined in a committee it should not have been done, while the Great Mufti, Sayyid Tantawi, argued it was the appropriate treatment, if the doctor had agreed it was the only apparent cure,. However, he determined it should not be performed out of a person's will without a medical confirmation (Skovguard-Peterson 1995).

In 2003, the Egyptian Medical Syndicate published a new code of Ethics that prohibited "performing any sex-change operations without the approval of a specialized committee of the

Medical Syndicate" in Part Three, Article (43) (Egyptian Medical Syndicate 2003). Thereafter, they established a control process that Izack, in Mexico, dreaded that could happen if hormone care was regulated: in Egypt, the new code established that people willing to do a surgery needed first to carry out chromosomal mapping, and a period no less than two years of psychological and hormonal therapy. The syndicate established a committee, composed of healthcare providers, but also a representative from Al Azhar and from the Egypt's Islamic Advisory (Dar al-Iftaa), to authorize case by case. The latter stopped attending meetings around 2016 and, subsequently, the procedures and authorizations halted until 2017 (Amin 2020; Michael and Fam 2020).

In 2013, the Egyptian Medical Syndicate allegedly released a new Ethics Protocol (still not available in Syndicates website (Egyptian Medical Syndicate 2019)), and they made public statements that recognized "Gender Identity Disorder" as a medical condition that could be approved for surgery in public hospitals (Islam 2015). Only three hospitals in all Egypt used to conduct the psychological and hormonal treatment, along with the surgeries, and all of them are in Cairo: Qasr al-Aini Hospital, al-Demerdash Hospital, and Al-Hussein Hospital. The last one was part of Al-Azhar's Medical School, but after 2018 they stopped receiving cases because of a massive fired in the building (Egypt Today 2018).

There was never a legal document confirming the establishment of any of these committees, and for decades trans people have complained about the intermittence of the meetings, as well as the constant rejection of cases. The reality for trans people became a process of obstruction that delays every step of the already pathologizing perception of what being trans means in Egypt. The governance around trans people's sexuality was reduced to the medical realm, where the government fully rejects the possibility of them as right bearing in the public realm, despite apparent changes since 2013. Moreover, the centralization reaffirmed the power of Al

Azhar, through both the committee and cases taken in al-Hussein's hospital before it burned down, but also of Cairo, where everyone had to travel to, despite the costs and time consumed. There were some studies around 2013 on hormone therapy in Assiut that could be comparable to Cairo (Helmy and Mohammed 2014), but I could not find anyone from the governorate to confirm changes in the last couple of years.

As Bedayaas' reports confirm, the regulating procedures have around 13 steps, from the moment one conducts a gender identity disorder diagnosis test in one of these three hospitals, up to trying to to change identification papers after a surgery. All these steps require constant reports and documentation proving a disorder, thus in need of medical piety through a debilitating lens imposed by medical officials. While in 2015, Bassem, a trans man in Cairo, narrated his experience with the al-Hussain hospital, and Dr. Hashem Bahary, a leading psychiatrist for trans people in the country was good and supportive, more recent testimonies feel differently. Back in 2015, the news article that mentioned Bassem's story also talked about surgeries being free in Cairo's public hospitals, however, even Bassem agreed that not a lot of people do it because of concerns over surgical outcomes. Most people prefer doing it in private hospitals, despite the costs they may represent (Islam 2015).

Bedayaa narrates that the public hospitals in Cairo do not provide the hormone care treatment, thus leaving the expenses in the hands of the users. Medical providers told Bedayaa that there was no budget allocated for hormone care therapy in hospitals, and due to stigma among endocrinologists, a lot of them will not prescribe them to trans people, so they know which ones to buy and in what quantity (Bedayaa 2021, 29). However, this is part of a broader problem with access to healthcare in Egypt that peers at UNFPA explained to me during my internship in 2019. Egyptian insurances usually don't cover a lot of healthcare costs, and people have to pay out of

pocket first, to then claim for reimbursements, making it even harder for people to access proper healthcare services, including endocrinologists. World Bank data shows that from 2009 to 2019, Egyptians had to pay more than 50% of their health expenditure out of pocket (World Bank 2022).

Nora Noralla, executive director of Cairo 52, a legal research institute based in Cairo, narrated that in 2016 a trans man requested legal gender recognition from the state, but an administrative court denied it due to technical differences. The 1982 case came with a Mufti's fatwa that, although allowed for the surgery to take place, was interpreted only for intersex people. However, what was more relevant is that the court requested the Egyptian Parliament to issue laws regulating the matter, because 1) it was not a clear process due to lack of legislation; and 2) the medical syndicate should only be responsible for medical affairs, not deciding which cases to take or not. In 2017, the unofficial committee dissolved due to continuous conflicts between the religious and medical authorities in it, and requested transferring the responsibility to the Health Ministry or Justice Ministry (Noralla 2021).

Bedayaa's report from 2021 compiles research they did with focus groups and individual trans people in the country between 2019 and 2021. Their conclusion is centered in what we could call civil-political and socioeconomic rights, but is still influenced by how the perceive the role of the Egyptian government. In their framing we can see the influence of the security-state mentality that continues to permeate how the regime should contribute to the human-security laboratory it makes of its citizens. In their recommendations, they proposed the following order of recommendations: first, those related to the psychological follow-up and speed-up the bureaucratic process around reporting; then, they advised the Egyptian government to provide free follow-up to hormonal therapy in government hospitals, and provide medicines in all provinces, as a way to decentralize healthcare for trans people, and to reduce the economic burden of displacement; the

next set of recommendations were to facilitate the gender affirming surgeries, free of charge; finally, they recommend facilitating the process of official identification issuance. They also call for joint action for advocacy led by Nour Hisham, a famous trans man and son of a recognized Egyptian actor, as well as Farida Ramadan, a school teacher and known figure speaking up for trans people. They specifically request to put pressure for human rights of trans people, communication campaigns and joint work with allies and supporters of the cause.

Correa explained that feminists in the 1990s decided to move away from the idea of sexual and reproductive health and towards sexual and reproductive rights as a political move. It allowed them to advocate for the capacity not to make sexuality and reproduction part of health agendas, but to assume agency in autonomous decisions around their sexuality and reproductive life. It gave them control to fulfill their sexual and reproductive needs, both individual and collective (Corrêa 1997, 110–11). Something we saw in Mexico's chemical debates over governance and bioconstitutionalism was the explicit articulation of trans people's rights within the umbrella of human rights. It is an explicit political move to assume responsibility of trans subjects as right bearers beyond distinctions of civic/economic/politic or even of sexual/reproductive. What we see from Bedayaa's recommendations is still not a specific framework of trans rights, but a definite move outside of sexual health and towards human rights. However, Bedayaa's recommendations still leave the fulfillment of their biological, socio-economic, and political agendas in the hands of third-parties that continue to determine the path of how transness should be lived. The recommendations continue to reproduce the pathways that the securitized state imposed on trans people: having to undergo psychological treatment, where people could be given sedatives, antidepressants or any other form of chemical compounds to "cure" any other possible mental health diagnosis. Then, they have to undergo hormone therapy, which they have to pay for, and

may not be properly indicated by untrained healthcare providers. The next step will be undergoing surgery, and all of these obstacles are forced on trans people to be able to change their official documents everywhere else. The problem with the human rights framework in the Egyptian case is that, in comparison with the Mexican one where activists always lobbied for as a comprehensive bill, is that Egyptian activists are still falling into the dynamic that biopolitical tools of government traced for them. The possibility of a radical shift where identity doesn't need a chemical or surgical alteration for someone to become a trans citizen reiterates the government's power of sanitizing society of any sexual non-conformity, even within the binary.

Trans people since 2013 tried using these medical records to overcome limitations to their civil rights to identification, and against arbitrary arrests. The contrast between Mexico and Egypt process to exercise one's civil and socioeconomic rights can be traced through the translation of the chemical compounds hormones represent. In Mexico, trans activism gained victories around the right to identity that, despite not guaranteeing access to hormone care or gender affirming surgery, allows for documentation change to embody themselves in the legal public arena. As we will see in the last chapter, the self-recognition as a trans person that can be translated in immediate access to official documentation that supports that proclamation separates one's experience from the medicalizing and pathologizing experience of transness that we have been taught for centuries.

Being trans does not need to go through hormones, procedures or any body modification, radically reimagining how we think about rights where one claiming being a right bearing subject is enough. The chemical debates in Egypt, however, take place in a securitized state where protection of the individual (in this case perceived as sick or diseased) forces a medical pathway to embody one's own transness. There is no legislation, according to activists and testimonies from trans people, that allows for the recognition of trans people, let alone to permit surgeries or

hormone care, if desired, beyond the Medical Code of Ethics. What we see instead is a multilayered process that embeds chemical compounds (in this case, hormones) as a forcible step towards surgery. Even more, it forces surgery as the only way to legally recognize someone as being trans. The body is medicalized, intoxicated, and altered to comply with governmental expectations around the physicality of citizens.

IV. CHEMICAL ONTOPOLITICS

The core of my research endeavors continues to be around the interaction between chemical compounds and our bodies, mainly how that process alters, attenuates, modifies, obstructs and creates new forms of living our sexuality. Due to the ongoing debates around sexuality and chemicals being within the medical sphere, some authors argue there are risks of biomedicalizing it if we stay in that sphere. Biomedicine reduces it to its biological dimensions —particularly sexual practices—, individualizing it and genitalizing it. Authors studying Latin America and the Middle East have enough evidence of the role of transnational pharmaceutical companies, as well as of government officials, intervening into the conceptualization of people performing "at-risk behaviors", deeming them dangerous subjects whose sexuality needs to be surveilled, controlled, or altered in any possible way. I've looked at powerful institutions trumping markets that would otherwise allow people embody their sexuality to its fullest, or through legislation that limits the authorized stakeholders and processes to access products ensuring people's full enjoyment of their sexual rights. However, in this chapter I look away from the fight between individuals and collectives agency with securitizing apparatuses, both transnational and local.

Instead, I want to bring back a foundational contribution by trans activists and scholars on what they call ontopolitics of the trans body, and expand it to the ontopolitics of sexuality. The same way the body is biochemical, biomechanical, ontogenetic, and anatomic, it is also a tool of labor, a site of pleasure, and a space of pain. I look at people's agency around how they practice the consumption of those chemicals, what effects do they have in their bodies, and how that changes constantly the way their lives and those surrounding them are configured in new formations of chemical socialities. We will look at how these different chemical compounds are

inscribed with particular meanings, mainly by those who use them, rather than those historically inscribed by pharmaceutical enterprises, markets, and legislators.

1. Misoprostol as autonomy

GIRE, as Omar Feliciano narrated, was one of the first organizations in the country to advocate to decriminalize abortion in Mexico. Isabel, their current deputy director, joined the organization in 2012. When we talked about how misoprostol and mifepristone changed the way people live their sexuality, she draw a connection that I would conceptualize as "chemical trauma". Isabel explains that the access to misoprostol in terms of abortion changed the entire movement and people's feeling of panic pregnancy: people used to be scared of terminating an abortion unsafely, or having to carry on with an undesired pregnancy. Isabel explains this is an emotional mental state, but also a generational one. The idea of risking one's life changed with the introduction of misoprostol in people's sexual and reproductive life, allowing for people to change the narratives around it. Isabel believes that through the decades, people protesting for abortion decriminalization don't feel the mark that previous generations did around the "darkness of death, the solitude and the fear". It is instead a motive to march for "freedom, autonomy, appropriating one's body, and to be able to speak as an abortion-supporter without saying the word out-loud" (Fuentes Carreño 2022g). As Mol argued, we need to understand the social processes that inscribe the bodies with particular meaning. The incorporation of these new technologies (abortion-inducing pills) changes the way abortion is inscribed within women and other pregnant people's body, memory and lived sexuality.

The chemical trauma does not travel the same way with misoprostol and mifepristone, in contrast with using other non-medically tested abortion-inducing chemicals (herbs, teas, and the combination of any other medical or non-medical product). The use of misoprostol and

mifepristone, Isabel continues, brought a change in narratives around what access to abortion means to people. It made users realize it is less about them being legal or not, having to perform them in clandestine settings or not, but rather about how these chemical compounds made abortion safe. With that sense of safety, people were able to re-live their sexuality before and after unwanted pregnancies, without this meaning it should be a tragedy, that life should end, or that they have to choose between the risk of dying or giving birth to someone they didn't desire to. Legalization, however, has an added ontopolitical value to it, as now women and other people who can get pregnant, as Isabel reiterates, can go to the pharmacy with their friends and buy misoprostol together. It removes that sense of heaviness that lasted for centuries, and allows for people to experience it more "light-heartedly, with pride, and even with happiness" that people are able to get an abortion, rather than having to "survive" an unwanted pregnancy (Fuentes Carreño 2022g).

Isabel also explains that the generational shift around using misoprostol and mifepristone took years, reminding us these changes are not spontaneous, thus the socializations to the chemicals are never static. When Isabel joined in 2012, GIRE started questioning what was the message they wanted to advocate for in comparison to what they had been doing in the last decade. She remembers a specific campaign based on a real case of a sexually assaulted girl, and how she needed to perform a clandestine abortion with a hook, leading to her dead. The new movement she was part of, beyond GIRE and along with other grass-root movements, questioned if that message corresponded to the reality around abortion. She realized that a lot of conservative movements used the tragedy and sadness, along with trauma that abortion can cause, as a way to scare off people. The psychological and physical repercussions feminist movements portrayed look so similar to the conservatives that they realized abortion should be about pleasure. She explains it is

not pleasure of ingesting the pills and the chemical reactions they have in your body, but rather the freedom it gives to girls like those in so many campaigns to go and enjoy their childhood.

Despite some feminists wanting to remember the trauma that comes with unsafe abortions, chemical and surgical, around 2018 Isabel mapped a regional change in Latin America. The message moved away from the hook, representing the physical trauma of unsafe abortions that could lead to dead during the 1990s and early 2000s. Instead, Argentinian feminists started using a green handkerchief as a symbol that rapidly spread through the region. Slogans and imaginations about abortions drastically changed, moving away from slogans like "contraceptives to avoid abortion, and legal abortion to avoid death". Now slogans include "contraceptives to enjoy", where abortion pills are included. Isabel joyfully narrates that this is a huge change, because contraceptives allow us to exercise our sexuality freely. It is still a remembrance to previous slogans and the trauma that came with them, but looks at a different future now (Fuentes Carreño 2022g).

Dahlia also agrees in the importance to shift away from the slogan of "contraceptives to avoid abortion". To her, this reproduces stigma in a message where abortion must be avoided, and should only be the last option. Instead, Dahlia believes we should look at abortion pills as another method in the reproductive life of women and other pregnant people. It shouldn't be seen as a last resource, but rather as another contraceptive method that empowers people's sexuality. Dahlia tells me about stories of users that contact her and their first interaction is always trying to justify what happened. However, she imagines a future where people don't reach out feeling guilty, so used to listen to the slogan "contraceptives to prevent abortion", and start hearing "abortion to keep getting laid". That way, people can come with a mentality of "abortion to continue enjoying one's sexual life". Dahlia uses a different slogan than the one coming from the national movement. Instead, her

green handkerchief says *"juntas descubrimos, interrumpimos y acompañamos"*, roughly translated as "together we find out, we terminate a pregnancy and we accompany each other" (Fuentes Carreño 2022h).

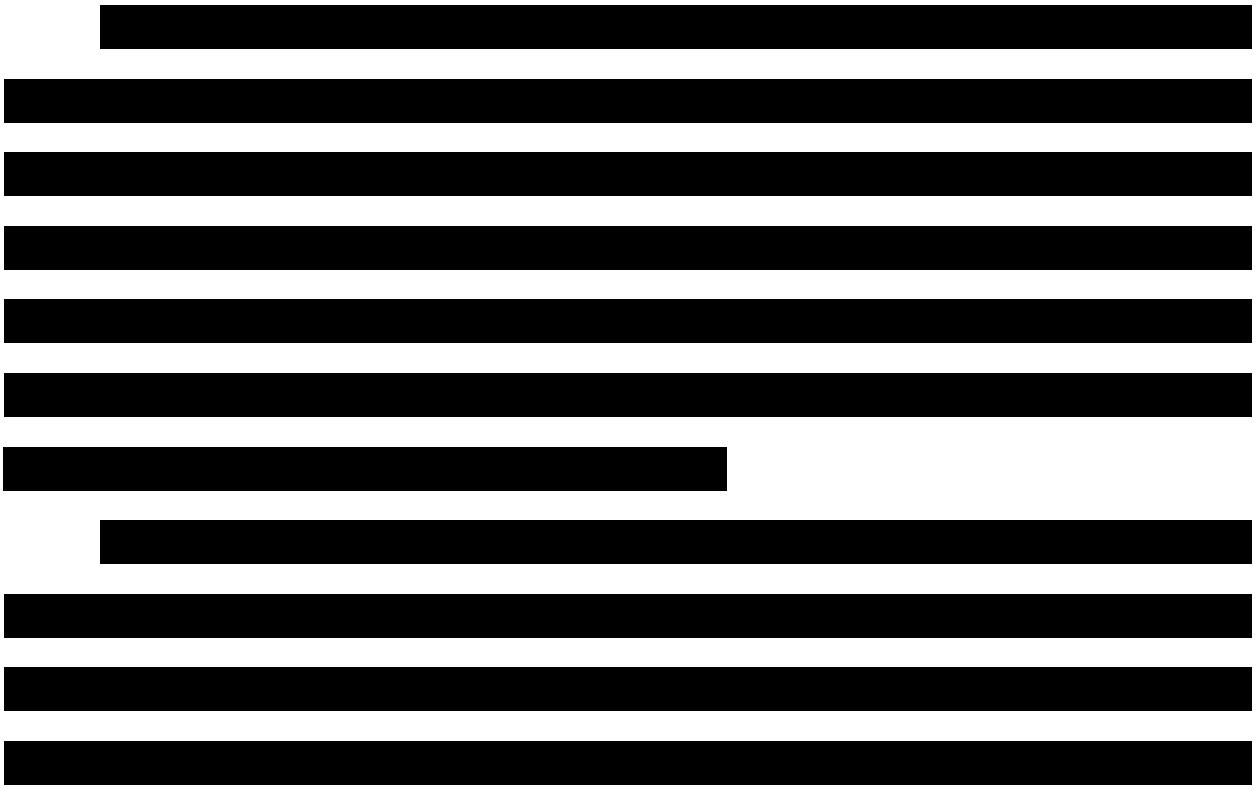
Dahlia shed light on the ontopolitical interaction of abortion pills, people and their surroundings, but she also laid out the chemical traces that come straight from the body and into the articulation of shame. Another story she narrates includes women who started feeling the contractions from the misoprostol as they reacted on the inner linen of the uterus. Women feel they deserve that pain for "not taking care of themselves", to what Dahlia reacts angrily. She believes this is an interiorized guilt from Catholic morality, as if people had to undergo a physical punishment for enjoying their sexual life through the toxic reaction of these chemical compounds. That stigma extends broadly to sexual life, where abortion and HIV connect: it is not like people are seeking to get unwanted pregnancies or an STI, like HIV, Dahlia explains, but it is part of exercising one's sexual life. We should look at risk reduction, as STIs will always exist. She explains that even in the monogamous relationships she is in, she also gets infections, because we live in a world with bacteria and other humans. Our body is fragile sometimes, she reminds me, and pregnancy needs to stop causing fear over sexual pleasure (Fuentes Carreño 2022h).

The shift away from legal/clandestine binaries and towards safety regardless of legal status is something feminists in other states also saw shifting around 10 years ago. Kelly explains it was mainly due to the increased circulation and usage of abortion pills. However, something more recent that I want to highlight happening as well is the understanding of which subjects of these ontopolitical chemical compounds enter the debate over sexuality. As I explained in the previous chapters, trans and non-binary activists in Mexico are coming out to the streets since at least 4 years ago to reclaim them being visible in the abortion fight.

Kelly Ramírez, from Igualdad Sustantiva in Yucatán, told me in our interview that Igualdad Sustantiva is one of the organizations that do include the term "pregnant people" along with "women" when talking about abortion rights. She explained there are many divisions within the feminist movement that have effects on access to abortion inducing pills for the trans community. Igualdad Sustantiva is a safe space for trans people within the sexual and reproductive rights movement in Yucatán, a conservative state itself. They provide abortion services and pills for trans men and non-binary people, and their staff also includes trans women (Fuentes Carreño 2022c). It is important to look at the differences on ontological approaches to what abortion should be. TERFS chemical socialization of abortion alters how sexuality is understood and contested, particularly as more trans people are reclaiming gyneco-obstetric care that looks at the possibility of pregnancy as well. It allows to create new coalitions to reclaim rights, as Elpes and Richardson argued, where cis-gender and trans feminist movements can look at the diversified subjects that can organize under the political umbrella of feminism.

For them, full enjoyment of sexuality and the reproductive life is materialized with access to different material products, including access to different types of medicine related to sexuality. Kelly explains to me that they offer multiple services, including HIV and STI testing, contraceptive pills and other products, abortion pills, and emergency pills. She emphasizes they do it openly and proudly, because there is nothing that can be criminalized about providing information to people, nor to offer these products in their headquarters: "we always try to provide medicine, because there is nothing to hide, as if we were selling illegal drugs" (Fuentes Carreño 2022c). She states that they give you any of these medicines because they are everyone's sexual and reproductive rights, and no stigma around them should keep reproducing.

In these three narratives, users have agency towards how they want to interact with those chemicals, and how they want the narrative to alter the way they live with their sexuality and reproductive life. The chemical ontologies around abortion pills are continuously evolving. The pills embody a sequence of chemical compounds and sex technologies that serve as a chain of interaction and "prevention" carrying with it the so-long message of "scary abortion". The added value to abortion pills comes as a way to empower women and pregnant people, because it becomes a matter of making horizontal what abortion represents in the reproductive and sexual cycle of people: as another possibility, rather than a fatal and ultimate ending, and that can be divorced from reproduction while staying within the realm of sexuality and sexual pleasure. There is an ontopolitical shift of how one understands their own sexuality as such, rather than one between the legal and the clandestine. It becomes a continental experience that flows traversing borders.



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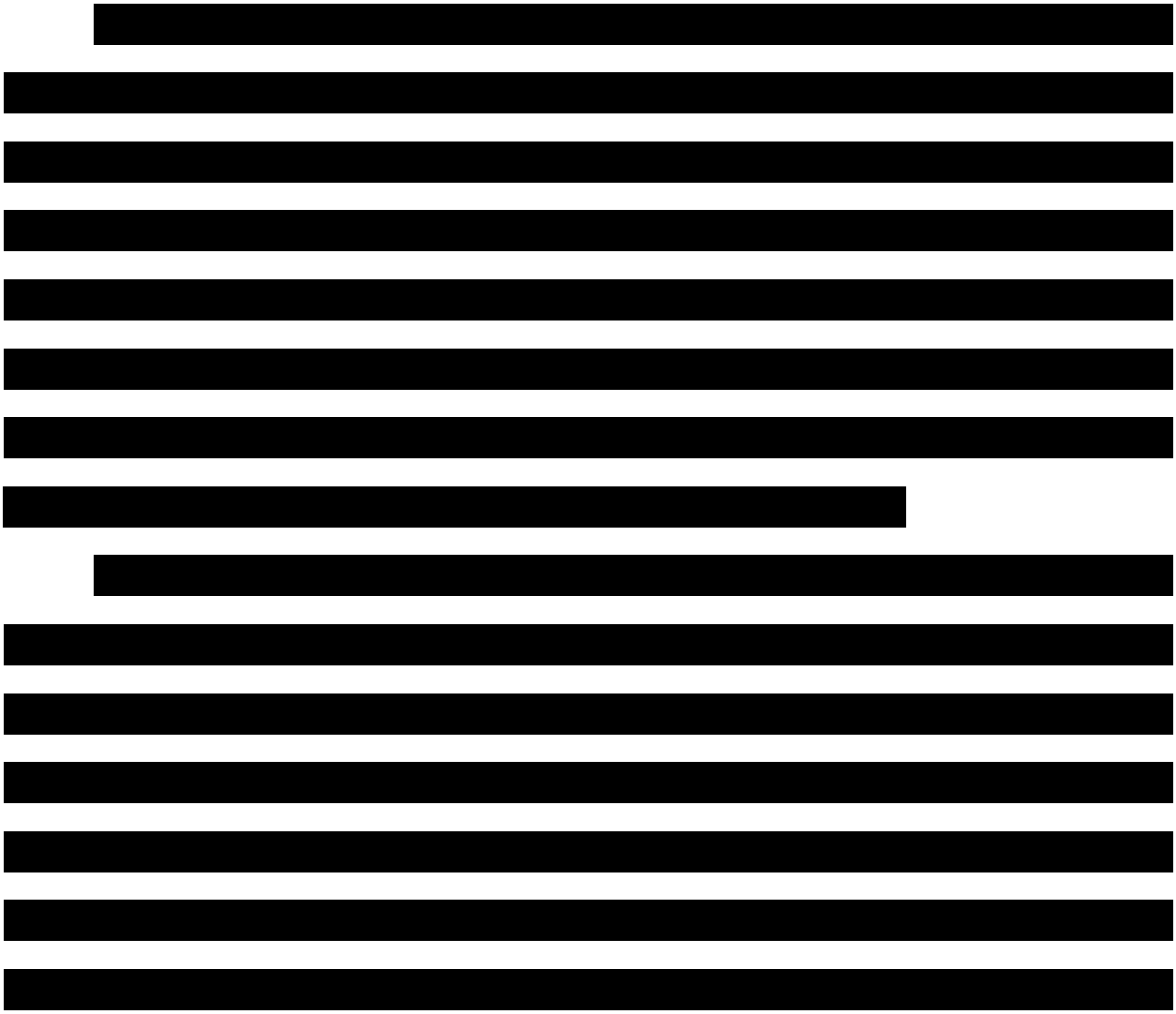
Ghadeer Ahmed, an Egyptian activist for women's rights in Cairo, has collected testimonies of women undergoing abortions in Egypt for several years. An example of the chemical trauma I was explaining in the Mexican case can also be brought into conversation here, as it configures the ontopolitical experience of the body in contact with misoprostol from the sociopolitical context of Egypt's clandestine access to the pills. One woman narrates that after multiple attempts, after 13 weeks she was prescribed abortion inducing pills one more time. Without naming it, the doctor told her it was smuggled from abroad, because it was a "potent abortion-inducing drug", which most likely meant it was mifepristone. She narrates she took the pill without even knowing what it was, nor did she wanted to look it up so nobody could know what she took. After performing the abortion, she questioned herself if the guilt she felt from taking the pills and aborting originated within herself, or if it was from outside, by the way she was brought up, and by the ideas instilled in her around her role to inevitably be a mother. Years later, she argues that pregnancy and the fetus were never a life to begin with, and the only life she needed to save was hers. Now she feels victorious, triumphant over society and owner of her body (Ahmed 2020).

In Ghadeer's testimony, we see how the interaction of chemicals with sexualities get inscribed and incorporated in the body in its utmost molecular form. They become archives

ingrained in the body that tell a story of what social conventions in a securitized environment mean to people undergoing an abortion. Misoprostol serves as a chemical conduit that carries a trauma through the body. This fear is also visible in another story, where the pill translates into hope. A woman tells that she had to deal with the trauma not only from being subject to an abortion, but also the alleged shame of having sex outside of marriage that ended up in pregnancy. The anxiety came from the abortion inducing pills not working, and having to undergo a surgical abortion, along with the possibility of being arrested for attempting it, and having to carry on with the pregnancy in jail.



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2. HIV and sexual pleasure

The globalization of medicine in mass media communication allows activisms, users, and any stakeholder in the matter, learn about competition, possibilities and obstacles to ongoing discoveries. The same way the circulation of knowledge around misoprostol inducing abortion, the circulation of knowledge around HIV ARVs becoming available had an impact on people's

hope to live. Carlos narrates to me that healthcare providers, and even people surrounding those living with HIV, forget that there is a huge universe behind taking ARVs. There are markets, human rights, and legislations that make us lose focus on the relationship of people with the ARVs: their sensations, their emotions, and the effects they have on their bodies, as well as how they perceive life. For Carlos we have to look back at the 1990s, when the only available ARV was the AZT, when there was only one medicine available, or when people had to take two pills (which still takes place in Egypt, Mexico, and many countries in the Global South). Those medicines were portrayed in movies, TV series, and testimonies of users who suffered lipodystrophy (literal deforming pills). Carlos protests how can one express the will to survive if by the time you manage to stabilize yourself your body is so deformed barely anyone recognized you. One cannot perceive oneself as a sexual being.

Even with technological advances in the late 1990s, and the arrival of the efavirenz, we must remember it has high risks over the nervous system. Carlos narrates he used to have lucid dreams that, when undergoing depression with a new diagnosis, it can lead to nightmares and a sensation during the day of them being real. Carlos explains these drastic changes in one's biochemical stability alters the way you relate with others, not only sexually and in terms of affection, but in your daily basis. He believes researchers, and society in general, need to look at the lived experiences of people ingesting ARVs, and not only the biological benefit. We know that once the virus is suppressed you prevent your immune system from collapsing, thus not dying, as Carlos bluntly states. However, we don't look at the broader costs of those biological benefits: increase in anxiety and mental health diseases that can lead you to take bad decisions in the rest of your life. It makes you question continuing with the treatment, or requires you take other medicines

to counter the effects. As a certified nurse, Carlos can cite cases of people that have to take anxiolytics just to cope with the effects of efavirenz.

Even new medicine is not paying attention as people outside them living with HIV. People taking Biktarvy, Gilead's latest pill and the world's most innovative medicine in the market, started reporting a decrease in sexual drive and erectile disfunction. None of this was included in the clinical studies, Carlos argues, because sexuality of people has never been the focus of HIV research. As long as it gets rid of the virus, he calls out, it works. We can find in Carlos testimony how technologies are historical, and their historicity is attached to the bodies of people living with HIV, and those surrounding them. Carlos continues his narration by saying that those designing and prescribing the ARVs don't think about the implications for the key populations receiving it. If we talk about the LGBT+ community living with HIV, it is a community where pleasure is important, and where the exercise of sexuality is relevant —among sex workers, for example. If you circulate a medicine that affects the way people exercise it, you are affecting in a very focused and specific way their lived experiences and their specific relationship to these chemicals. Another example was a medicine circulated right before Biktarvy, in 2021. It made you bloated, with stomach ache and with a sensation of wanting to use the bathroom constantly. Sex becomes an uncomfortable experience, and even worse who use it as a tool of work (Fuentes Carreño 2022a).

There is a broader debate of biomedicalization that comes out from his positioning. Guerrero and Muñoz explained us that trans bodies are non-scissile, meaning they are inscribed with particular meanings rooted in historically located social processes, and ways technologies transformed their lives (Guerrero and Muñoz 2017). Carlos tells us it can be shocking to be young, under 30, and having to take a pill every day. There are implications in the relationship young people give to polipharmacy. He is a young activist, but also a healthcare provider. He explains to

me that we think pills are associated to sickness, and that if someone takes pills it is because they are sick. Young people are not socially designed to be socially, anatomically, nor functionally living in sickness. There are social attributes to youth, like being able to work, to have physical vigor, and to be strong. The technologies inscribed in the chemicals that enter the body of people living with HIV materialize the biomedicalization of their experience as a focus of risk that needs to be controlled, whatever the cost is to their mental or physical health. It is a process of debilitation that changes from generation to generation having access to HIV pills.

He finished by saying that in the early 2000s we wouldn't have spoken about prioritizing the quality of life, and even less the right for enjoying one's sexuality to the fullest. Now that the circulation of ARVs in the country is prevalent enough, we can start recognizing the experiences and social relationships people living with HIV have with ARVs (Fuentes Carreño 2022a). Among those experiences, Rubén believes there has been a shift in the last 5 to 6 years around ARVs, as well as with PrEP. Through the years and with the rise of social apps for casual sexual encounters, Rubén believes there is a series of violences around sexuality that people living with HIV have to go through. There is a discourse of people demanding those living with HIV to be responsible for everyone they engage in sexual activities with, putting them in charge of educating and taking care of everyone else's sexual life. Along with this pressure, the discourse around undetectability being equal to being untransmittable when one takes their ARVs, Rubén found a morality performance where those being undetectable were praised, and their adherence to the medicine recognized. Rubén says in many circumstances people can't keep taking the treatment, making them feel discouraged and depressed. Thinking about the relationship of the ARV with people's lives, Rubén believes it is still very clinical, and not socially-oriented enough: undetectability is believed to be the best stage in someone's life when living with HIV, but there is no interest in other

socioeconomic factors that go beyond taking that medicine. Even more, that responsibility is not being demanded from PrEP users, as not seen as population at risk, despite other STIs being transmissible, as Rubén complaints about (Fuentes Carreño 2022f).

Both Tanya and Siobhan bring up a conversation around chemical compounds knitting together networks between communities severed from each other, but united under an umbrella of non-conforming sexualities. The same way trans activists and abortion activists are coming together through chemical debates around access to abortion-inducing pills, trans activists and HIV activists bridge their communities and build chemosocialities through the impact of HIV ARVs in their lived experiences. Siobhan mentioned in her interview that she found surprising how the HIV activism is more invested in the trans community and their health than the hormones pharma. Although Siobhan didn't mention any more details beyond the name, Flux is a newly created group by the AIDS Health Foundation that centers trans people's experiences. Their events aren't strictly focused on trans people living with HIV, but in Mexico they are building coalitions around the general trans population, trans people living with HIV, and trans people who want to undergo abortions (Flux México 2021).

For Tanya, from Trans Famosas de Toluca, the chemical socialities of HIV and hormone treatment go back to the foundation of the organization in the Mexican coastal state of Veracruz. Tanya narrates that 20 years ago, the founders of Las Famosas were trans sex workers that fought for LGBTI+ rights, until eventually they moved to Mexico state and kept fighting more specifically for trans rights. For them, it was important being part of the broader LGBTI+ community, as they learned from their empathy and strategies for activism. However, they expanded beyond the movement, and Tanya explains that 8 years ago, when they moved to the city of Toluca in Mexico State, the started creating sorority networks with cisgender women. All together, they expanded

their support system for counseling, support and linkage to the healthcare system for anyone living with HIV (Fuentes Carreño 2022i).

In 20 years she has done activism, Tanya has seen changes in the ARVs treatment and a reduction in the side effects of the pills on her trans sisters. She has seen hope rise among her sisters, who in the past would have let themselves die. Tanya has a saying : "*retrovir quiero vivir*" or "retrovir I want to live", referencing some of the syllables from the word "antiretroviral" in Spanish. However, she believes there are still needs in sensitization and education to the trans community about the risks of taking hormones, ARVS and consuming other substances. However, she belies this knowledge shouldn't stay only among trans people, but awareness should spread to all the LGBTI+ community, and even to heterosexual and cisgender people (Fuentes Carreño 2022i).

In Tanya's memoirs I can see the way these chemical compounds, in conjunction, transform the way people live, work, and die. In Pine's words, the transmutation of these chemicals socialities, where ARVs, abortion pills and hormones combine in unstable compositions, allow us to follow how they can decompose someone's life. But more interestingly, it leads the way toward how they are composed in the first place, and how can they recombine again, and again (Pine 2019). What the Trans Famosas de Toluca "and Allies" did was transmutate how these chemicals sexualities should be embodied beyond the LGBTI+ movement. For her, there are longstanding relationships and emergent social forms that cis and trans women, living with HIV or not, can knit together through the connections these chemicals allow to form. This is something we have yet to see again, where trans activists, abortion activists and HIV activists understand the intersections that traverse them in a new ontopolitical meaning of sexuality.

There is a chemical effect over sexuality beyond how society perceives you, but as a result of the chemicals interacting with the body in a molecular level. There was no attempt to consider sexual desire and sex life when trials were run, because what interests scientists is reducing the risk of the virus. People living with HIV are deemed a biological threat, rather than sexual people with the right to enjoy their sexuality. The circulations of new discourses and chemicals to live one's sexuality has soften certain taboos, but created new anxieties around other STIs: are people being aware of the consequences of PrEP in terms of broader sexual health? There is no evaluation on how people in Mexico are living their sexuality under the use of PrEP, thus the circulation of chemicals is exploding without considering how it gets socialized, and how sexuality is now lived.

Based on the fieldwork I conducted in Egypt during the Summers of 2017 to 2019, and ongoing research of the archives on HIV programing, it came to my attention how much has the number of NGOs shrunk in the last two decades. In the first situational report that Egypt published to UNAIDS, they mapped at least 23 organizations being part of a broad coalitions (the Egypt Business Coalition on HIV, and the Egyptian NGO Network against AIDS) (Egypt's National AIDS Program 2010, 10). Today, Walid Kamal, from UNAIDS, mapped only 9 of them, and out of my fieldwork I could include only a couple more that due to working with LGBT+ populations are not welcomed by government officials.

To trace the historical memoir of people living with HIV in Egypt and how they've interacted with the ARVs outside the officialist narrative is hard, even to this day. Some healthcare providers I talked to during these years would confirm people did not complain in accessing their ARVs, while others said just carrying them outside the Fever Hospitals has always caused fear, as police officers can easily identify you and arrest you under the pretext of fabricated crimes

(debauchery and sex-work, mainly). The ontopolitical experience of taking ARVs, according to the available testimonies I could gather, is mostly surrounded by fear and medicalization.

The path of ARV intake is still one where chemosocialities become dangerous. A story from Nafisa, a woman from al-Minya (a governorate to the south of Cairo), helps us understand the way these ARVs are inscribed into the social and individual bodies of people living with HIV. Nafisa receives her ARVs from al-Minya Fever hospital, but she immediately removes the package and just keeps the pills. Al-Minya doesn't have a broad English speaking population, so the cultural capital that comes with understanding English, and more particularly about pharmacy, protects her from too much intrusion. She says that she can present the pills as any other medicine, because anyone learning about her disease will shame her, expel her from her village, and be ostracized. Her husband lived with HIV until 12 years ago, when he passed away from what Nafisa narrates as mysterious circumstances. She learned she was living with HIV 8 years ago, in 2012, only after developing lymph nodes' inflammation. Her husband would get treated in Cairo, and will tell his family not to worry, until he suddenly passed away. Nafisa had to start treatment in a period of time where ARVs were not easily distributed for free by the government, so up to today she doesn't take her ARVs regularly. She states she can't afford them, and so she only goes back to the hospital when she develops opportunistic infections (Abu Shahba 2022, 62–63).

The intake, or lack of intake, of ARVs led to her husbands death, and to her current health deterioration. Those frictions between not wanting to take a chemical compound that, as we know is still toxic, reconfigured the conditions of knowing, being and socializing of Nafisa. If we want to speculate, we could think that Nafisa's husband knew about his disease, as he didn't want his children or wife to visit him in the Cairo's hospital. That distance the lack of chemical, in this case, creates between him and his family is also a distance Nafisa will use to reconfigure her relationship

with a serophobic society. Only one of her sons know about her status, and he accepted her without major troubles. However, the intermittent use of the chemicals in Nafisa's life is deteriorating her body, as she tries to cling to the last trace of social bonds she had with her past self. Nafisa says her whole body hurts, her head, her stomach, and her heart, but she only prays for Gods mercy and refuses to sell some jewelry she has left from her mother and grandmother to buy the medicine. The virus itself is decomposing Nafisa, but she looks at the material archive her jewels represent in her worldling. Her vision of sexuality is not as we have seen in other cases, mostly oriented towards sexual practices, but rather towards the desire of upholding her family and other emotional bonds to her beloved ones (like through her family's jewelry).

Ramez had to lived through the securitized chemosocialities that imply interacting with police officers, but also the reconfiguration of new sentimental relationships after starting her ARV treatment. Abu Shahba has been writing on HIV in Egypt for almost a decade, making her a visible figure advocating for their rights, but also creating a community that can support each other, mainly to access the pills. Even though her collection of testimonies tries to center the experience of people living with HIV, Abu Shahba appeared in 2017 on TV to talk about the faults in government distribution of ARVS, and the obstacles people have to go through to survive. In 2019, she was reached out by Ramez, who then explained he was still in refusal with accepting his diagnose. He will put his medicine in a vitamin bottle as soon as he received it, because he also mapped the dangers associated with the physical embodiment of a pill that may be recognized by some people.

Ramez decided to move out of Cairo and start over a new life, severing her links to his geographic environment and find a new job, after one of his coworkers revealed to the rest he was living with HIV. Ramez also narrated how he encountered police officers on his way to a holiday in Sharm al Sheikh. The officers inspected his bag and asked about the pills, to which he answered

were for Hepatitis C. Through the years I spent in Cairo, I realized how desexualized has Hepatitis C been in the country. It is mostly attributed to contaminated blood exchanges, without that entailing sexual intercourse in the popular imaginary. Even within HIV cases, a lot of people use the argument of traveling abroad for work and having gotten it from a misplaced needle, a bad haircut or any other indicator out job hazards that desexualize the possibilities of having acquired the virus.

Ramez insists in his narration that it is not the virus making him sick, but rather stigma. Specifically, he complains about his colleagues and people assuming HIV can only be transmitted sexually, as an apparent way to mask the shame that comes from acquiring it that way. Ramez faces the chemical trauma I mentioned before when trying to enjoy his sexuality. He told Abu Shahba about a European girl he met and for whom he caught feelings for. However, he said he ended up cutting up all ties, fearful of being rejected. He feels the pressure from his family wishing he marries, as he's in his 30s, but now he feels everyone looks him so differently. His fear stems from an image he gets every time he picks up his medicine from the Abbasiya Fever Hospital. All ARV users have to enter the HIV ward, where some people are interned with opportunistic infections. For him it is a heart-breaking image, as the ward is located across the morgue.

That image of despair was common among the testimonies around HIV medicine. A trans woman, Nardine, takes her ARVs based on the fear of hospitalization. She said she was at peace with her diagnosis and openly talked about living with HIV whenever she went to the hospital. Taking the ARVs was also a fight for her against the Egyptian healthcare system, and it took her a year and a half to finally get her medicine due to the degrading and violating process she had to go through. However, with the pass of time, she started dreading the visits to the Imbaba hospital. The image of patients being admitted in the HIV ward became a nightmare for her, thus motivating

her to keep taking her medicine. She also kept going to the Imbaba hospital because she found a doctor that not only gave her proper counseling about her HIV medicine, but was welcoming to talk about hormonal treatment as a trans woman. Nardine felt legitimated and acknowledged by this doctor, who named her with the correct pronouns and helped her understand the next steps in her process of gender affirmation (Mesahat 2020, 22–23).

The ontopolitical experience of living with HIV leads to a fear of social rejection, but also a biomedical perception of taking the pills. The first is the social experience of living with HIV, and the second is the natural scientific/biological dimension of being debilitated by a health apparatus enforcing this imagery. To understand Ramez chemosocial experience with the ARVs, we can do as Mel Chen and pause, then let it be animate, gender itself, and enact "animus" in their negativity. For Ramez's life, it has become a threat to happiness, the desire of an affective partner, and to the compliance with social norms about reproduction and the sexual life of men around their 30s. For Nermine, there is a process of animating multiple chemicals into her lived experience as a trans woman living with HIV. The fluidities of these compounds translates into materially hardened medicines and social borders with the healthcare provision system. The animation of those medicines for her happens through fighting and violence to live her sexuality the way she desires to.

3. Hormones and the possibility to re-explore ourselves

The notion of the ontopolitical trans body, as Siobhan Guerrero and Leah Muñoz argue, emerged from specific historical conditions, discourses that molded it, and agents that were foundational in its constitution —trans people themselves, doctors, sexologists, psychiatrists, endocrinologists, but also activists and critics of trans people. In the previous chapter I explained how Siobhan mapped

different lived experiences of trans people since the 1950s using hormones, which most likely were different and less accessible before. Despite this historically located reality, something Siobhan, Tanya, Ibrahim, Máximo and Izack commented through and through our interviews has not changed that much, making the chemical travesty of hormones continuously carry some of those specific conditions that continue molding trans bodies. Despite the different moments in time that they started hormone care therapy (either temporarily, more sustained, in different geographic locations in the country and at different ages), all of them agree that hormones trans people have always consumed have never been thought for, tested in, designed for, nor manufactured for trans people. The effects this had on each of them, however is ontological in its essence, rather than epistemological, because the way these chemicals interact with each of their sexualities, despite all of them being trans, cannot be flattened nor be subject to lack of historical variation.

Out of the people I interviewed, Tanya is the one who started her hormones before everyone. However, her chemical experience was different to everyone else, as she stopped her treatment after the adverse effects she found in her friends. Her chemical experience geared towards the polymers, which she injected in her body as well, but for coincidences in life haven't had the catastrophic effects she has seen in her peers. She argues that both fillers and self-administered hormones among trans people have led her to stop them. She saw through her years as an activist and embodying her transness in a biochemical way so many of her friends loose their lives. To her, the most evident reason that lead people to these methods of embodying their transness was due to mass media depictions of how a trans woman needed to look like. She argues a form of femininity was sold to society, and mass media communication replicated an imagination of voluptuous feminine bodies . This led waves of trans women, up to now, to hyper-feminize their bodies to comply with social standards on "how a woman should look like" (Fuentes Carreño

2022i). This carries a risk of animated toxicities, in Mel Chen's framework. Living through an imposed perception of transness as necessarily in need of a bodily transition to specific conventions around gender norms is animated by frenzied attempts to result the transformations with abrupt chemical interventions.

However, Siobhan warns us about common narratives around the trans ontopolitical experience. There is a recurrent trope around about trans men that using testosterone increases their sexual desire, and turn more "sexual", and that trans women it is said that hormones make them less sexually active and more affectionate. There are people that even say using hormones changes their sexual orientation, but Siobhan believes some of these tropes are based on gender biases and mostly hide deeper processes taking place. For her medical transitions usually come with bodily changes that make people question how they understand their own sexuality, including their sexual orientation. Although psychiatrists reject this possibility, some trans people narrate they went through a process where changes in their own bodies make them relate differently with other bodies (Fuentes Carreño 2022d).

Siobhan also believes that sexual practices change a lot, because even within heterosexuality, there is a difference between the cis heterosexuality and the trans one. There is not a logic of penetration around trans men, being straight or gay, and other people become polyamorous or asexual. Beyond the common places that we are used to in narrations of chemical sexualities around hormone use, she believes trans people have an incredibly diverse exploration of their sexuality just by being trans. It is not always through hormones, she underlined, but rather the possibility of change that allows people to re-explore everything. People encounter new ways to exercise their sexuality in terms of their desires, in how they imagine sexual practices, how they imagine their relationships, and even games, beyond the common places of testosterone making

you more aroused and estrogens less. Siobhan explains to me that when you look at people's non-medicalized transitions you can see it is not the chemicals themselves. More and more, trans people are moving away from the discourse of being trans as "transiting" to the "correct" body, thus moving away as well from having to intervene hormonally or surgically their bodies (Fuentes Carreño 2022d).

When you present socially as trans, even without hormones, you already alter the way you relate to your own body and the treatment you expect from everyone else. Siobhan doesn't believe hormones are a necessary condition to rethink someone's personal relationship with their body and their sexuality. However, there are people who need it or want it. Siobhan takes hormones, and she agrees they changed her sexuality, simply because of things her body can and cannot do anymore. Seminal fluids are a distant memory to her now, after 5 years of not producing them. That changes your body and your relationship to it, changing how you imagine what can your body do. She also feels the intensity of her orgasms has changed, but repeats that to be trans doesn't require medicalization, and this is a process happening even less through the years. Through the years we are seeing a proliferation of experiences (Fuentes Carreño 2022d).

Izack also believes there is a change in how trans people relate to hormones in more recent years. He points at how trans people don't think they have to take care of their diet, or change their habits —smoking, drinking or using drugs. He remembers more than a decade ago, when he started taking hormones, he had no idea about the possible consequences or things that could happen to him. There was a time he used to party frequently, and the high consumption of alcohol interacts in risky ways with hormone intakes. For him, trans people need more consciousness on what taking hormones actually means, which has led him to invite people to question what does it mean to "transition", and if people actually have to take hormones to do it. He argues a lot of trans people

only want to see physical changes, and that will be enough to live at peace with themselves. However, there is an emotional work a lot of trans people don't go through, making it a decision so centered in the hormones that they will take them at any cost to any other healthcare damage they may face.

The interaction of the chemical compounds alter sexuality as it breaks the possibilities of what you think your body can or cannot do. It alters the way you live your orgasms or which fluids your body produces. However it also changes your own relation to your body, regardless of using medicine or not. Recognizing oneself trans will have an effect over how you live your sexuality regardless. There is a form of contestation here around the ontology of being trans around hormones. However, people through different periods of time constantly invite us to reflect if you need hormones, and if you need to "transition" to be trans. This is an important take on trans sexuality and how the bodily changes that come with chemical compounds make you reinterpret what transness is (the chemical ontologies of their sexuality). This is a common area all of them said: hormones don't make you trans. Most importantly, the idea of transitioning shouldn't be central to being and living one self as trans.

The debate that arises around chemical ontologies is the added value to the compound: it allows us to question the limit to how bodily changes should be at the center of being one self. This debates come to be at the same time when there is a societal control over one's lived sexuality (the chemosocialities of it). The aspiration to a specific performance of gender roles is something trans people are slowly challenging. However, the medicalized history of being trans leads people ti think it is an immediate necessity to embody a determined gender role despite the dangers of accelerated chemical changes. There is a possibility of contesting medical dangers to using hormones or any other chemicals in one's body. What matters the most is living fully, for as long

as you can. Life, then, is not understood as an endurable process that we, as humanity, want to continuously extend, but rather as something to enjoy in its bodily experience. Hormones, surgeries and implants come with a daily basis performance of one's sexuality and the desire to defend your gender identity.

The different experiences of embodying transness in Egypt need a different approach to pathologization and securitization of their chemical and non-chemical experiences. As I've explained in previous chapters, the historical shifts between psychiatric care, privatization of hormone care and apparent opening to public hormone treatment in the country continues to put a medicalizing lens of trans people. The historical developments of how sexuality has been contested and controlled in Egypt also leads to certain pathways, where hormone treatment is a necessary step to follow if someone desires being recognized in official documents. Historically, the 2011 revolution allowed for certain opening that continues to be contradictory to these days.

One of the activists I met in Egypt during my first fieldwork trip in 2016 and kept socializing with until these days explained to me that the recognition of trans people in the public sphere has been contradictory in the last couple of years. He believes that there is an emerging visibility of trans people in mass media outlets, like Hisham Salem, the son of a famous actor, Farida, a school teacher, and Malak al-Kashif, a trans woman advocating for incarcerated trans people's rights. For him, these end up being exceptional cases besides the constant violence against trans people prevails.

One of the organizations he used to work with, focused on gender-based violence, took cases of trans women on a regular basis. He explained to me they constantly dealt with state-based violence in detention centers and by government bureaucracy. It was confusing to him, as it seemed that al-Azhar had a "relatively tolerant" position on trans people on occasions, and even at times

held spaces to discuss trans issues in the university and medical school. However, he narrates that the social and state-led violence hasn't really changed. Something new he sees is a relatively new empathetic public narrative to problems trans people face, but it continues victiminzg them.

Sophia Sherif, and Egyptian trans person, interviewed 4 trans peers around their experience embodying their lived experiences. In her ethnography, she found that her peers felt the experience of transitioning was a phase, until the point of reaching a state of passing. Hormones, then are a middle step of becoming, of altering their ontopolitical selves as trans people (Sherif 2020, 309–10). Under this ontopolitical context, a securitized state that criminalizes non-conforming expressions of sexuality —including gender expression—, the process of transitioning implicates a moment of vulnerability and exposure that is lived with fear. Tara, one of the trans women she interviewed, would wear baggy clothes to hide the physical changes from the hormone care therapy, and she takes private taxis rather than public transportation, to avoid stares and a sense of violence against her (Sherif 2020, 310). To avoid the biologization of the trans experience, I want to bring back something both Sherif and my activist friend brought up. Despite the revolution ended up in another military-led government —and the doors it opened to contesting gender and sexual norms although almost closed— some new trends continue to pick up that change the way people in the country embody their sexuality. Among them we see a rise in digital sexual health education initiatives, more protests and visibilization of gender-based violence cases, and a change in fashion that allows for some androgyny. Trans people and gender-non-conforming people are taking advantage of these sociopolitical changes to live their biochemical changes with some safety.

Unfortunately, the embodiment of being trans in Egypt is still highly intercepted by government control, thus tying individual's ontological worldling as trans to state-governed

technologies and chemicals. Mesahat, an organization working on sexual and gender diversity in Egypt and Sudan since 2015, collected memoirs of trans women and men, as well as of queer women, in 2019. Sarah saw in the hormone treatment a way to respond to a sense of rejection of her body. However, she was told by a doctor to stop self-prescribing hormones because the government needed to run hormones' tests before she can start the psychological and hormone treatment. If they find very high levels of estrogen, they will need to run more tests or make her retake the test. She also warned Sarah about the dangers of self-medicating, because inaccurate dosages of estrogen can lead to cancer, according to the doctor. Sarah sees in the hormones a step closer to achieving her dream, but it comes with fear she already lives while walking on the streets with her trans friends. She gets mocked, name-called and treated as freaks. She explains that surgery is inevitable, but also leaving Egypt, as if doing both is a way to severe herself from a past life she us running away from. However, she ends up narrating it doesn't matter where she relocates, she will face racism and other struggles either way, but she wants to do by being true to herself (Mesahat 2019, 2–5).

Siobhan reminds us that we are not only biochemical bodies, but also sites of desire, joy and pain. The way Sarah ties her biochemical experiences to the sociopolitical realities of suffering ends up empowering her. The importance to live her life the way she wants to, as she narrates later on, contests the negative consequences that biomedicalization of trans people still come with outside the biochemical sphere: in society there will still be stigma and rejection, no matter what chemical interactions and bodily transformations she goes through. The mere identification as trans already comes with a questioning of their individual experience above the state-led securitizing project. Earlier in her narration, Sarah questions why people can't empathize with how she feels,

and why does everyone around her makes it as if what mattered was their image of her, not her own desires and ideas.

Anna is another trans woman who found a crack within the military-state system to accelerate her process of identity recognition, as well as biochemical transition. She had to serve in the military soon, as she was finishing college around 2019. She started her process of self-recognition as trans around that time, so having to do the military service was something she dreaded. The military, however, does not allow for trans people to serve in its ranks, so Anna submitted a report stating she was trans. The official reports from the military psychiatric team allowed her to exempt the military service, start hormone therapy, and start socializing herself publicly as trans. She sees her confrontation with the army and achieving the exemption as a victory against "the most fearsome institution" in the country "acknowledging her case (Mesahat 2019, 21–25). Hormones were part of a broader form of chemosocial formations that were a turning point for Anna. The way she narrates her experience goes beyond a top-down approach as to what it meant the government rejecting her as a trans person within the army. Instead, she saw it as a way to contest the limits to what the army can force her to do, and as a door that liberated her from a lengthier bureaucratic process that would have come from getting the approval through the Medical Syndicate committee. This is a way to contest securitized logics: by looking at the grass-root and individual ontopolitical experiences around the fear that the military inscribe in one's body and mind, and rather gain agency as to achieve not only the exemption, but her paperwork to eventually change her official documents.

4.The microexperiential level of sexuality

In this chapter I highlighted what do chemical does to our bodies. Through cisgender and trans experiences of ingesting and consuming abortion pills, HIV ARVs and hormones, I insisted we can actually sense and feel these chemicals, as well as the biochemical processes they unleash, before we can put them in words. I looked at the ontological as existence, not just as experience: how do we exist as sexual beings through these chemicals and we experience the daily basis of that existence. It is a moment before the feelings or the identities that is really strong through pain and trauma that come with using them, to the point that is hard to find a language for it. However, it is the solidarity networks that arise from these subject formations and chemically embodied experiences that give us a new grammar of social justice, of coalition building and of autonomy.

The biological attempts to take over the ontological, as ingesting misoprostol, HIV ARVs or hormones animates other processes of economic and bioconstitutional contestations subject formations. However, the formations of chemosocial communities allows to reclaim one's agency from within: from the microexperiential reality of individuals using these chemical compounds despite legal or economic obstructions, as well as against social moral panics. Instead, they rely on the chemosocialities that support and nurture them in a contestatory yet caring way.

V. CONCLUSIONS: CHEMICAL SEXUALITIES AND THE GLOBALIZATION OF CHEMICAL COMPOUNDS

1. Chemical sexualities in Mexico and Egypt

Throughout these chapters I took chemical compounds that materialized the economic, legal and ontopolitical debates around interactions between those chemical compounds and people's sexualities. First, chemical compounds to induce abortion, treat HIV and provide gender affirming care created markets that look for profit, not sexual health, pleasure or autonomy. However, as current market do not respond to demand in quantity, quality and purpose for fully enjoying sexuality, new markets arise to break those imposed limits. Second, activists and individuals reimagine and redeploy the human rights framework to gain accessibility to these chemical compounds in order to fully enjoy their sexuality. At the same time, human-security governance regimes intend to create moral panics to govern sexuality through antagonistic and repressive laws that divides sexuality into normative and non-normative. Finally, the individual ontopolitical experience of using any of these chemical compounds comes with trauma, shame, and fear. However, the individual ontopolitical experience of using any of these chemical compounds also comes with a community-oriented formation of solidarity networks that changes what sexuality means when using them: a possibility of living freely, autonomously, empowered, and being taken care of by others.

The immediate value we attribute to medicine is to prevent or cure illness, diseases or any other disorder our bodies and minds go through. However, sexuality is a very intimate realm where health is not always at the center, as ethical values are in constant contradiction as to what prevails. Capitalist enterprises over people's productive selves isn't restricted to sexuality.

However, the chemosocialities that emerge from our desires, pleasures, practices, emotions around our sexuality are usually studied as separated dimensions: either focusing solely on the economic competition and patents over life saving chemical compounds, the bioconstitutional controls over conforming and non-conforming sexualities, or the epistemological debates of trans identities, living with HIV, or having/not having an abortion.

My dissertation looked at two countries which claim a regional role in "high politics", yet don't seem to have a broader influence in terms of sexuality or reproduction. However, they serve as laboratories for experiences other countries are starting to look as markets in both countries emerge, technology moves forward, activisms in both countries continue to rise, and legislations make some advances (small or big). However, my interest was to look at the different ways individual voices are contesting and imagining different futures around the exercise of their sexuality, and bringing together the economic, bioconstitutional and ontopolitical debates around it allowed me to show the complex composition of a broader potential to chemical communities in formation.

I looked at chemical compounds like HIV ARVs, abortion-inducing pills, and hormones, because all of them have been sites of debate either by big pharma, pharmacists, healthcare providers, government officials, religious authorities, activists or users. In either case, we see the transit of these chemicals through the bodies and into people who live through the experience of having, or not having, them inside them. The possibilities that the access or obstruction to those chemical compounds, physically represented as medicines, come with invite us to rethink the biological dimensions of sexuality without biomedicalizing the individuals that create novel, altered, attenuated, or augmented relationships that emerge from those shifting chemical ecologies.

The advent of the TRIPS changed not only the markets around the three groups of chemical compounds I looked at, but also the way we understand the role of transnational and local markets in redefining what experience they want to have with them. In either case we see a rejection to make a market that centers the users experience, and rather exploit the possibility of an added value that prefers profit over wellness, health, pleasure and happiness. In Mexico we see a clear process of transnationalization that makes them a site constant potential that never finishes to fulfill the imagined position as a global player in the pharmaceutical industry. Due to its geopolitical positioning and close connectivity to the American market, it is clear that the penetration of transnational companies and the collaboration with local economic elites could happen, regardless of the industry at play. It is activists and civil society now questioning the possibilities of imagining a Mexican market that, without the previous restrictions imposed by the former NAFTA and its harmonization to the TRIPS agreement, could meet the domestic needs for innovation and research centering people's sexuality. Based on the interviews I included, we see the openness to hold conversations between Bayer and trans activists, the ongoing collaboration between HIV activists and government officials, and even the allies abortion activists found in pharmacies. In either case, there are political communities that can emerge from shared chemical infrastructures obstructing their access to chemical compounds that facilitate full exercise of their sexuality.

Egypt is following the path of centralization the entire supply chain of pharmaceutical products. It is something that activists in Mexico are reclaiming from an alleged regional pharmaceutical power. However, we see in Egypt the way shared pleasure can become shared suffering when economic and political elites work against individuals best interest. Free access to medicine is not enough, as companies and pharmacists put limits to what kind of chemicals are circulated in the country, and how much they allow competition break those economic borders to

sexuality. In either scenario, the changes we are looking at after the harmonization with the TRIPS are less promising, and rather lack a vision of collaborating in a horizontal chemical economic debate. Activists, both in Egypt and Mexico, contest attempts by securitized states to impose economic walls to the free circulation of those medicines not only by consuming in the black market, but rather by forming cooperative ones. There are enough cases in both countries to think about global chemosocial communities constantly creating biosocial ink networks that look at sexuality at the center of production. They queer the chemosocial worlds that do not include non-conforming ways of living one's sexuality in their testing, marketing and circulation of pills, injections, gels, creams and any other form of chemical compound they need.

In both scenarios, we see a close link between bioeconomic monopolies that are in constant collaboration with bioconstitutional forms of governance. We see an attempt in both geographies to determine from a top-down approach who deserves access, under what terms, and for which purposes to each of these chemical compounds. There is no attempt to center sexuality in terms of HIV ARVs purchases, research and circulation, but rather an attempt to control an epidemic. There is no interest in rebrand abortion-inducing medicine or include them in medical protocols that allow for better practices and accessibility for women and other pregnant people. They have not considered the possibility of designing hormones in a way that cater to the specific biochemical needs of trans and gender non-conforming people, rather than having to continuously adapt versions of pills, solutions and gels for cisgender people.

Temporality becomes important in both cases, not only in terms of years, but on how do I approach methodologically each debate. None of these chemical compounds work through immediacy. The physical reactions they take to alter someone's biochemical composition take hours (like abortion-inducing pills), months (like HIV ARVs) and even years (like hormone care

therapy). The same way, when doing chemical ethnography, we need to let the chemical compounds breath, be animated, and let us understand the multiple paths they can take, the simultaneity or interruption, the obstruction and stagnation or the circulation and explosion. When I look at the chemical economies, it is hard to disassociate them from the chemical governance and the chemical ontopolitics. However, letting the chemical compounds animate themselves and wait to see how the economic stakes grow, the legal stakes grow, and the individual ontological experiences grow, I can harvest the blooming changes with a clearer view.

In chapter 2 we went over competing systems of norms around sexuality that made the sexual experience of living with HIV, having an abortion or undergoing hormone care therapy a contestable process not easily wrapped under an individual human body. The traveling of chemical compounds between the biochemical reactions they have in their bodies, and how grass-root movements reclaimed less toxic effects reminds us there are physical consequences to not guaranteeing someone's sexual and reproductive rights, beyond the realm of physical health. Moreover, we saw that contesting attempts to govern sexuality can take place simultaneously, and processes of securitization, embodied through health or medical control, can be contested and complied as opportunities arise by the multiple stakeholders involved. The human rights framework in Mexico, and broadly Latin America, is being reframed in a way that allows for specific challenges to what sexual rights and sexual health means to sexual non-conforming people. In Egypt we see a stronger intervention of the government even within activists circles, that could be a result of ongoing securitization campaigns that reduce the scope of action of critical approaches to sexuality. In Mexico despite the ongoing reduction in participatory budget for civil society organizations, the dialogue with supportive government authorities allows for space to animate the debates and keep them going. Unfortunately, in the last couple of years Egypt has seen

a consistent process of securitization that makes it harder to contest as openly what sexuality means to grass-root voices.

The discerning results of the governance over chemical bioconstitutionalities in both countries allows us to look at the different paths that Egypt and Mexico are taking in their regions, despite closer similarities we can see within activists movements when we talk about pricing and marketing of these medicines. The legal and political landscape in Mexico allowed a sustained development of a critical voice through the decades on abortion rights, HIV rights and trans rights. In Egypt, the waves of crackdowns make it harder to maintain a progressive campaign towards broader sexual rights, and instead activists have to adapt their models of action to securitized campaigns taking place through the country. However, in both countries we look an important approach that brings me hope around Global South radical thinking and autonomy. In both countries we saw a conscious intent to develop their own frameworks as to what sexuality and reproduction means to them, which becomes fundamental as to what rights do they want to demand. In both scenarios we see an ongoing conversation that is happening in the Global South with a clear distance as to how activists in the Global North lobby and advocate for in their countries. There is a clear sense of social justice with a community based approach that may also exist in the US, but is not what mainly circulates in international fora and transnational advocacy networks. I would look at Egyptian and Mexican activists as sites of innovation and radicalization of a human rights discourse that reframes them in a localized perspective that can then be globalized.

Finally, in the last chapter we saw the differing and varied experiences people have when interacting with the chemical compounds themselves. There are narrations of changes that are similar in some cases, but contrasting in others. The fundamental similarity to me is the

globalization of knowledge they all refer to. The increased access to information through social media and connectivity between these different communities has allowed them to document and share their experiences with each other. In both cases, I found peers and organizations that continuously document the different experiences people using different chemical compounds have. Most of the secondary sources I used where these stories come from became apparent after 2013. Even more, a broader archive emerged around 2019 and onwards. In other words, there is an explosion that digital outlets are allowing for people to share their own way of inhabiting, thinking and feeling through those chemicals.

In both cases I see a constant formation of agency through the interaction of these chemical compounds, despite broader sociopolitical contexts of securitization and governance that continue to medicalize, pathologize and criminalize people's sexual life. However, accessibility, or lack of it, in economic terms ends up inscribing into the bodily experience of each of the people I included in the chapter. The way people want to interact with those chemicals continued evolving, but they were limited to economic constraints, availability, and the legal frameworks at the moment those interactions took place. However, in all cases I wanted to portray some way to agency that even within spaces of control can take place. This approach is a reminder that contradictory processes can take place at any level. At the biochemical one, these compounds produce desired effects (an abortion, HIV suppression and hormone rebalancing), but can also be toxic (causing pain, other illnesses, and even dead). In the individual level, these compounds create agency (a sense of autonomy, of victory and of freedom), but also hopelessness (a sense of fear, of frustration, of defeat and of despair). In the social level it can create a sense of community (of shared values, shared traumas and shared hopes), but also isolation (due to rejection, stigma, discrimination and violence).

2. The global potential of chemical sexualities

The core to my project has been advocacy, network building and a proposal that looks at a potential future where natural sciences and social sciences can continue creating bridges. Within the study of chemical compounds, the model I presented here of chemical ethnography, by tracing the paths of these chemical compounds from within the body all the way to global circulations of capital and politics, comes with great potential. Other chemical compounds that translate once they interact with individual's sexuality are still to be explored: contraceptive pills and other treatments, pills for erectile disfunction and other chemical compounds for sexual arousal, a more detailed analysis of PrEP, and even medicine for other sexually transmitted infections.

Beyond the realm of sexuality, we can use the methodological process of looking at clinical trials, medical leaflets, patent records, sales records, marketing campaigns, laws and protocols, along with users' experiences around any other chemical compound, in any shape, form and presentation. In every case, what I argue is central to the debate is taking into consideration how these vibrant matter is contextualized to specific histories, and to consider the importance of the economic, bioconstitutional and ontopolitical dimensions of how they interact with people. By no means I intend to biomedicalize sexuality, or reduce any other field of study to its biological dimension. Instead, I pretend to expand the reach of biochemistry as and how synthetic and organic chemical compounds are part of our daily basis.

When bringing together conversations around abortion-inducing pills, HIV ARVs and hormone care therapy, I showed the historically located controversies through which the chemical, the body, and the individual participate in along with broader economic, legal and political structures they're part of. The political economic history I portrayed around HIV medicine, abortion inducing pills and the available hormones currently used by trans people allowed me to

show the co-constitutive practices of people involved in the traveling of those chemicals. The transformation of medicalizing discourses and towards the autonomy of subjects when relating to chemical compounds transcends the possibilities of this analytical framework just being focused on sexuality. The sexual non-conforming individual is just one of a myriad of non-conforming individuals that transform not only how we inhabit non-conforming our bodies, but how we reclaim our agency through subject-formation processes around chemical debates we can be actively part of.

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Fixes
When I engage with theorists to come in too suddenly. We don't know who Mol is, but I need phrases like "mol is a medicl anthropologists"

Quetsions
Bishnu

1) It is a groundbreakign thesis, because I'm taking the question ot sexuality studies to a new kind of plain. One of the things I could say is my dissertation scales between macro structures of economies and laws that define politics to the microexpreiential levsl where subjects shape their experience. One could describe it this way- However I chose to describe it differently. In some ways this microleve tat is so feminist and queer of lived experience I call it an otpoloitic. Why this shift? Why si this necessary to ontopolitics and not just lived experience, the microlevel of livede expreicne
    a. Put the trans body upfront. What do chemical does to our bodies, I think the trnas experience and our insistence that we can actualy sense and fell hormones and bodily biochemical processes before you can put them in words. The tone to ontos as existence, just not experience. It is a moment before the feelings that is really strong, and I struggle to find a language. It starts with the trans experience and what that it tells me, the language it gives me. Foucauldian. I should write the article on what I started with.
2) We can now alienate cells and other alienable prodcuts that couldn't be alientaded before. They started a conversation of molecular level thinking, and how our molecules are governed. Cooper. I should have both historical things. There is a turn to bioeconomies and could initially give us a quick reason as to why I'm moving an ontopolitics. A contribution could be I am giving us a language to think about ontopolitics: animacy, alchemy and material life. I'm not claiming a flat ontology but how they existe in uneven relations of power. There is a lot going on, some of these conceptual gains get lost.
3) The body multiple sometime. Who is the agent? The bio capture the onto. Misoprostol enters the body and animate other kinds of process.
    a. Vibrant matter can be a death object, but it doesn't mmean there aren't molecules that don't move. It's a refusal to understand life as its regenerative process. I must footnote the example the jame benett starts with.

Alison

1. There is a richer unpacking to means to go beyond rights and how there are some building blocks of authors. A statement: my brief marking of this issue in the presentation was well crafted, the lit I brought in the current draft lays the foundation, but I will need to do more there, and dig deeper. If rights don't take us to this place, what does and why? Ontopolitics may be one approach, but there are some other things.
    a. I state I don't find the emancipatory claims of rights sufficient, but I'm not collapsing into a Foucault governmentality postructuralism that is this process of contestation. The left edge do attent to. For the ultimate project, to get maximum credibility, I need to revisit and deal more deeply into that.
2. Movements and networks. The negotiations of materialities and how it changes us is a much bigger question, and it think it's fascinanting, but take it on fully. I don't fetichize

these particular chemiocals so I need to historicize them. There have been a lot of chemicals, let's not get overly influenced by particular technologies. Lets keep the broader historical lense on how technologies develop, and how they develop. Power relations.

3. Agency: markets, governments and networks, but the latter aren't theorized. Who are they, how they came in particular way. There is an implicit theory out of sexuality studies. It is connected about reproduction: is it that the more mainstream movements who in many cases are denominated as feminist and women's movements, or gay, lgbt liberation movements, they are doing real work, so I can't ignore them. Sometimes they're working in coalition. Is it something about how more queer movments or trans movements are constituted, or is it about the claims theyu are making, or is it the relationship with the state, or is it they are more transnational. There is a huge transnational gay or queer or lgbt literature about what these movements are, how local, how national, how transnational are they. What does it mean to be organized around sexuality, can it be accommodated in a rights movement, does it have to be in coalition. There is this big black box of the politics of agency, and the sociology of transnational movemnts networks and communities. And I am depicting them but theorizing so richly about other parts of the arch and there is a missing piece there.
    a. Go back to social movement theory, what are they, whre and how they transnational. What are coalition politics, what are the frequent issues. Really place them in a larger framework. Then have a section on feminism, women's movements and how reproductive rights and reproductive justice and the debate on civil-political and socioeconomic issues to get that arch. Then get that move to sexuality, but talk about the trade offs: this is classic social movements stuff (coalitions, working in some settings and some registers).
    b. Use Denis Altman and Philip Ayoub, there are people that have been there from the beginning and I could trace their interactions specific chronicling of gay rights as a sexuality based movement, and what buys and what that costs. Why I do have actually some creative stuff in the global south, and in the global north there is a mainstreaming and the diffusion.
    c. In terms of the participant obversation, and my own subjectivity, in other parts of the project I triangulate, which we are suppose to do. I take the ethnography, the archive, the multiple perspectives, and one has responsnibility to do that. That is my contribution, my value added as a scholar activist. Bodafini just died, the pioneer leader of the mother's movement, I was somewhat embedded in the movement, but I ended up writing about 9 human rights movements in argentina, and analyzing they were clustered in three different streams, and how the relatives and families have a different experience, perspective, and cultural capital that could not work the international legal framework in the same way than the civil liberarian way. In omments they came together, in the trials of the generals. At another moments they were intention and after the transition to democracy their relation with the state very much came into intention. I went through a very parallel process in a different set of issues. Who had the lived experiences, who could work with legal rights, who could be more effective with the state, who had more transnational attention, who can advance the concept of forced

disappearance. I would like for you, I have the potential to do the same kind of work and advance that agency movement conversation.

4. This tension between reproduction and sexuality as organizing principles claims and rights that academically I should continue through the dissertation to use these joint phrases that I marked (health, rights, autonomy, justice) but never let them collapse. It's all there all the time. Then, when I chronicle specific actions movements and agents, mark carefully, keep it all there theoretically, never let it collapse, and then when I'm discussing actual ontopolitics, locate within that broader framework "here we see a move from reproduction to sexuality, and not everybody is making it". Women and abortion pills can go both ways, and at times it will make a lot of sense. But trans people may need to make this move, sometimes, and be able to make this move sometimes in some places. And that's a very important and interesting finding.
5. I have to theorize the activists, but I don't want to be influenced y those who can articulate themselves and be more critical. Even those who are not necessarily conscious. Activists are not necessarily theorists, they're trying to get what they need and what they want. Their job is to be active and advocate.
6. Bishnu: When I started with observant participation, the term that was missing that because I'm so in the weeds with these folks, I think I could say in part this is a collaborative knowledge making project that I've been so inmerse. IT has helped me make the conceptual discplacement to reproduction to nonreproduction. That is one, but then the second step is at moments I move back and need to become a historian who is also looking at me collaborating. That kind of back and forth is what I see very powerful.

Amar

1. About terms were great to see are : toxicity and toxic, pleasure, autonomy and value. They appear in other versions but not so prominently. These are terms that come from my activist research partners and coproduction of knowledge. These are the terms that are both mapping the way these chemicals transform the body, but not in ateleological focus upon the transition process. Pleasure , autonomy and conteste value all three are looking for a way to establish an alternative set of objectives and world views that activists are heading fort that is not just mapping the material effects of the corporate and governmental structures of the pills.
    a. I have an incredible mapping of these chemical compounds, how they moved to the regulatory apparatus, how activists struggle over trnasformgin what that means and what access are. That last third of the process could be more theorized so it matches the theoretical nuance of the materialization of those chemical compounds as they move to the state and pharmaceutical apparatus
2. What is missing in my presentation, and in the opening of the dissertation are the activists and how they appear are not just incidental voices, but as a set of loosely united porjects, and strategies. That's essential, because that's what I became a Phd student, because I want to not just map monopolies but lead towards a world of autonomy, pleasure and reassessment of the value of being.
3. Two nuances:
    a. Make sure that it ties into our share goal to highlight substantively and recognizing the contributinos that activists are making to my own theoretical process. We tend to cite each other, academics and therosits, but I need to weave

in through my citations since the starts the activits I do (sometimes I do like Sonia and Siobhan), but I'm worried that by putting a firm line between the ontological shift and the epistemological shift I could be seen a firm line between beings and thinkers, between activists on the ground and theroists. I think the epistemological and ontological term are two sides to the same coin. We can't imagine nature and mountains in as agents in the ontological sense without the epistemological turn in the indigenous studies to new research methods that recognize the value f non human agents. While doine as bishnu suggested that trans voices and movments are theprime theoretical inspirations, we don't wanna fall into trans exceptionalism where trans ideas only applies to trans case studies, just like this epistemological turn of indigenous activists. That epistemological tun is not only used when I talk about indigenous issues and antiblackness feminism. When we look at Cairo conference in 1994 and the way abortion rights were framed as sexuality, autonomy, pleasure, that is very much predecessor to how we talk about the trans body. The body of the woman was not longer a reproducing machine. It ws so exciting, and it was firmly around in the notion of woman's body, a cisgender woman body, not being imagined as a birthing machine regulated by the state. Gender itself as a category at that time, rather than man/(woman, socially constructed notions. Now those terms identified in the trans ontological term, we can see it in the fanoian angle of blackness ad its struggle. Conversations of trans scholars build on the body and pleasure, the body as not a tool of patriarchy and not as a tool fo erasure of state, and are picked up and propelled and electriied by the trans. There is a trend of trans exceptionalism and can discredit how trans people are actually creating a new wave but built upon previous waves.
    i. Keep the epistemological and ontoligcal shifts. Leept them historiziced by putting the body as not instrumentalized an pathologized that match all three of my pilars of cases.
    ii. Keeping them together means my activistst that represent the materialization are also epistemiological innovators.

4. Questions
    a. How do I spotlight the activists thinkers. I think the people I cite and in my committee are coming from this activist activist scholarship tradition. I don't need to feel I'm constrained methodologically by my participation.
        i. Abou toxicity: is it only attached to the chemicals before they become pharmaceuticalized. I'm worried is I'm describing there is an innocence speaerates it out from technologies of pleasure and transformation. Is toxic just a moment in the process or are we trying to talk about the risks of dangers. I see itas a securitizing terms, because it is attached as controversial.
    b. If I could identify two or three conflicts among the groups I studied, in terms of how they define autonomy, pleasure, or the value they want to transform these products into. Are there hot splits among these groups that could reveal some nuance, so we don't assume they all kind of flow.
        i. Pointing out those debates won't get me into trouble. I'm proposing not a resolution, but make those tensions less militarized, because if by tieing together the history of antiabortion and trans and hiv movements, that they

all share a move towards different notions of agency and the body and pleasure, I've gotten used to this way, or that way, and there is a notion of obliterating what was before it. My work with these three are not one surmounting the other, but sharing a set of methodologies, epistemologies and ontologies to find a resolution. I need to point at thte debate it makes my resolution less powerful.

c. Alison:
    i. I planted a frame about sexual health, and health rights, which is certainly part of the HIV movement and some of the feminist movement, that can help me with the toxic thing.
    ii. I just want to second what Amar just said that those historic tensiosn among the movements are important, they are consequential, they have led both conflicts on positive change, like the move to reproductive justice. Delving into those is a constructive and ultimately necessary move.
d. Bishnu
    i. I lose nothing, because I have quite a lot of authority in working with these activists groups. Showing I'm aware about the tensions wont' be in detriment. When I talk about reproduction and nonreproduction as one displacement of language that seeks new forms of autonomy, in HIV the shift has been of manthra of the heaviness of undetectable. The undetectability becomes a yugo on people. In trans communities there is a displacement to undetetcatable, scuh ass of reproductive. These language displacements which are new knowledge economies come out of conflict. I can handle it lightly with footnotes.