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NEURORIGHTS: AN EXPANSION OF LIFE IN CHILE

BY

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Book 1: Genesis

Prologue

To investigate a neurotechnology regulation within a country where such technologies are largely absent, is to see what is not there, to investigate the outline of a shadow and intuit the structure that interrupted the flow of light. It is quite simple to observe what cannot be seen as all one must do is identify that which caused the clearly defined absence. However, what is difficult to do is hold this absence still, in space and time perhaps, and engage with the complexity of life in an effort to understand the circumstances that brought the respective absence into existence. The difficulty, therefore, comes from the need to explain not only the absence itself but also the genealogy of the light absorbing object.

Further, to investigate a neurotechnology regulation as a constitutional amendment is to observe a coin being placed in one of many possible, empty slots. It is therefore an acrobatic exercise to observe those empty coins slots; to see the shape of a shadow that is cast by absence and understand its materiality; I am speaking about those things that exist because something does not, in time or in space.

Even further, to investigate a neurotechnology regulation as an amendment to a right to life amendment is to stand on solid ground, to hold firmly in one's hand an object of study. However, it is the case that this object of study is moving in a nauseating fashion; it is writhing, palpitating. This discomfort comes from the erratic movement of the object of study; from understanding the circumstances that bring about its expansion and contraction.

Finally, to investigate a neurotechnology regulation as a form of speech is to be pulled headward into the future by the object of study. Here, causal circumstances are uninteresting as the

productive potential of what is being held in hand brings awe. Accordingly, it is through learning to harness this productive potential that individuals may be empowered through creativity. Teaching this productive potential is the ultimate goal.

The aforementioned is the methodology of this project.

Background

In 2017, the Morningside Group, a private equity and venture capital firm in the science and technology sectors, held a three-day workshop at Columbia University. In attendance were physicians, ethicists, neuroscientists, and computer scientists, from neurotechnology start-ups¹² and large corporations. The academic and research institutions represented were based in the United States, Canada, Europe, Israel, China, Japan, and Australia. The meeting was sponsored by the US National Science Foundation and was convened so that thought leaders could discuss ethical concerns related to the use of neurotechnology and machine intelligence. Leading the meeting was Dr. Rafael Yuste, Professor of Biological Sciences and Neuroscience, Co-Director of the Kavli Institute of Brain Science, and Director of the NeuroTechnology Center at Columbia University (Morningside n.d.) (The NeuroRights Foundation n.d.).

¹ A neurotechnology is any method or electronic device that interfaces with the nervous system to monitor or modulate neural activity (i.e., neuronal firing) (Goering 2021) (Müller 2017). A neuron fires when an electrical charge travels down an electrical gradient. In short, in most cases, a negative charge will travel from one end of a neuron to the other. The traveling of the negative charge is initiated by the opening of specialized passageways in the surface of the neuron. A negative charge signifies that there are more electrons inside the neuron, relative to outside the neuron. The negative charge is created by having a higher concentration of sodium ions outside of the neuron relative to inside the neuron. The sodium ion carries a 1+ charge. Given the sodium ion concentration outside the neuron and the chlorine ion concentration inside the cell (1-), the inside of the neuron becomes negative, thus allowing the neuron to fire. After the neurons fire, passageways in the neuron close so that the internal and external charge differential can become balanced. This process is called depolarization. The goal of any neurotechnology is to modulate or monitor this endogenous process.

² An example of a neurotechnology startup is the medical device company, Magnus Medical. I have served as the Senior Intellectual Property Manager and Business Development Manager for this organization (2022 --).

The initial result of this meeting was a Nature article entitled, “Four ethical priorities for neurotechnologies and AI,” published November 9th, 2017. The paper begins by describing a hypothetical situation wherein a paralyzed man participates in a clinical trial of a brain-computer interface (Yuste 2017). A brain-computer interface is a computer-based system that obtains brain signals through imaging or recording, analyzes such data, and translates the respective brain signals into output commands that direct the system to do a task or action (Shih 2012).

Returning to the article, the paralyzed man has a computer chip implanted in his brain that is connected to a computer. The computer is trained to move a robotic arm based on the brain signals received from the implanted computer chip. One day, the research participant was tired of the obligations associated with clinical trial participation and on the same day, the robotic arm hurt a research assistant when the robotic arm crushed a cup that was given to it by the research assistant. Although the participant apologized and said that this action must have been due to a malfunction, the participant himself was unaware if his frustration caused the situation. This example highlights a fundamental anxiety caused by the concern that neurotechnologies may reveal (or change) an individual’s internal mental life in a manner that negatively affects the individual and/or those within their environment.

Within the field of neurotechnology regulation, there are three ethical guidelines that are commonly used as governing principles. The first is the Declaration of Helsinki, a statement of ethical principles published in 1964 for human subject’s medical research (WMA n.d.). The second is the Belmont Report, a 1979 publication written by the US National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (OHRP 2022). The third is the Asilomar artificial intelligence statement of cautionary principles, published in 2017 (Future of Life Institute 2023). However, given the recent emergence of neurotechnology, the preceding

guidelines do not adequately address concerns that arise as a result of the exercise of neurotechnology.

To address these gaps, the Morningside Group proposed recommendations related to four areas of concern: privacy and consent; agency and identity; augmentation; and bias. For example, relating to the topic of augmentation, the group writes, "...we recommend that the use of neural technology for military purposes be stringently regulated. For obvious reasons, any moratorium should be global and sponsored by a UN-led commission. Although such commissions and similar efforts might not resolve all enhancement issues, they offer the best-available model for publicly acknowledging the need for restraint, and for wide input into the development and implementation of a technology (Yuste et al 2017)." Recommendations such as the preceding were included within the body of the Nature paper and with the publication of this document, the human rights framework known as "NeuroRights" was born.

Two years later in 2019, the NeuroRights Initiative was founded at Columbia University as an advocacy organization for human rights. The initiative also worked to develop further ethical guidance for neurotechnological innovation beyond that which was published in the 2017 Nature paper. In 2022, the NeuroRights Initiative evolved into the NeuroRights Foundation and continues to function in this capacity, today.

Since 2017, the four ethical principles of neurotechnologies and AI have become the NeuroRights. These five defined principles aim to protect the human rights of all people from potential abuse of neurotechnology. The rights follow:

1. Mental Privacy: "Any NeuroData obtained from measuring neural activity should be kept private. If stored, there should be a right to have it deleted at the subject's request. The sale commercial transfer, and use of neural data should be strictly regulated."

2. Personal Identity: “Boundaries must be developed to prohibit technology from disrupting the sense of self. When neurotechnology connects individuals with digital networks, it could blur the line between a person’s consciousness and external technological inputs.”
3. Free Will: “Individuals should have ultimate control over their own decision making, without unknown manipulation from external neurotechnologies.”
4. Fair Access to Mental Augmentation: “There should be established guidelines at both international and national levels regulating the use of mental enhancement neurotechnologies. These guidelines should be based on the principle of justice and guarantee equality of access.”
5. Protection from Bias: “Countermeasures to combat bias should be the norm for algorithms in neurotechnology. Algorithm design should include input from user groups to foundationally address bias.”

The NeuroRights Foundation is working to incorporate the five NeuroRights into human rights law at the international and national levels through promoting the ratification of regulatory frameworks and ethical guidelines.

One of the first countries that the NeuroRights Foundation approached was Chile; Rafael Yuste, a Spanish citizen, was the leading voice in promoting legislation within this region. Officially, the foundation began their work in Chile on October 7th, 2020, at which time members of the Chilean Senate presented to Congress an amendment to the Bill of Rights of the Chilean Constitution. Both amendments were presented by Senators Carolina Goic, Francisco Chahuán, Juan Antonio Coloma Correa, Alfonso de Urresti, and Guido Girardi Lavín (The Legislature of the Republic of Chile 2020).

December 16, 2020, the proposed NeuroRights amendment was brought to the floor of the Chilean Senate. During the presentation of the amendment to the Bill of Rights, former President of the Chilean Senate, Guido Girardi described underlying anxieties that have contributed to the creation of the respective legislation. He spoke, “...we are living in a world where our experiences, our lives are feeling increasingly more designed. Our loves, our desires, our feelings, our thoughts

are being designed more by algorithms as there has been a transfer of decision making from human beings to algorithms. This should be regulated (The Legislature of the Republic of Chile 2020, 74).”³

President Girardi continued in describing the brain as the last frontier wherein technology now has the capacity to intervene directly in brain processes and influence thought. This may be done through observing and modulating data that is collected from measuring brain processes (i.e., brain data). Accordingly, Girardi argues that one’s brain data and brain are functionally one integrated structure. Therefore, he proposed that a distinct legal status should be established for brain data.

The legal model after which this proposition was formed is the Universal Donor Law. This law bans organ trafficking within the nation. Akin to organs, the proposed law attempted to elevate brain data to the status of organs. The proposal of this respective amendment marked the first time that a country attempted to recognize the protection of brain data as a human right.

On December 16, 2020, the NeuroRights constitutional amendment was proposed. The amendment proposed a modification to number 1° article 19 of the Constitution of Chile. The amendment is written, “Scientific and technological development will be at the service of the people and will be carried out with respect to life and physical and psychic (mental) integrity. The law will regulate the requirements and conditions for its utilization in people, and must especially protect brain activity, as well as the information that comes [from the brain] (La camara de

³ Traducción: Y estamos viviendo un mundo donde nuestras experiencias, nuestras vidas van a ir siendo cada vez más experiencias de diseño. Nuestros amores, nuestros quereres, nuestros sentires, nuestros pensares van a ser diseñados cada vez más por algoritmos y habrá cada vez más un traspaso de las decisiones de los seres humanos a los algoritmos. Esto debe ser regulado.

diputados 2021).”⁴ April 21st, 2021, the Chilean Senate approved the constitutional reform and on September 22nd, 2021, after review by the Chamber of Deputies, the constitutional reform was ratified. This date marks Chile as the first country to protect brain data under their constitution.

Introduction

The standing Chilean Constitution is organized into two sections. The first section is organized across twenty-five chapters and contains the constitutional articles, of which there are 388. Within each article are individual directives or definitions relating to the Chilean state. For example, chapter I, number 1^o, article 3 states, “Chile is a unitary state.”⁵ The second section of the constitution contains transitory provisions.

The legislation ratified September 22nd, 2021, was placed within chapter III entitled “Of the Rights and Constitutional Duties.” Chapter III spans from articles 19-23. The article of interest begins: “Article 19. The Constitution assures to all persons:”

Number 1^o of article 19 is divided into four sections. The NeuroRights legislation of interest is the fourth respective section. Number 1^o of article 19 follows:

- (a) The right to life and physical and psychic (mental) integrity of the person. The law protects the life of the unborn.
- (b) The death penalty may only be established for a crime contemplated by law approved with a qualified quorum.
- (c) The application of any illegitimate coercion is prohibited (corporal punishment)
- (d) The scientific and technological development will be at the service of the people and will be carried out with respect to life and physical and psychic (mental)

4 Traducción: “El desarrollo científico y tecnológico estará al servicio de las personas y se llevará a cabo con respeto a la vida y a la integridad física y psíquica. La ley regulará los requisitos y condiciones para su utilización en las personas, debiendo propender especialmente al resguardo de la actividad cerebral, así como la información proveniente de ella;”.”

5 Traducción: Chile es un país unitario.

integrity. The law will regulate the requirements and conditions for its utilization in people, and must especially protect brain activity, as well as the information that comes [from the brain] (La camara de diputados *ibid*).”

I wish to understand the spatial and temporal position of the NeuroRights by conducting a genealogical study of number 1° of article 19 of the 1980 Constitution, including ratified amendments thereafter, until 2021, through engaging prior governing documents, such as the 1925 Constitution, and the 1833 Constitution. Additionally, I will explore the proposed right to life amendment within the unsuccessful Chilean constitution of 2022.

In clearer terms, I wish to understand why the NeuroRights amendment has been added to number 1° of article 19, chapter III of the Constitution of the Republic of Chile? Why not add this legislation to a different article, make this directive its own article, or create a standalone law? Further, what work is done by situating the NeuroRights amendment in this respective location and time, the right to life amendment of the 1980 (rev. 2021) Chilean constitution?

To understand the Chilean constitution, I will begin with an investigation of its theological roots. I will do so through examining the emergence of natural law in Latin America. This concept of natural law places the state in the throne of God. In other words, the state has dominion given that it serves as the intercessor to God.

This thesis will demonstrate how the current Chilean constitution has been shaped by the forces of natural law starting from today until the incorporation of the Chilean state. I will also demonstrate how pre-Chilean, colonial society, was shaped by natural law, or more specifically, the Divine Right of Kings, wherein the King exercised dominion due to his direct intercession between man and God.

Upon understanding the genealogy of the Chilean constitution, I will demonstrate that the Chilean state continues to be perceived as sitting in the throne of God. I will do so through the photoethnography of protest art and graffiti taken during the *estallido social* or social explosion. The exploration of photoethnography will show how the Chilean citizenry is in conversation with the Chilean state on religious terms. This will be done through examining examples where Catholic iconography is at the foundation of social protest.

Given the religious foundation of Chile, I will show how the ratification of the NeuroRights functionally expands the boundaries of the legal person, or life, in Chile from an individual with a mind and body to an individual with a mind, body, and brain data. In other words, I argue that God, or the Chilean state, is expanding the boundaries of their territory.

I will then show how the act of modifying conceptual boundaries of the body serves as a tool to expand and contract legal rights associated with personhood, thus modulating the population size of those considered worthy of life. This is another means by which the State, in the figure of God, is expanding its territory.

To reduce this theory to practice, I will point to number 2°, article 19, chapter III as an example.

Number 2°, article 19 of the 1980 Constitution:

“2. Equality before the law. In Chile, there is no privileged people or groups. In Chile, there are no slaves and all who step foot on this territory are free. Men and women are equal before the

law.

Nor the law nor any authority can establish arbitrary differences [between persons].”⁶

Number 2°, article 19 is preceded by the “law of free wombs,” a regulation that led to the eventual end of slavery in Chile. During the congressional session of October 11, 1811, the following report was read,

“Although slavery, being repugnant to the Christian spirit, to humanity and good morals, and being useless, and even prejudicial to domestic service, which has been the apparent reason for its conservation, ought to disappear from a soil in which her magistrates are only occupied with no other care than to suppress all unhappiness to the utmost of its powers; yet, reconciling these sentiments with the concerns and the interest of the current masters of this class of unfortunate property, the Congress resolved that from this day forward no slave shall be brought to Chile and those [slaves] passing to countries where that hard law exists, if they shall happen to stop for any reason, and shall remain in this kingdom for six months, they shall become free ipso facto. That those who are presently in servitude, shall remain in that condition, which they will be enabled to endure by habit, by the difficulty of suddenly finding the means of subsistence without becoming a burden to society, by the good treatment which they generally receive from the masters and, above all, by the consolation that their children, born from this day forward, shall be free, which is expressly made an unalterable law. To prevent fraud, which may be practiced through avarice, and to preserve the benefit of this law for mothers who may be sold outside of the country, it is also declared that their wombs shall be free everywhere, and that this shall be expressly inserted by an indispensable clause, both in the deeds between the parties, and in the permits of the customhouses, for which purpose directions shall be given to the notaries and administrators (Santiago: Imprenta Chile 1846, 29) .”⁷⁸

⁶ Traducción: 2°. La igualdad ante la ley. En Chile no hay persona ni grupos privilegiados. En Chile no hay esclavos y el que pise su territorio queda libre. Hombres y mujeres son iguales ante la ley. Ni la ley ni autoridad alguna podrán establecer diferencias arbitrarias;

⁷ This passage was introduced to the world during the Sixth Report of the Directors of the African Institution, Read at the Annual General Meeting on the 25th of March, 1812 (London: Printed by Ellerton and Henderson, 1812), 79-80, with edits by Yesenia Barragan

⁸ Traducción: Aunque la esclavitud, por opuesta al espíritu cristiano, á la humanidad y á las buenas costumbres, por inútil, y aún contraria al servicio doméstico que ha sido el aparente motivo de su conservación, debería desaparecer de un suelo en que sus magistrados sólo tratan de extinguir la infelicidad en cuanto alcance sus últimos esfuerzos, con todo, conciliando estos sentimientos con las preocupaciones, y el interés de los actuales dueños de esta clase de

In short, upon ratification of the law of free wombs, all children born in Chile were to be free. Essentially, non-legal-persons were able to give birth to legal-persons. This said, within the group of non-persons, there was a space that was legally delimited as “the womb.” Before delimiting the womb as a defined legal constituent of a person, there was no way for an individual to achieve freedom. However, after delimiting this space, the womb was legally defined as free, and was essentially given personhood. Therefore, this delimitation of the body was used to empower and enable the Chilean population.

To demonstrate how this empowerment is possible, I will work with the texts of Judith Butler and Jason de Leon to understand how the boundaries of the concept of “life” are modulated to include or exclude specific human lives. Specifically, of Butler, I will work with the text, *Bodies That Matter: On the Discursive Limits of Sex* as this book explores the border space that separates those individuals deemed worthy of life from the rest. Of de Leon, I will work with *The Land of Open Graves* as this book describes the space that serves as a productive force for life, death.

Accordingly, I argue that the neurorights agenda has been placed within the right to life amendment to delimit the boundaries of a legal person or in other words, life. Through delimitating the mind, body, and brain data as distinct, integrated entities, constituent of a legal person, similar to the distinction between the womb and the body of the female slave, these boundaries may be

miserable propiedad: acordó el Congreso, que desde hoy en adelante no venga a Chile ningún esclavo i que los que transiten para países donde subsista esta dura lei, si se demoran por cualquiera causa, i permanecen seis meses en el Reino, queden libres por el mismo hecho. Que los que al presente se hallan en servidumbre, permanezcan en una condición, que se las hará tolerable la habitud, la idea de la dificultad de encontrar repentinamente recursos de que subsistir sin gravamen de la sociedad, el buen trato que jeneralmente reciben de sus amos, i sobre todo el consuelo de que sus hijos que nazcan desde hoi serán libres, como expresamente se establece por regla inalterable. Para evitar los fraudes de la codicia, i que no se prive de este beneficio a las madres que sean vendidas para fuera del País, se declararon igualmente libres sus vientres, i que deben serlo por consiguiente sus productos en cualquiera parte i que así se anote por cláusula forzosa en las escrituras que se otorguen, i en los pases de las Aduanas, a cuyo fin se hará entender a los escribanos y administradores.

used as a means to expand and contract legal personhood and consequently, the population of individuals that are considered by the Chilean state worthy of life.

Further, given that the NeuroRights agenda may be used to expand and contract legal personhood, what should ethicists and practitioners be aware of?

There are two concerns of interest.

First:

The NeuroRights agenda has been applauded for its ability to prevent industrial entities from commercializing the brain data of their customers. However, in making brain data a human right, this gives the Chilean government the ability to regulate this form of data in the same way as the lives of their citizens. The consequence of this action may be that individuals may not be able to commercialize their own data. This is important to recognize as in societies that are economically unequal, such as Chile, generating means for social ascension are essential. This said, if an individual's brain data is their most valuable possession, why should one not be able to recoup direct profit or royalties from its commercialization? I argue that although I agree with the necessity of the NeuroRights, it is also necessary to highlight that there is an emancipatory potential in the commercialization and transfer of such data.

To overcome anxieties, this study will investigate an emerging technology, namely blockchain, so that individuals may be able to commercialize brain data without sacrificing anonymity.

Second:

At the height of slavery in Chile, there were 5,000 individuals in servitude. However, when the law of free wombs was passed, this led to an increase in the Chilean population.

The population of Chile is currently 19.5 million. Although this is the censused number of individuals within the population, with the ratification of the NeuroRights, the territory governed by the state broadens. For example, before the NeuroRights, the Chilean government only passed legislation that related to the integrity of an individual's mind and body, with respect to the right to life (e.g., commercial organ regulation). However, given the NeuroRights, the Chilean government can now make laws that prevent the commercialization of neurodata as well as bodily organs. Although this increases protections for Chilean citizens, this legislation necessarily increases Chilean state power. Accordingly, steps should be taken to incentivize ethical, equitable data management practices by the state.

The goal of this project is to demonstrate that it is not only important what law says, but where law is said, both in time and space. Through understanding the spatial and temporal positionality of legal regulations of interest, we may uncover that law is more than official documents; rather, law is more deeply penetrative than one may immediately recognize. Through understanding the depth of power that law carries, we may become more aware of what is happening to us as individuals, during our everyday lives.

This is particularly important to be aware of in Chile, a state that had great difficulty maintaining social stability in recent memory due to the political uprising that lasted from October 2019 to March 2020. This period was called the *estallido social* or social explosion. During this time, protests of governmental institutions led to widespread human casualties and property damage. This moment was predicated by years of frustration with governmental policies, many of which were established during the authoritarian reign of Augusto Pinochet (1973-1990) (“Augusto

Pinochet” Encyclopaedia Britannica 2023). Although Chile experienced significant economic growth during this period that is known as “The Miracle of Chile,” much of which occurred as a result of the work of Milton Friedman and “The Chicago Boys,” atrocities occurred during the rule of Pinochet (Winn 2006).⁹ After Pinochet took over the country from Salvador Allende, the socialist president of what was at the time the longest standing democracy in Latin America, Pinochet instituted the constitution of 1980, the constitution that is in effect today (Winn *ibid*). The voice of Pinochet echoes through law.

At the culmination of the *estallido social*, the state agreed with its citizens to consider an abandonment of the 1980 constitution and the ratification of a new constitution. Some argued that this was a way to rid oneself of the memory of Pinochet. Although a constitutional council of 50 elected citizens effectively drafted a new constitution, the proposed constitution did not survive. The results given to the public were 62% no to 38% yes. The plebiscite was held September 4, 2022 (Biblioteca del Congreso Nacional de Chile 2022).

Given that the no vote was larger than the yes, scholars will never know what could have been. However, it remains interesting to contemplate how the NeuroRights may have been applied differently if included within the unsuccessful constitution of 2022, as opposed to its current position within the 1980 (rev. 2021) constitution. Regardless, perhaps there is a future where the definition of the body expands to such a degree that the aims and ambitions of the right to life amendment of 1980 (rev. 2021) becomes conjoined in a future constitution with that which was written within the right to life amendment of the proposed 2022 constitution.

⁹ Milton Friedman served within the University of Chicago’s economics faculty from 1946-1977. The uniqueness of Friedman’s economic theory, monetarism, took to its extreme, liberal, free-market theory, wherein all markets experience unregulated, privatization. Today, commodities such as water are privately owned and administered in Chile. Unsurprisingly, this market theory was at the center of political discourse during the *estallido social*.

To envision this new constitution is to bring into mind a new social order, distinct from that which currently exists in Chile. This conceived social order would draw much of its power from those definitions, proscriptions, and directives that existed within the hypothetical, proposed constitution, the boundaries of which differ in shape and size relative to the parent constitution, the constitution of 1980 (rev. 2021). It is at the boundaries of this newly envisioned constitution that one gains a sense of how the territory of the state remains in constant flux.

Understanding this boundary making process, however, is to understand the mechanisms by which Chile, and therefore any person in Chile, comes into existence. Coopting such mechanisms allows one to not only understand this creative process, but also allows one to use such mechanisms for their own purposes, such as to create life on their own terms, apart from the illusory monopoly of the presiding state. Here, there is emancipatory potential. This potential is produced not only due to an individual's ability to commune with the state through such mechanisms, but is also due to an individual's ability to commune with oneself. It is through this process of auto-communion, if you will, that an individual is able to bring their respective life into existence. Understanding that the position of creating life is held by God under natural law, it is through this process that one locates God within oneself.

This is where the second book begins. By understanding God through the context of the Chilean state, we begin to see the act of creation in real time. Creation, however, is not exclusive to the state, or God, as all individuals can create, not only the world around us, but also ourselves; the tools that one has at their disposal is breath. In learning to edify ourselves, through breath, we then become able build the world through leading others in the construction of the self.

Part I

The Legal Boundary of the NeuroRights Legislation

To gain a general understanding of a respective law or legal regime, it is helpful to begin with an examination of scholarly discussions within the fields of policy and ethics that precede ratification of such law(s). These discussions allow for an investigation into a) the anxieties from which the respective legislation is derived and b) how a proposed policy could serve as a more efficient and/or ethically responsible option. Essentially, this form of inquiry allows one to imagine how the boundaries of a legal regime could change.

By boundaries, I am referring to the limitations beyond which a respective action is considered illicit. For example, for a curfew law that begins at 9:00 pm, any individual would be committing a crime if they are outside the house beyond the limitation of 9:00 pm. More specifically, Black's Law Dictionary describes a limitation as a,

“Restriction or circumspection; settling an estate or property; a certain time allowed by a statute for litigation. In estates. A limitation, whether made by the express words of the party or existing in intendment of law, circumscribes the continuance of time for which the property is to be enjoyed, and by positive and certain terms, or by reference to some event which possibly may happen, marks the period at which the time of enjoyment shall end (Black's Law Dictionary, 2nd Ed., 2023).”¹⁰

In contract law, legal limitations are subject to negotiation between the participating parties prior to execution of the agreement. However, within the practice of fields of law such as criminal and constitutional law, legal limitations are set by representatives of the presiding sovereign power (i.e., congressional legislators). Such limitations are proposed and are subsequently debated, prior to ratification and application of the respective law.

¹⁰ And see *Brattle Square Church v. Grant*, 3 Gray (Mass.) 147, 3 Am. Dec. 725; *Smith v. Smith*, 23 Wis. 181, 00 Am. Dec. 153; *Hoselton v. Hoselton*, 1GG Mo. 1S2, 05 S. W. 1005; *Stearns v. Godfrey*, 1G Me. 100.

The above is relevant as the 5 ethical principles of the NeuroRights Initiative serve only as a singular conception of how such regulation may be understood. This said, the suggested legal boundaries of the NeuroRights are up for debate. For example, shortly after Dr. Rafael Yuste published the initial, landmark paper on NeuroRights (2017), Marcello Ienca and Roberto Adorno proposed four additional rights on the matter: Mental Privacy, Cognitive Liberty, Mental Integrity, and Psychological Continuity. Further, in a paper written six years later, Drs. Maria Cornejo-Plaza and Chiara Sarachini, suggested that the NeuroRights agenda should be expanded to include the right to cognitive augmentation as well as the right to protect humans from algorithmic or automated decision-making biases. Even further, outside of commentary on the Chilean context, within Article 18 of the International Covenant on Civil and Political Rights (ICCPR) and Article 9 of the European Convention on Human Rights, the right to mental self-determination and the right to freedom of thought, have been ratified.

Conversely, some thinkers believe that the creation of NeuroRights regimes are not necessary and instead argue that current concerns regarding brain data and mental privacy should be addressed through existing laws (Ligthart et. al., 2023), while others, such as Silvia Inglese and Andrea Lavazza (2022), point out that social libertarianism may impede the practical application of any NeuroRights legislation and should therefore be foregone. Further, authors, such as Sergio Ruiz et.al. (2021), note how literal interpretation of the NeuroRights regime may lead to negative effects in neuropsychiatric treatment, similar to how the “incapacitated to consent” law (law 20,584, 2021) slowed progress within the field of Chilean medical research. As a result, alternatives to legislation, such as the application of policy, may serve as a more efficient option.

Although there have been multiple conceptions of how NeuroRights may be understood as well as various opinions regarding whether this legal regime should be pursued at all, the Chilean

legislature eventually settled on one, defined legal boundary for the NeuroRights constitutional amendment. The respective limitation that was chosen, follows:

“The scientific and technological development will be at the service of the people and will be carried out with respect to life and physical and psychic (mental) integrity. The law will regulate the requirements and conditions for its utilization in people, and must especially protect brain activity, as well as the information that comes [from the brain].”

This aforementioned limitation was enshrined as a right within number 1d of article 19 of the 1980 Chilean Constitution during the year 2021.

Interestingly, out of all the proposed versions of NeuroRights that could have been implemented in law, the ratified law stopped at a specific point. Understanding that law makers could have expanded or contracted this right, why did they stop here? Further, why was this right placed within the right to life amendment of the Chilean constitution? To understand both questions in tandem, first it is necessary to engage in conversation with why the right to life amendment exists in the Chile constitution.

The Chilean Constitutions

The National Congress of Chile serves as the legislative branch of the Chilean government. This branch is comprised of two houses: a Chamber of Deputies and a Senate. The Chamber of Deputies is the lower house wherein the national budget is managed, and most bills are proposed. The Senate, the higher of the two houses, is tasked with debating those regulations that pass the Chamber of Deputies. In some cases, however, it is only the Senate that can propose certain bills. These include laws concerned with amnesty and pardons. The Senate may also propose bills whose purview is beyond these two respective categories. This is the case with respect to the NeuroRights

as the bill was first introduced in the Senate by Senators Girardi, Goic, y Chahuán, Coloma, y De Urresti while under the governance of former President of the Senate, Adriana Muñoz. Further, in unique cases, the President of Chile may propose their own bill. In any case, after a bill passes both houses, and is signed by the President, a bill becomes a law and in some cases, a constitutional law (El Poder Legislativo n.d.).

The first 18 articles of the 1980 Chilean constitution are separated into two chapters. Chapter I (art. 1-9) defines the fundamental units of the Chilean institution which includes concepts such as the state, family, and citizen. Chapter II (art. 10-18) defines Chilean nationality and describes the rights and responsibilities of citizenship. Chapter III (art. 19-23) outlines the Chilean Bill of Rights.

The right to life amendment, number 1a-d of article 19, is situated within the first grouping of rights, within the bill of rights. There are fifteen chapters within the Chilean constitution and the topics of some of the outstanding chapters include regulation related to, Judicial Power (VI), Public Administration (VII), the Armed Forces and Public Order (XI), as well as the Central Bank (XIII).

Prior to the 1980 constitution, the 1925 constitution was the ruling letter of Chile. Ratified under the Democratic rule of President Arturo Alessandri Palma. This constitution held power until September 11th, 1973, the day of the coup d'état that was led by Augusto Pinochet; the military putsch ousted the democratically elected President at the time, Salvador Allende.

The 1925 constitution is structured similarly to the 1980 constitution; the first two chapters develop a vision for the Chilean state and its citizens while the third chapter defines constitutional

rights. Although protections such as the right to religion, protest, and education are defined, the right to life, including its constituent components, is not present in the 1925 version.

Retreating into history, the 1833 constitution was ratified on the 25th of May 1833, under the governance of Jose Jaquin Prieto. This document served as the ruling letter of Chile until a coup d'etat that was led by President Arturo Alessandri Palma, September 11th, 1924. The 1833 constitution includes the bill of rights within chapter V. Again, however, the right to life, including its constituent components, is not present.¹¹¹² Retreating even further into history, the absence of the right to life amendment, including its constituent components, may also be observed in the 1828, 1823, 1822, and 1818 constitutions of Chile.

Chile was founded as a nation separate from the Spanish throne February 12th, 1818, but prior to this date existed three rulings (*reglamientos: 1811, 1812, and 1814*) written by leaders of the burgeoning Chilean state. These documents were the first to contain elements of a veridical constitution, however, there is no mention within any of these respective documents of a right to life, including its constituent components. Accordingly, if the right to life has not been in existence since the founding of the state, how did the right to life arise in Chile and why 1980?

The Right to Life Amendment and the 1980 Constitution

The 2021 revision of the right to life amendment is broken into the following four sections:

(a) The right to life and physical and psychic (mental) integrity of the person.

The law protects the life of the unborn.

(b) The death penalty may only be established for a crime contemplated by law approved with a qualified quorum.

¹¹ Interestingly, chapter III (art. 5) of the 1833 constitution states, “The religion of the Republic of Chile is Apostolic Roman Catholic; with exclusion of the public army, and whatever other [army].”

¹² Traducción: “La Relijion de la República de Chile es Católica Apostólica Romana; con exclusion del ejercicio público e cualquiera otra.”

(c) The application of any illegitimate coercion is prohibited (corporal punishment)

(d) The scientific and technological development will be at the service of the people and will be carried out with respect to life and physical and psychic (mental) integrity. The law will regulate the requirements and conditions for its utilization in people, and must especially protect brain activity, as well as the information that comes [from the brain] (La camara de diputados *ibid*).

In short, a) defines who has life and when life begins; b) defines who may extinguish life and how life may be extinguished; c) defines the limits of how the living may be treated; and d) defines how the constituent parts of a living person are regulated (i.e., a mind, body, and brain data).

The right to life amendment was first ratified within the 1980 constitution and does not exist within any prior constitutional document. This said, why does this respective amendment appear at this time, in this location, within the Chilean constitution?

Some scholars link the right to life amendment to religiosity or to a fundamental belief in natural rights. This intuition may be triggered given that Chile exists within Latin America, a grouping of nations founded predominantly by the Spanish crown. Carlos I. Massini Correas writes in the article “20th-Century Natural Law Theory in Latin America,” that “Natural law theory was the dominant trend in Latin America throughout the colonial period.” And that “...at the universities founded by the Spanish crown, scholars lectured on *theologia moralis*,¹³ or *ius naturae*, expounding the contents of what today is known as natural law theory.” He continues, “...in the beginning of the 20th century, and mainly as a consequence of the spread of the neo-

¹³ Moral Theology or *theologia moralis*, was written by St. Alphonsus de Liguori, a Catholic theologian and Doctor of the Church. He writes on the infallibility of the Pope “...although the Roman Pontiff, as an individual or private doctor, can err (as also, he is fallible in questions of mere fact, which depend chiefly upon the testimonies of men); when, however, the Pope speaks as universal doctor, defining *ex cathedra*, to wit, of the supreme power, delivered to Peter, of teaching the Church, then we say, *that he, in determining controversies of faith and manners is altogether infallible* (Liguori 1846, 47-48).” In short, according to St. Alphonsus, the Pope’s legislative power is derived from his intercession between God and man.

Thomistic movement in Latin America, various authors put forward a conception of legal philosophy cast in the mould of natural law. This phenomenon took place in almost all Latin American countries, but it was particularly strong in Mexico, Brazil, Chile, and Argentina, where natural law schools were founded and books and journals that espoused this vision were published (Correas 2016, 163).” Given that natural law has historically been taught at institutions of higher learning within Latin America, it is worth examining how law in Chile is perceived within other institutions, such as the national courts of the contemporary era.

Within the context of Chile, Rodolfo Figueroa García-Huidobro describes the right to life in Chile as a natural right through the topic suicide and hunger strikes. He does so by first recounting an argument recorded by the Chilean Court of Appeals, an institution he describes as authors of national doctrine:

“...It is a matter of natural law that the right to life is the [right] we have that [permits no one] to attack [our own life], but in no way does [this right] consist of having control over our life itself, by virtue of which we could destroy it if we wanted, but rather [life]... demands from others her inviolability. This is what Don Rafael Fernández Concha expresses in Volume III of his work on Philosophy of Law, when he insists that the right to life "does not consist of nor is it based on direct control over life, since such control is not held by any man, with respect to his own". Indeed, mastery necessarily involves a relationship between a subject and a different object, while man and his life are identified and are the same thing. That, on the other hand, the inviolability of life for oneself, or for another person, is the fruit of the Judeo-Christian civilization, which has inspired all our legislation and has been invariably collected by Theology and Natural Law, whether in its Thomistic or rationalist currents. As Etcheberry expresses in his aforementioned work on Criminal Law "bodily integrity and health do not constitute available goods" (page 114, volume III), from which it follows that any attack against these goods is, to say the least, arbitrary and unfair (Garcia-Huidobro 2008) .¹⁴

¹⁴ Traducción: "...es de derecho natural que el derecho a la vida es el que tenemos a que nadie atente contra la nuestra, pero de ningún modo consiste en que tengamos dominio sobre nuestra vida misma, en virtud del cual pudiéramos destruirla si quisiéramos, sino en la facultad de exigir de los otros la inviolabilidad de ella. Es lo que expresa don

The respective appellate court argument draws direct reference to Chile as a Judeo-Christian nation and therefore derives the right to life from natural law. Under this conception, the right to life does not mean that one has ownership of one's life and that one can therefore do what they please with the respective object. On the contrary, although natural rights protect the life of the individual from intrusion or attack from another individual, it does not give the individual the right to end their own life. The right to take life is ultimately reserved by God. This is the argument used by the Court of Appeals to pronounce the illegality of suicide and hunger strikes.

The Court of Appeals also notes that it is not correct to express that life is controlled by an individual. To do so is to place the individual as the subject and their respective life as the object. However, the court finds the life of the subject and the subject itself as the same. Essentially, the individual/individual's life functions as the object while God functions as the subject.

This said, who is the God of the 1980 Chilean constitution?

José Joaquín Ugarte Godoy, Professor of Civil Law and Philosophy at the Pontifical Catholic University of Chile, argues that in order to understand the right to life amendment within

Rafael Fernández Concha en el Tomo III de su obra sobre Filosofía del Derecho, al insistir en que el derecho de vida, "no consiste ni se funda en dominio directo sobre la vida, por cuanto tal dominio no lo tiene ningún hombre, respecto de la propia". En efecto, el dominio importa necesariamente una relación entre un sujeto y un objeto diferente, en tanto que el hombre y su vida se identifican y son una misma cosa. Que, por otra parte, la inviolabilidad de la vida por uno mismo, o por otra persona, es fruto de la civilización judeo-cristiana, que ha inspirado toda nuestra legislación y ha sido recogida invariablemente por la Teología y el Derecho Natural, ya sea en sus corrientes tomistas o racionalistas. Como expresa Etcheberry en su aludida obra de Derecho Penal "la integridad corporal y la salud no constituyen bienes disponibles" (página 114, tomo III), de donde se desprende que todo atentado en contra de estos bienes, es, por decir lo menos, arbitrario e injusto; y..."

the 1980 constitution, it is first necessary to understand this right as a “natural right and as a work of God.” He writes,

“The notion of natural right, that is, that there are good acts and bad acts in themselves, by virtue of man’s own immutable nature, through which God orders his acts, is consubstantial to all human culture, and is like such ancient, and certainly pre-Christian, against the vulgar belief, widespread today, even among some jurists, that the idea of Natural Law is the heritage of the Catholic religious faith (Godoy 2006).”¹⁵

Godoy argues that this notion of natural right begins with thinkers such as Aristotle and Cicero,¹⁶ and later, Saint Augustin as well as other Christian philosophers. In this view, that which is necessary to grasp the right to life amendment is not a specific religious framework, but more simply, an understanding of God, or rather, in a being greater than oneself. Starting with God¹⁷ above humans as the fundamental hierarchy of society, certain rights and responsibilities begin to emerge.

This is apparent within Chapter III of the 1925 constitution entitled, “Constitutional Guarantees” as it is within this chapter that all rights and responsibilities afforded to a person in Chile are outlined. This listing of natural rights supersedes those rights that are only afforded to

¹⁵ Traducción: La noción de derecho natural, es decir de que hay actos buenos y actos malos en sí mismos, en virtud de la propia naturaleza inmutable del hombre, mediante la cual Dios ordena los actos de aquel, es consubstancial a toda cultura humana, y es como tal antiquísima, y por cierto precristiana, contra la creencia vulgar, difundida hoy día incluso entre algunos juristas, de que la idea del Derecho Natural es patrimonio de la fe religiosa católica.

¹⁶ To understand natural law within the context of Latin America, it is important to look first towards non-Christian, theocratic writers as it is here that the political form of the modern, western nation-state begins to take shape. This should be done to understand that natural law is *essentially* natural given that the God described in early medieval legal theory is not tethered to any specific God of organized religion; it is only the case that God is characterized by its/their elevation above humans, and consequent, provenance. For instance, Cicero writes in *De natura deorum*, “I say, then, that the universe and all its parts both received their first order from divine providence, and are at all times administered by it (Cicero 45 BC).” Further, in *De re publica*, the philosopher claims that souls are created by the eternal fires of celestial bodies; those which exist under the dominion of God (Cicero 54 BC).

¹⁷ By God, I am referring to the entity that holds the highest position within a socio-political order.

the Chilean citizen. For example, within number 2 of article 10 of the 1925 Chilean constitution the right to freedom of religion is enumerated:

“The manifestation of all beliefs, the freedom of conscience and the free exercise of all cults that are not contrary to morality, good customs, or public order; therefore, the respective religious confessions may erect and maintain temples and their dependencies with the conditions of safety and hygiene established by laws and order. Churches, confessions, and religious institutions of any religion will have the rights that they grant and recognize, with respect to the well-being, and the laws in force; but will be subject within the guarantees of this constitution, to [the guarantees of] common law, for the exercise of the domain of their future goods; The temples and their dependencies, intended for the service of a cult, will be exempt from contributions.”¹⁸

The right to freedom of religion places the church subservient to the Chilean state. In short, the freedom to practice religion is not afforded due to the grace of God, but rather, due to the grace of the state, acting as God. As such, the right to freedom of religion may only persist insofar as it maintains its alignment with the decreed morality and social order of the highest governor, the Chile state; the accompanying responsibility must be upheld, or the right will not be respected.

In his own words, Godoy writes, “The life is work of God, in the same way as the spirit and the body: only He has the power to give life and take away corporal life with death; only he alone is therefore the lord and arbiter of life.” Here, we see God schematized as the creator of the individual, that which is constituted by a spirit, body, and life (soul). Given what God has done,

¹⁸ Traducción: La manifestación de todas las creencias, la libertad de conciencia y el ejercicio libre de todos los cultos que no se opongan a la moral, a las buenas costumbres o al orden público, pudiendo, por tanto, las respectivas confesiones religiosas erigir y conservar templos y sus dependencias con las condiciones de seguridad e higiene fijadas por las leyes y ordenanzas. Las iglesias, las confesiones e instituciones religiosas de cualquier culto, tendrán los derechos que otorgan y reconocen, con respecto a los bienes, las leyes, actualmente en vigor; pero quedarán sometidas, dentro de las garantías de esta Constitución, al derecho común para el ejercicio del dominio de sus bienes futuros. Los templos y sus dependencias, destinados al servicio de un culto, estarán exentos de contribuciones;

humans do not have the right to give or take life. Said differently, individuals have the right to life not because we own our lives, but because God does.¹⁹

So, again, who is the God of the 1980 Chilean constitution?

Godoy takes great effort to divorce the notion of natural rights from Catholicism. This is important to note as Chile, since its inception, has functioned in large part as a Catholic union. The Catholic Church has held great power within this respective government as the state has gone so far as to explicitly state its affiliation within the constitution of 1833. Regardless, however, it was not until the constitution of 1980, during the authoritarian regime of Augusto Pinochet, that the right to life arises, a new natural right.

Augusto Pinochet ruled in Chile from 1973-1990. During this time, he frequently confounded the sacred and the profane.²⁰ For example, the Catholic Church, prior to the coup

¹⁹ The sovereign right to take life is comically illustrated in the HBO television show “Pennyworth: The Origin of Batman’s Butler (2019).” While on a date in a park with a woman, Esme, a burlesque dancer and recent love interest, Alfred Pennyworth was asked about his time serving in Great Britain’s military. After Esme inquired whether he ever took life and if it bothers him, Alfred said “Still does...” he continued, “When my sergeant major gave me my first gun, he said ‘This is not your gun. This the queen’s gun. And these bullets, they’re the queen’s bullets.’

I was working for the queen. Makes it all right, you see?”

Esme coyly responded, “...no. no, not really...”

²⁰ This is not to mention the recorded tortures that occurred in places of worship, such as the National Soccer Stadium. This building served as a location of group ritual and communion, however, on the eve of the Pinochet coup d’état, the National Stadium transformed into a horror film. Marcelo Acevedo, President of the Site of Memory, the standing memorial of the National Stadium, said this in an interview on the fiftieth anniversary of the arrival of the Pinochet regime, “The National Stadium was the largest prison, torture, and mass extermination center in the country as a collective prison. Although we do not have official figures to date, the Armed Forces have not provided any data, it is estimated [there were] between 20,000 and 40,000 prisoners. And it didn’t last long, only two months, but it was more the quantity and the way in which a symbol was used: the main sports center in the country. We have to think that the dictatorship used this as a clear message of terror to its citizens, ‘if you have anything to do with this previous government, you will fall prisoner (Acevedo 2023).”

Traducción: “El Estadio Nacional fue el centro de prisión, tortura y exterminio más grande del país como prisión colectiva. Si bien no tenemos cifras oficiales hasta el día de hoy, las Fuerzas Armadas no han entregado dato alguno, se estiman entre 20.000 y 40.000 prisioneros. Y eso que no duró mucho como tal, solamente dos meses, pero fue más la cantidad y la forma en que se utilizó un símbolo: el principal centro deportivo del país. Tenemos que pensar que la

d'état, was experiencing new political freedoms afforded by the then socialist president, Salvador Allende. Prior to Allende, the Church directly served the Chilean oligarchy through the Nationalist Party, the only officially Catholic party of the state. It was not until 1964, that reform in the Chilean church and political system led to the election of President Eduardo Frei, a Catholic activist. In 1973, however, many of the Christian Democrats, went underground to avoid persecution from the newly instituted Pinochet Regime. This included priests such as Rev. Ignacio Gutierrez, Father Dennis O'Mara, Rev. Antonio Sampere, Rev. Luis Navarro Baeza, and Rev. Francois Frischt. Often clergy members were accused of "extremist activities" and faced deportation at the hands of Chilean state (Fitzgerald 1985).

In a 1975 article in *Commonweal Magazine*, an official Church publication, Gary MacEoin writes regarding the current state of the Chilean church. Emblazoned on the front page is a picture of Augusto Pinochet shaking the hand of Cardinal Archbishop Raul Silva Henriquez within a Cathedral. MacEoin wrote the following to describe how Pinochet took power that was vested in the Chilean church:

The Junta has worked hard and successfully to smash episcopal collegiality. It makes bilateral arrangements with heads of institutions, bypassing Church authorities. It names the heads of Church-related educational and welfare organizations. Any attempts by Christian groups to express themselves publicly in favor of social liberation are ruthlessly smashed. The educational system is being completely restructured and reoriented along the same fascist lines already established in Brazil, with no regard for views of parents or of the school community. Even the celebrations of the Holy Year of 1975 are strictly regulated. General S. A. Stark, head of the Second Army Division, has told the Church authorities of Santiago that expressions must be strictly religious and are permitted only within parish premises and private homes, with full advance information to the security forces. The bishop and pastor must authorize each manifestation, and

dictadura lo emplea como un mensaje de terror claro a la ciudadanía: si usted tiene algo que ver con este gobierno anterior, va a caer prisionero (Barbero 2023)."

the bishop will be held personally responsible for any infraction (MacEoin 1975 cited in Ruderer 2015).²¹

Essentially, Pinochet reproduced a theocratic union where he sat in the seat of God. By designing a constitution built upon natural rights, a document founded upon the assumed existence of God, and then by replacing the heads of Catholic institutions with governmental representatives, Pinochet and his regime became God in Chile; his influence within the general population was nothing short of spiritual.

This is evident in an undated video that one can assume was taken after the death of Pinochet. In this scene, a woman is seen holding a bronze bust of Pinochet in her right hand. Enthusiastically she states while pointing to heaven and kissing the head of the statue, “Thank you God! ... Between [Pinochet] and God, there is not much difference!” The soliloquy ends with the statue being raised into the air with a resounding “What a great man! What a great man!”²²

Pinochet gave Chilean citizens the right to life within the 1980 constitution so that his regime could function as the creator and arbiter of life. In clearer terms, the 1980 constitution, with the help of his supporters, placed Pinochet in the seat of God in Chile. Interestingly, this is not an uncommon story; Pinochet is one individual in a line of Andean governors who employed this tactic to obtain social control.

God and Governance: The Past

²¹ By 1976, Pinochet lost support from all branches of the Catholic church, except the military vicariate who openly supported the regime and its troops through its lifecycle.

²² traducción: Gracias a dios... Entre El, entre Pinochet y Dios, para mí no hay mucha diferencia. ¡Grande mi hombre! ¡Grande mi hombre!

In the background of the 1980 Chilean constitution exists Chile, and more generally, the Andes, a region incorporated as a result of Spanish imperialism.²³ Spain, a nation whose population rose no higher than nine million during the 1500s, were deeply involved in the exploration and exploitation of land west of the Atlantic. Given the size of this landmass relative to the size of Spain's population, the European nation engaged in state building techniques that a) enabled control of the indigenous population and b) brought individuals into alignment with the Catholic Church, all while employing as few colonial administrators as possible.

In Parker VanValkenburgh's paper, "Unsettling Time: Persistence and Memory in Spanish Colonial Peru," he explores the politics of memory during the Toledan Reforms in Peru between 1569-1581. These reforms were initiated in the wake of the decrees of the Council of Trent and were meant to bring indigenous peoples into "The Era of Christ." The Peruvian Viceroy engaged in a tripartite initiative through which indigenous people were accounted through a general census, were subject to labor tax, and were spatially reordered into identical, centralized communities so that individuals were easier to observe (Cummins 2002 cited in Lyons et. al.). It is through the final objective, *reduccion*, that indigenous people were, in theory, able to gain the characteristics of *policia humana* or human civilization (VanValkenburgh 2017, 2).

This reordering of bodies was not only an aesthetic choice as indigenous settlements were modeled after the Spanish-American city (i.e., grided streets with a church at the center), but was also an intentional attempt to undo indigenous history. Through the destruction of ancestral sites of memory, the Peruvian viceroyalty intended that indigenous people "leave the places and sites

²³ Prior to Spanish imperialism existed various indigenous nations in what is defined as modern-day Chile. Indigenous nations recorded and recognized by the Chilean state include: the Picunches, Mapuches, Huilliches, Rapa Nui, Diaguitas, Atacameños, Caucahués, Changos, Cuncos, Kawésqar, Yaganes, Aonikenk, Selk'nam, Aymara, Chono, Colla, Quechua, Yámana, and the Tehuelche.

connected with their idolatries and the burial places of their dead” and re-center their lives around Christianity (VanValkenburgh 2017, *ibid*). Thus, it was through the reorganization of space and time that Spaniards attempted to negate indigenous history and create a new society, with the Spanish throne as God.

At this time, the Spanish throne, and European monarchies more generally, were in the practice of asserting the Divine Right of Kings. This doctrine is predicated on the notion that to defy the reigning monarch is to directly defy the will of God, as the monarch serves as the voice of God on earth. In Spain, given that the population was predominantly Catholic, and that adherents consider the Pope as the highest spiritual intercessor, the Spanish throne was consistently in a position of enforcing their envisioned social order. For example, King Carlos III (1734-59), did not allow any papal brief in Spain without royal permission and also had a particular disdain for the Society of Jesuits. The clergy was eventually expelled from the state in 1767 after he suspected their obedience to the American colonies (“Charles III” Encyclopaedia Britannica 2023).²⁴²⁵

The reason why this section is important is because it describes two things:

- a) There is a history of natural law within the Andes where the highest governor is placed in the seat of God.
- b) This history can be traced back not only to pre-Chilean, colonial society, but also to Spain, the country that imperialized Chile.

²⁴ Conversely, monarchies of Protestant nations, such as the Church of England, were able to assert the Divine Right of Kings without papal interference or influence from another religious institution.

²⁵ Interestingly, King Carlos III was able to achieve this through papal intervention.

This relates to NeuroRights because NeuroRights have been ratified within the Chilean constitution, a natural law constitution. Natural law constitutions are based on the logic that the state sits in the seat of God due to its intercession.

Here, I am arguing that God is expanding their territory through the ratification of the NeuroRights; where life was once defined as a body and mind, now life is defined as a body, mind, and brain data. More specifically, I am arguing that the Chilean state is expanding the territory of their domain; today the Chilean state sits in the throne of God.

The following is a photoethnographic demonstration of how some individuals in Chile perceive the state as sitting in the throne of God, today. This may be observed through protest art and graffiti where governmental representatives of the Chilean state are pictured through Catholic iconography. Without demonstrating in the material world that the Chilean state is perceived as God, my claim that God is expanding their territory through the NeuroRights is purely philosophical. The following is meant to show that outside of the Chile's natural law constitution, God continues to exist in the form of the Chilean state.

God and Governance: Today

In the foreground of the 1980 constitution is the Presidency of Sebastián Piñera. Although the current President is Gabriel Boric, elected in 2022, it was during the Presidency of Piñera that the *estallido social*, the social explosion, occurred (BCN n.d.)(Gob.cl n.d.). The result of these protests was a proposed constitution that was eventually voted down. Although the referendum was unsuccessful, the associated protests revealed a theocratic social order within Chile wherein the respective ruling party, and more generally, the Chilean oligarchy, were analogous to the

highest ruling entity (i.e., God). This is especially apparent through the observation of street iconography that existed during the period of the *estallido social*, the social explosion (October 2019 – March 2020) (Joignant 2023).

When I arrived in Santiago in 2017, one of the first things that I noticed was street art and graffiti. Both forms of art were so readily available that it felt as though if an object could be seen from the street, it was public property, and was therefore an available canvas. For example, in Santiago, it is common to see large concrete walls constructed to fence in private properties. While living in the neighborhood of Ñuñoa, the five-house complex within which I stayed was sheltered behind such a fence. While the inside remained pristine, outside the gates were subject to whatever a passing artist might have chosen to create that day.

In 2017 the country was at relative peace. However, unrest was brewing. I travelled to the country to conduct research as I was curious why Catholic youth were leaving the Catholic church in significant numbers. What quickly became apparent, however, was that individuals have been leaving, or have not been joining, Chilean institutions, generally. Such institutions, loosely defined, including the state police, the church, and education soon became the focus of the impending *estallido social*.

Towards the geographic center of Santiago exists Plaza Baquedano. For much of the *estallido social*, this plaza also functioned as the location within which some of the most intense interactions between the Chilean police and protestors took place. This was also the location around which art existed that exhibited Catholic iconography as a protest against various issues related to the Chilean State. Below, three street art and graffiti will be analyzed. All pieces were photographed on a phone camera in February 2020 and November 2022.

The first photo is of a sticker created by @palomarodriguez.cl [see index: 1]. I took this picture on Avenida Providencia about a mile away from Plaza Baquedano.² Surrounding the sticker are a range of other forms of art including graffiti directed towards *los pacos*, a colloquial and pejorative term used for *los carabineros*, the state police. To the right of the sticker is the “Si Poh” emblem which is a play on the political advertising that was used during the 1988 Chilean national plebiscite to support the reestablishment of democracy.³ The No campaign eventually won which led to the end of the reign of Dictator Augusto Pinochet. Today, the Si campaign won which has led to the rewriting of the Chilean Constitution. This is the constitution of 2022 that was eventually voted down.

The sticker by Paloma Rodriguez is foregrounded by the words, “*Por un Eden sin abusos, sin violencia y sin represion.*” (For an Eden without abuse, without violence and repression). Above these words is a woman whose eyes stare back at the viewer, the color of which are accented by a green snake that wraps around her left shoulder. In her right hand is an apple upon which is written “*Nueva Constitución*” while tattooed upon her wrist is “*Eva.*” Given this information, the viewer can suppose that the woman is the Christian Eve from the Book of Genesis or, at the least, one of her biggest fans. Further, one could suppose that the apple she is eating is fruit from the Tree of Knowledge of Good and Evil. What is interesting, however, is that in the Biblical story, eating of the fruit of the Tree of Knowledge of Good and Evil caused the Christian God to expel Eve and Adam from the Garden of Eden into a world of competition and struggle, but in this photo, this Eve is eating fruit from the Tree of Knowledge of Good and Evil and is asking for an Eden without abuses, without violence, and without repression.

This piece of art presents two arguments: A) A new constitution is a prerequisite for the creation of a country (Eden) that is without abuse, violence, and repression and B) eating from the Tree of Knowledge of Good and Evil and going against God (the Chilean state) should not necessitate forced entrance into a world with abuse, violence, and repression. The former argument is political while the latter is theological (some scholars find both terms synonymous). Thus, within this photo one observes Catholic iconography being used as a means to protest for a better political future in Chile and also to protest for a more progressive and inclusive interpretation of Catholic doctrine towards sin and punishment. It is through this image that the artist enters into negotiation with God, or more specifically, the Chilean state.

In the center of the second photo is a statue of President Jose Manuel Balmaceda (1886-1891) located within a park adjacent to Plaza Baquedano [see index: 2]. President Balmaceda, a symbol of the early years following the incorporation of Chile, has been covered in paint and stickers which write out various political messages in protest against the Chilean state. Further, a sticker has been placed high on the obelisk above the head of President Balmaceda. Arguably, this positionality could be read as a spatial hierarchy wherein God is being replaced with another.

The sticker is the figure of *La Virgen de las Barricadas*, a masked woman with dark skin and dark hair who holds a baby (in other renditions she is holding flowers or a slingshot). As you look up to her from the base of the stone structure, her eyes look down upon you. Written upon her halo are the words “*Protegenos de Todo Mal Gobierno*” while written on her forearms are the words “*Aguas Libres*” and “*Marichiweu.*” The first phrase is the use of Catholic iconography as a means for protection against the Chilean state. The penultimate phrase, is in reference to and protest against the privatization of water as all water is private in Chile. Lastly, the final phase,

Marichiweu is a Mapuche word which refers to the Spanish phrase, “*Diez veces venceremos*” (ten times we will win). Roughly, *Mari-* means *diez*, *-chi-* means *veces*, and *-Wew* means *Victoria*. Based on the three written messages embedded within this sticker, we see Catholicism used as a means to protest against state oppression and the upper classes, as well as for indigenous sovereignty.²⁶

The third photo was taken on Avenida Libertador Bernardo O’Higgins, one of the side-streets onto which protestors frequently spilled during protests at Plaza Baquedano [see index: 3]. This image is of a two-piece sticker. The top sticker is a banner held by two cherub-like creatures that reads “*A El Le Gusta La Gasolina*” (He who likes gasoline) while the sticker below is foregrounded by the figure of President Sebastián Piñera. There are additions that have been made to Piñera’s face as someone has drawn in sharpie glasses, facial hair, and a hat. Even though the viewer does not know whether the markings were made by the person who installed the sticker or by a passerby, what is clear is that the additional markings are an allusion to the countenance of Dictator Augusto Pinochet. Piñera is also holding a gas can upon which the flag of the Government of Chile is shown.

To the left and right of Piñera are various Biblical figures that are on their knees, pleading while the President looks off into the distance. Interestingly, each of the saintly figures has an eye patch or are bleeding from an eye. The eye, an image commonly encountered during the *estallido social*, has turned into a powerful symbol within Chilean society for two reasons. First, “*Chile se despertó*” (Chile has awakened) is a commonly heard phrase that signifies Chile’s awakening to the oppression that has resulted at the hands of the Chilean state. Second, during the *estallido*

²⁶ Images of *La Virgen de las Barricadas* first appeared in Chile and have since been seen as protest iconography within Oaxaca, Mexico.

social many protestors lost or experienced damage to their eyes [see index: 4-13]. For example, three months into the demonstrations, the National Institute for Human Rights registered that 372 people had become victims to ocular trauma. Returning to the photo, given that each of the biblical figures is shown as having had damage to their eye, it as though the Chilean state is to be blamed for their injuries. Further, given Pinera's ambivalence towards the scene, it could be said that here, the Church represents the Chilean citizenry. This exacerbates tensions between Church and State as Chileans, once the subject of state intervention through Church actors, are now the actors through which the State once functioned.

Since the *estallido social* ended, religious protest iconography that places the Chilean state in the throne of God has continued to appear on the streets of Santiago. One day while walking through the Providencia neighborhood of Santiago in November 2022, I encountered a small protest outside a local bookstore. Above the head of the leader was the image of *La Moneda*, the Presidential Palace, stenciled onto the wall [see index: 14].²⁷ On the roof of the white building is stationed a white cross, a symbol of the Christian God, Jesus. The scene illuminated by a background of stars as the bottom of the building is being engulfed by flames. The top of the image contains the numbers 9/11, the date of the 1973 Pinochet coup de état. Given that this was the day of Pinochet's arrival to *La Moneda*, this image may be understood as a depiction of the day when this building, the nexus of Chilean power, became a holy place, inhabited by God.

In other instances, citizens have depicted themselves as religious characters in protest of the Chilean state (2022). For example, located within the memorial to individuals lost during the *estallido social*, Metro Plaza Baquedano, existed a sticker that depicted two individuals as Adam

²⁷ If one enlarges the picture, one can see the leader of the protest speaking through the iPhone camera of the person recording in front of me. Her picture gives greater context to the picture I have taken.

and Eve in the garden of Eden [see index: 15]. As Eve picks an apple and hands it to Adam, an unfurled banner at the top of the tree of knowledge and good and evil reads, “For the Defense of the Earth, No to the TPP.” The TPP refers to the Trans-Pacific Partnership, a trade deal involving 10 member countries. Given that Chile is one of the most biologically and geographically diverse countries on earth, environmental proponents are particularly concerned that the rise in offshore drilling, illegal logging, climate change associated with the TPP, will negatively impact the earth.

Returning to the image, this scene is situated before the fall of man and expulsion from the Garden of Eden. Therefore, the sticker serves as a warning for what man’s future will be considering the ratification of the TPP. Further, this image calls for the maintenance of the Eden that is Chile. This said, it is not only clear that the Chilean state has situated itself in the socio-political order within position of God, but it is also clear that its citizenry recognizes the state as striving to fill the seat of God, the position of the progenitor and owner of life.

This is further supported by two photos taken in the Ñuñoa neighborhood of Santiago (February 2020) [see index: 16-17]. Outside of two closed storefronts, the words “Without God, Nor Cops” (“*Sin Dios, Ni Pacos*”) are written. This phrase could be read as saying that without a throne for the Chilean state to sit, there would be no state itself. Another reading could be that there is an envisioned future where religion and the state do not exist. Given the context of the time and place the graffiti was observed, one can argue that this future is positive in the eyes of the artist. In either case, by ousting magisterial powers, a new reality can manifest.

Governance Without God

During the *estallido social*, churches, specifically Catholic churches, were the site of protest. Although the Catholic church in Chile has been the focus of scandal in its own respect, it seems that these respective protests have generally been against both the Church and the State, or more generally, God. These protests have taken an anarchic character as evidenced by the frequent appearance of the encircled A, an international symbol of anarchism. An example of this appears outside the gates of the Union of Evangelical Baptist Churches in Ñuñoa, Santiago. It is here that a stylized form as the symbol appears [see index: 18].

Churches have not only been subject to forms of graffiti protest but have also been subject to arson. This has led to the modification of article 476 of the Chilean Penal Code, a motion brought forth by Senators Carmen Gloria Aravena, Juan Castro, Francisco Chahuán, and José García Ruminot, which defines as a crime the burning of religious buildings. On the floor of the Chamber of Deputies Francisco Chahuán stated,

“29 churches burned in [Southern Chile]. This is the count we have so far. This is an act of terrorism. Because of the burned churches in the country as a result of political violence, are motivated to make this motion to mark a milestone. Never more burned churches (Senado 2023).”

Understanding the gravity of destroying the seat of God, the Chilean state has sought to save it. This urgency makes sense upon further inspection of Churches that have served as the site of protest. For example, in a photo taken in February 2019 outside of the church *Parroquia Santos Angeles Custodios*, located on Providencia Avenue, one can see various markings across the face of the church [see index: 19]. Although there have been attempts to cover up the messages, many of the words remain legible. Amongst the upside down crosses and calls for mass evasion of the

state (EVADE), there is a sentence that reads “Fascism is the end of history.”²⁸ Here, protest against the church is synonymous to protest against the state.

In a second example, one finds a burned church in the neighborhood *Barrio Lastarria*, *Iglesia de la Veracruz* [see index: 20]. Wooden boards exist outside what were once the church doors. The political nature of the scene is immediate as one quickly notices the sticker of a feminine figure reading the Constitution of the Republic of Chile while sitting on the toilet; the grind must not stop. 1312 and ACAB, acronyms for “all cops are bastards,” appear across the facing of the scarred building as well as stickers that read “MURDEROUS STATE” (*ESTADO ASESINO*). This is not to mention multiple references to the encircled A.

In a final example, the national church of the state police, the *Carabineros*, can be found near Avenue Libertador Bernardo O’Higgins in Santiago Chile [see index: 21-22]. This church, *Iglesia San Borja*, has also been the site of arson, amongst other forms of protest. To the right of the front door of the church one sees written in spray paint, “For raping children” (*Por violar ninxs*) and “Liberty to the Mapuche People” (*Libertad al Pueblo Mapuche*) [see index: 23]. The former phrase is in reference to the child sex scandal within the Chilean Catholic church that has become public (Nieto Mariño 2022). The latter phrase is in reference to the indigenous people that have historically been in conflict with the Chilean state, and formerly, the Spanish crown. Although the markings are in different handwriting, taken together, one observes a concurrent protest against Chilean magisterial powers.

Gods in Conflict

²⁸ Traducción: El fascismo es el fin de la historia

In recognizing who the protests are against, it is important to investigate who is on the other side. It is through understanding both parties, the protested and the protesters, that we begin to see what this is all about; who has control over the line between life and death? In other words, which God gets to define life and therefore manage its boundaries?

Here, it is necessary to focus on the Mapuche, or on indigenous people in Chile, more generally.²⁹ Returning to *Iglesia San Borja*, outside of the burned down church is written, “Matias Katrileo is Present!!” (*Matias Katrileo Presente!!*) [see index: 24]. Matias Katrileo Quezada was a 23 year-old university that was allegedly shot and killed by state police while setting fire to bales of hay on ancestral lands (Vega 2018) (Mapuche Nation 2023). The killing occurred during a period of time when the state police were occupying Santa Margarita, a region of Vilcún, Chile (Vega *ibid*). Although this event occurred September 11, 1984, the anniversary of the coup d’état, the protest of his death continues today.

To the right of Matias Katrileo’s name is the *kultrung*³⁰, a symbol of Mapuche cosmology. This symbol also appears on the flag of the Mapuche and traditionally appears on the head of a drum used by *machi*, shamans, during healing ceremonies (Chile Precolumbino 2023). A full exegesis of this instrument is unnecessary for the purpose of this paper, however, what is important to note is that this symbol defines not only a vision of the supernatural, but also defines a schedule for everyday existence, like law.

The circularity of the *kultrung* signifies the infinite nature of the world. The divisions of the *kultrung* signify the four seasons of the year, while the lines within the circle, akin to a

²⁹ Or more specifically, in Mapudungun, the tongue of the Mapuche, *Mapu* means land and *Che* means people.

³⁰ Mapudungun is the language of this word.

compass, point towards the cardinal directions (“Mapuche Machi’s Kultrung 2010-2011”). Accordingly, as one passes beyond each threshold and into another season, there are different ways of being in the world, both physically and spiritually. In addition to being an agrarian calendar, the *kultrung* also depicts a specific supernatural hierarchy. For example, Maria Catrileo (Mapuche), linguist, and Gloria Quidel (Mapuche), scholar of Mapuche were quoted on the topic,

“The central part [of the *kultrung*] contains the core and strength that sustains equilibrium among the vertical spaces formed by *Wenu Mapu* (the land above), where the beneficial deities and the old ancestors live; *Nag Mapu* (the land downward), where all the living, both good and bad, are; and *Minche Mapu* (the land underneath), where some good and evil spirits dwell. Nature, life, and the astral zone are coordinated in a circular space that represents eternity and makes life possible in a world where good and evil live in communion (Catrileo and Quidel quoted in “Mapuche Machi’s Kultrung 2010-2011”).³¹³²

Both spiritually and culturally, the *kultrung* is meant to bring individuals into alignment with the presiding magisterial powers of the respective society. In the case of the Mapuche, there is the understanding that the spiritual world is eminent and accessible to the individual. Conversely, under the conception of natural law, God must be communicated with through an intercessor, or rather, one must go to God as God, under this conception, is distinct and separate from the individual. For example, Wallmapu, the ancestral lands of the Mapuche, known as southern Chile or Araucanía, is recognized as a geographic region to the government of Chile. However, to the Mapuche, within the spiritual/material world of Wallmapu, all three realms, *Wenu Mapu*, *Nag Mapu*, and *Minche Mapu*, coexist, within one place. How an individual perceives this

³¹ The *kultrung* also appeared in another location on *Iglesia San Borja* next to the words “Free Wallmapu” [see index 25]

³² Translated by Catrileo and Quidel from the original Spanish.

region, as Araucanía or as *Wallmapu*, will therefore change the behavior of an individual while within this jurisdiction.

In addition to being a legal and spiritual symbol, the symbol has been used as a form of protest [see index: 26]. In a photo taken in Ñuñoa, Santiago in February 2019, one sees the *kultrung* written above the words “Denounce Piñera” (*Renuncia Piñera*) [see index: 27]. Understanding the spatial and temporal position of the *kultrung* when used in protest against the Chilean state, one begins to understand that there are competing Gods.

One could witness this quite clearly at Plaza Italia, the center of protests during the *estallido social*. The center of the plaza contains a statue of General Baquedano posted on a horse. General Baquedano (1823-1897) served as the Commander and Chief of the Army during the War of the Pacific, a war that was fought against Bolivia and Peru from 1879 to 1884 (BCN “Manuel Jesus Baquedano”). During the protests however, this statue was the site of protest art [see index: 28]. Although repainted various times, the statue was eventually removed by the state (Yankovic 2021).

Prior to the removal of the Chilean leader, located in the direction of where General Baquedano was facing, were three wooden figures. The statues were situated underneath the Mapuche flag while a sign in front read “Original Collective” (*Colectivo Originario*), assumedly referring to the original collective of people in Chile [see index: 29]. In placing the three statues in the face of the Chilean deity, the Mapuche cosmology is literally recentered [see index: 30-32]. This is especially poetic given that Santiago is the center of a Chile, a highly centralized nation, and that Plaza Italia is recognized as the geographic of Santiago.

Given that the supernatural orders, and therefore social orders, of the Mapuche and the Chilean state/Catholic church are relatively illegible between each other, one can anticipate conflict. This conflict may be reduced to the question of who has governance over life. More specifically, who has the right over the right to life?

Part 2

Defining Life

If it is the case that given the conception of natural rights, individuals are afforded the right to life because God creates life, gives life, and therefore, is the only one with right to take life; and if it is also the case that the Chilean state, historically and today, sits in the seat of God, the highest ruling power in the land, then what work is being done by placing the NeuroRights legislation within the right to life amendment of the 1980 Chilean constitution? In other words, how does this legislation change our understanding of life in Chile, today?

The 1980 Chilean constitution first defined the right to life and since this date, the respective amendment has been revised only once. This occurred in 2021 with the ratification of the NeuroRights amendment. Accordingly, the conception of life within the Chilean constitution has changed.

Prior, life was defined as human persons, as being constituted by an integrated body and mind, “The Constitution assures all persons: The right to life and the physical and mental integrity of the person (number 1a, art. 19).” However, with the ratification of the NeuroRights, life is now defined as human persons, as being constituted by brain data as well as an integrated body and mind, “The law regulates the requirements, conditions, and restrictions, for their utilization in persons, having especially to protect brain activity, and the information derived from the brain

(number 1d, art. 19).” This broadening of the definition of life brings into legibility, in the eyes of God, brain data.

Further, the amendment situates humans above science and technology within the Chilean social order, “The scientific and technological development will be at the service of the people and will be carried out with respect to life and physical and mental integrity (number 1d, art. 19).” This is important to note as placing technology in a position subservient to humans is to necessarily place technology subservient to God or in this context, the Chilean state. As a consequence, this situates technology not only further from God, but also further from the ruling classes of Chile.

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³³ Conversely, instead of situating science as subservient to the Church, within the Catholic social order, science is positioned within a separate realm. Therefore, both science and Catholic doctrine may coexist. This concept is referred to as non-overlapping magisteria (Gould 1997). For example, Pope Pius XII, in the encyclical *Humani Generis*, said this on the topic of evolution, a topic that many argue to be in conflict with Catholic creation doctrine: “The Teaching Authority of the Church does not forbid that, in conformity with the present state of human sciences and sacred theology, research and discussions, on the part of men experiences in both fields, take place with regard to the doctrine of evolution, in as far as it inquires into the origin of the human body as coming from pre-existent and living matter—for the Catholic faith obliges us to hold that souls are immediately created by God (Pope Pius XII 1950).” Here, Pope Pius XII, confronted with science, accepts evolution, but refuses to renege naming God as the progenitor of souls. Nevertheless, both science and religion continue to maintain coexistence in the eyes of the Catholic church.

³⁴ It is also important to note that some scholars find the distinction between technology and life to be false. In Adrian Mackenzie’s book, *Transductions*, he critiques the hylomorphic or matter-form schema which governs popular understandings of technologies. In describing the hylomorphic model, Mackenzie writes that, “the human (collectively or individually) shapes or is shaped by technology. Technology is seen as a way of forming energy or matter in the interests of human life. This secondary status is often mirrored in contemporary debates concerning the digital embodiment of information. Here digital information is seen as a form independent of its material substrate... Similarly, genetic information coded in DNA sequences has been treated as independent of the complex rhythms and topologies of organisms (Mackenzie 2006, 45).” Given the Chilean constitution’s commitment to respecting physical and mental integrity, it seems that the logic that underlies this legislation is no different than that which is delineated by the hylomorphic model. For example, in both the hylomorphic model and the amendment to number 1, Article 19 of the Chilean Constitution, both schematize humans as a) distinct from technologies and the data that such technologies collect (i.e., nature) and b) shaped by technology or shaping technology.

The hylomorphic model necessitates critique given that it conflates form with matter. This model assumes that the form of a given object is determinate and independent of the processes that led to its formation. However, from Mackenzie’s perspective, form is not matter, rather, it is matter-taking-form. Mackenzie writes, “The basic problem with the hylomorphic scheme is that it only retains the two extreme starting points - a geometrical ideal and formless raw material - of a convergent series of transformations, and ignores the complicated mediations and

This expansion of the constitutional definition of life is important as this is a mechanism by which the terrain over which God rules, enlarges. For example, out of all the natural rights, the NeuroRights were placed in the only amendment that directly governs life. Given that within a natural rights constitution, God holds the highest position in the land, through the right to life, the Chilean state obtains control over the power to give and take life by sitting in the throne of God. In practice, given the ratification of the NeuroRights, God, now has exclusive reign over brain data as a constituent part of life.

Accordingly, the importance of placing the NeuroRights within the right to life amendment of the Chilean constitution is so that brain data may be defined as a constituent of life. By defining life as a natural right, God, in the form of the Chilean state, exercises dominion over life, that which is now constituted in Chile by an integrated mind, body, and brain data.

Managing Life

To manage life is to, at the same time, a) to manage the population of those who are living and b) to manage the population of those who are considered deserving of life. For example, Judith

interactions which culminate in matter-taking-form. Without taking account of those transformations and their encounter, there is no way of understanding how the modulation of material by a limit-form occurs (Mackenzie, 48).” In other words, without understanding the transformations that have led to the existence of a material object, one is unable to understand how that object functions as a technological ensemble in and of itself. To understand those transformations, therefore, is to understand that that which is described as technology is *essentially* an extension of the human. This perspective allows one to see that the human is technological to begin with as it is only through the application of concepts that precede the human, such as race and gender, that a body becomes legible.

Mackenzie writes, “Instead of accepting the irreducibility of matter as the ground of human subjectivity, or strictly separating matter from the properly human, [Judith] Butler delicately positions matter as the convoluted boundaries and pleated surfaces historically formed by processes of materialization - and dematerialization - governed by regulatory norms.” Given that the irreducibility of matter is illusory, so too are the boundaries that constitute the human. It is only through the performance of irreducibility, however, that a body becomes intelligible as human. Therefore, akin to Mackenzie, I argue that technologies do not act upon humans nor do humans act upon technologies. Instead, what are considered as bodies and technologies are technological ensembles, in their own right. This challenges not only the separation between technology and man, but also between man and God.

Butler in her book, *Bodies That Matter: On the Discursive Limits of Sex*, she describes the body as a constructed entity constitutive of elements, such as gender. These elements, most often, are unchosen by a respective being and define the body, more so than anything else. Further, the constructed, livable body is situated internal to a necessary external; a constructed body that is without life, underserving of life. Butler writes,

“Given this understanding of construction as constitutive constraint, is it still possible to raise the critical question of how such constraints not only produce the domain of intelligible bodies, but produce as well a domain of unthinkable, abject, unlivable bodies? This latter domain is not the opposite of the former, for the oppositions are, after all, part of intelligibility; the latter is the excluded and illegible domain that haunts the former domain as the spectre of its own impossibility, the very limit to intelligibility, its constitutive outside. How, then might one alter the very terms that constitute the “necessary” domain of bodies through rendering unthinkable and unlivable another domain of bodies, those that do not matter in the same way (Butler 1993, xi).”

In clearer terms, through investigation of her own body, a gendered body, Butler understands that bodies are constructed such that some are more livable than others, while others are distinctly unlivable. Given that the construction of the body determines its livability, as well as the unlivability of other bodies, it is the case that some bodies matter more than others. This differentially places individuals more or less relative to death, a threshold that may be modulated by the presiding state.

The reality of shifting the border between life and death, both literally and conceptually, may be observed within Jason de Leon’s book, *The Land of Open Graves*. On the topic of undocumented migrants, de Leon writes this,

“...In the Obama era of mass deportations, close to 2 million people were removed from the country through fiscal year 2013. 8 Many of these deportees are now running scared across Arizona’s Mars-like landscape to reunite with family members or simply return to the only place they have ever called home. My

argument is quite simple. The terrible things that this mass of migrating people experience en route are neither random nor senseless, but rather part of a strategic federal plan that has rarely been publicly illuminated and exposed for what it is: a killing machine that simultaneously uses and hides behind the viciousness of the Sonoran Desert. The Border Patrol disguises the impact of its current enforcement policy by mobilizing a combination of sterilized discourse, redirected blame, and “natural” environmental processes that erase evidence of what happens in the most remote parts of southern Arizona. The goal is to render invisible the innumerable consequences this sociopolitical phenomenon has for the lives and bodies of undocumented people (de Leon 2015, 3-4).”

Throughout the rest of this respective book, de Leon illustrates social mechanisms used by the United States and Mexico, that maintain the institution of migrant death in the Sonoran Desert. In short, by managing the borders of life, one inevitably begins to steward death. However, by broadening the borders of life, the potential to emancipate individuals from death, arises.

Unfortunately, though, this respective border, the border between life and death in the Sonoran Desert, has experienced a conceptual contraction and literal concretization in the wake of President Donald Trump. For example, the “zero-tolerance policy,” also known as the Trump Administration Family Separation Policy, formalized the separation of families at the US/Mexico border. Under this policy, parents were deported south of the border, often not to their home country, while their children were placed in detention centers (Congressional Research Service 2021).

This did two things: a) sent parents across the border, closer to the spectre of death that often incentivizes migrants to travel northward in the first place and b) placed distance as well as a physical border between parents and children; this distance being not only physical, but legal, given that identifying information of children was oftentimes unrecorded, therefore rendering such children illegible to the states of the United States of America and Latin American countries as well as the states of individuals who traveled through Latin America to enter the United States.

This said, the zero-tolerance policy has functioned as a mechanism to move and edify the border between life and death.³⁵ The hand that employs such tools are magisterial institutions, or in this context, the United States.

To give a direct example in Chile of the border between life and death, chattel slavery was an institution that maintained a population that was alive but was without natural rights. However, through expanding the definition of life, the Chilean state was able to shift the border between life and death, therefore abolishing slavery.

The Law of Free Wombs

The 1980 constitution expanded the legal definition of life through the 2021 revision. However, the importance of expanding such borders only becomes apparent when comparing this event to other examples in Chilean history during which the definition of life was broadened. An example of such broadening occurred between 1811-1823. However, prior to this time, the definition of life firmly excluded specific individuals.

Beginning in 1536, slavery was promoted within the colonial Chilean state by the Spanish crown. Further, in 1614, plans were discussed to expel the indigenous population and replace these individuals with slaves from Brazil (Fernandez de Castro for Master Castro de Nájera 1614). It is within the military proposal *Deception and Reparation of the War of the Kingdom of Chile (Desengaño y Reparación de la Guerra del Reino de Chile, 1614)*, that this discussion may be found.

³⁵ There are institutions that are attempting to deconstruct and move this respective border through non-governmental means. The International Commission on Missing Persons has recognized DNA Bridge as such an organization within their 2021/2022 *Global Report on Missing Persons*. DNA Bridge is an organization that reunites families separated due to migration, violence, and climate change, using DNA technologies and a novel DNA management infrastructure. I am the co-founder and former Director of Communications for DNA Bridge (2021-2022). I am also responsible for starting the El Salvador Family Reunification Network and currently serve as an advisor to the board of directors (2022 --).

The proposal is divided into five books. The first four books address topics such as a description of the Chilean Kingdom, the war of 1598 in Chile, the cruelty of the “indians,” the relation of the “indians” with the Spanish conquistadors, deceits/lies that exist within the Kingdom, as well as discourse on reparations in the wake of the war with Spain.

The fifth book and first chapter begins with, “The causes that oblige us to attempt to put an end to the rebellious indians, which is the only means to perpetuate peace in that kingdom.”³⁶ The first chapter outlines a plan to take the indigenous population as slaves, through war.

The second chapter begins with, “Reason why (among many others) it is just that the indians are given as slaves, and the bestial reasons they have for never subjecting themselves to secure peace, and for hating our religion, as they do.”³⁷ The second chapter rationalizes the expulsion of indigenous people from Chile.

The third chapter of the second part of the fifth book is entitled, “Black Christianity.”³⁸ It is within this chapter that the rationale for keeping African descendants in Chile, as opposed to indigenous people, is discussed. The tipping point was religion.

This is important as to have a different religion, is to have a different political theology. To have differing political theologies between kingdoms, mutually illegible to each other, is to ensure that each kingdom will never fully integrate. Without the option for coexistence, one kingdom will inevitably impose its might upon the other. Accordingly, *Deception and Reparation of the War of*

³⁶ Traducción: Las causas que obligan a procurar dar fin y cabo a los indios rebelados, que es el único medio para perpetuar la paz en aquel reino.

³⁷ Traducción: Razón por qué (entre otras muchas) es justo que los indios sean dados por esclavos, y las bestiales causas que tienen para no sujetarse jamás a segura paz, y para aborrecer nuestra religión, como lo hacen.

³⁸ Traducción: Cristiandad de los negros

the Kingdom of Chile, functions as a concerted effort in Chile to impose such will upon the indigenous kingdom.

The reason this military proposal is of interest is that it gives color to the complexity of slavery in Chile. Two major populations were enslaved in Chile, however, it is the case, coercion aside, that one group predominantly adhered to a belief system that was legible to the presiding state. Although both groups were excluded from the definition of life in Chile at the time, because of religion, the African descendant population was closer to inclusion, not only within the definition of life, but also within the geographic landmass that was incorporated as Chile.

In 1811, the newly founded Chilean state took efforts to dismantle the institution of slavery.³⁹ This practice disallowed slaves from enjoying rights afforded to Chilean citizens, therefore maintaining these individuals outside the Chilean social order. It was not until the ratification of the *Law of Free Wombs* that a defined region of the female slave's body became legible to the Chilean State, thereby gaining inclusion into society.

In essence, the womb of the slave gained recognition as human (i.e., life), prior to the rest of the enslaved body. As a result, the slave, denied natural rights, unseen by the eye of God, became able to produce that which is legible to God, as prior to this moment skin color produced deified blindness. This is significant as there is *literally* an emancipatory potential in expanding the definition of life. However, although freedom may come by being seen by God, this legibility causes other anxieties to arise, namely the ethical use of power.⁴⁰

³⁹ On June 23rd, 1823, José Miguel Infante proposed a bill to congress to abolish slavery completely. The Bill was ratified that same year.

⁴⁰ In policing the line between life and death, the form of a governable subject appears. The arbitration of this boundary, however, may occur through forms of policing that extend beyond the government. For example, Clara Han in "Experience: Being Policed as a Condition of Life," describes policing as a condition of life in the sense that

Part 3

Ethical and Practical Concerns

Within legal theory, rights exist both positively and negatively. This is described by Alejandra Zúñiga Fajuri in the paper, “Beyond Charity. From Negative Rights to General Positive Duties.” She writes, “For this classification, negative rights – such as the right to free expression or the right to property, involve duties of non-interference in the free exercise of the [respective] right; meanwhile, positive rights imply duties to help the holder of the right to obtain the object of that right, such as the right to education or the right to health care (Fajuri 2009).”⁴¹

Accordingly, the right to life that exists within the 1980 constitution of Chile is written as a positive right from the perspective of the individual. To speak in clearer terms, the right to life gives one the right to have life. The right to life, however, does not protect an individual from interference in the free exercise of their life. This is why the Chilean appellate court does not find legal, suicide nor hunger strikes (see part 1). Given that brain data regulation is placed within the right to life amendment, it may also be considered a positive right. This means that although individuals have the right to their brain data, there could be limits as to how individuals exercise their brain data.⁴²

“punishment, its realization and its anticipation; the experience of authority and state institutions; the politics of family and the neighborhood and the very ways in which livelihoods are secured... have been shaped by and, indeed, are constituted through policing (Han 163, 2015).” Given this, policing has been embedded into our everyday experience such that it is often nonobvious. However, through the analysis of the subtitles of life that influence our everyday behavior, one may draw closer to understanding the way in which life comes into existence.

⁴¹ Traducción: Para dicha clasificación los derechos negativos -como el derecho a la libre expresión o el derecho de propiedad- involucran deberes de no interferencia en el ejercicio libre del derecho, mientras que los derechos positivos implican deberes de ayudar al titular del derecho a obtener el objeto de ese derecho, como por ejemplo, el derecho a la educación o el derecho al cuidado sanitario.

⁴² Individuals are beginning to exercise the NeuroRights as a positive right. For example, on August 9th, 2023, Chile’s Supreme Court ordered the company Emotiv to delete all data collected from the brain of former Chilean Senator

Looking into the future, mechanisms should be discussed that enable individuals to freely employ their data, at least within the marketplace. A proposed example could be the creation of brain data cooperatives, enabled by blockchain smart contracts and zero-knowledge proofs. Interestingly, Rafael Yuste et. al., first noted something similar in his paper in 2017, “Four ethical priorities for neurotechnologies and AI.” They write,

“Another safeguard is to restrict the centralized processing of neural data. We advocate that computational techniques, such as differential privacy or 'federated learning', be deployed to protect user privacy (see 'Protecting privacy'). The use of other technologies specifically designed to protect people's data would help, too. Blockchain-based techniques, for instance, allow data to be tracked and audited, and 'smart contracts' can give transparent control over how data are used, without the need for a centralized authority. Lastly, open-data formats and open-source code would allow for greater transparency about what stays private and what is transmitted (Yuste 2017, 162).”

Given this, decentralized data management infrastructures have the capacity to store and transmit data in a manner that allows for privacy of an individual’s data set. This is enabled through the employment of federated learning, smart contracts, zero-knowledge proofs, an immutable blockchain ledger, and open-source code.

Federated learning is a machine learning technique in which a data set is stored in various hubs. An artificial intelligence program then retrieves the individual pieces of information and collates them given a user’s request. If a hub were to be hacked by a bad actor, one would be unable to use the information stolen given that it is incomplete (Rehman and Gaber 2021). The further decentralized one’s data set is, the more difficult it is to effectively access such data.

Guido Girardi. The court found Emotiv in violation of articles 1 (the right to life) and 4 (the right to privacy) of the Chilean constitution (The NeuroRights Foundation 2023).

Smart contracts are agreements that are automatically initiated through a blockchain when specific terms are met. For example, if one wanted to commercialize their neurodata, a smart contract could be written that enumerates the terms of use for a company, such as a clinical trials corporation. Questions such as dates of use, third-party data access, and the compensation of royalties can also be determined through a smart contract. This allows for an individual to set legal parameters around their data in the event that they wish to transmit or commercialize such data (Vigliotti 2020).

This information would be further protected through the use of zero-knowledge proofs which allow for datasets from different databases to be matched and analyzed in such a way that the data does not become available to individuals who are involved in the transaction. This allows for data portability and management without causing the subject's data to become available to anyone other than that respective individual (Vigliotti 2022).

An immutable blockchain ledger cannot be hacked without it becoming immediately apparent. In short, a blockchain is a chain of data transactions that have been linked together in such a way that the data from the first block is dependent upon the data from the previous block. Given this, if a block is hacked then all other subsequent blocks will undergo a numerical change that signifies digital tampering (Vigliotti 2020).

Finally, open-source code makes available the underlying infrastructure of the management system to users. Further, this code could potentially be altered based on consensus of the party that manages the data protocol (Yuste 2017).

Each of the aforementioned digital technologies/techniques allow for a subject to become legible to themselves and not to the outside world. For example, if an individual had their DNA

sequenced and subsequently discovered that they were predisposed to a medical condition, such as Alzheimer's, one could keep this information and, in a sense, know themselves more intimately than how they knew themselves prior.⁴³

Given the value of brain data, decentralized data management should be pursued so that individuals may have a reliable way to protect their neurodata and produce revenue. If done effectively, NeuroRights will be respected while both permitting industrial progress and promoting socio-economic equity.

In practice, however, it will be necessary to overcome anxieties related to bodily integrity. Under natural law, life, defined by and consisting of an integrated mind and body, is created by and exists under the dominion of God. Including brain data within this corporeal integration is to expand life, but to begin commercializing brain data would then be to *dis*-constitute and put on the market that which is now considered life.

This hurdle may not be difficult to clear as sex work in Chile currently occupies a legal gray area (di Girolamo 2019); understanding that individuals are placing their respective bodies on the market signifies that brain data may not be far behind as a potential commercial product.

The Late Constitution of 2022

⁴³ I observed this data management technique while serving as the Operations Lead for Rymedi (2020-2021), a blockchain-based supply chain and data management company within the life sciences industry. In 2020, Rymedi received public recognition from Ambassador Dr. Deborah Birx, the Coronavirus Response Coordinator for the whole of government response to COVID-19 for the Office of the Vice President and member of the White House Covid Task Force (Office of the Clemson University President 2020), for Rymedi's efforts in addressing the COVID 19 pandemic.

When searching online for the proposed Chilean constitution of 2022, the links to the government website remain active. However, upon selection of the link, the user arrives at a landing page with a white background. Poetically, written in the top right-hand corner is,

“The request is blocked.”

Fortunately, the document exists in other locations, such as on the Chilean College of Professors website, an organization akin to a legal bar association (Torres 2022).

The right to life amendment appears as article 21 and contains two rights:

1. All persons have the right to life and personal integrity. This is understood as physical, psychosocial, sexual, and affective integrity.
2. No person shall be condemned to death or executed, subjected to torture, nor punishments or cruel, inhuman, or degrading treatments.

Stripped from this right to life amendment are protections for the unborn, protections for brain data, and the enablement of the death penalty. Meanwhile, what was added to the right to life amendment were sexuality and affect as constituent parts of life. Further, the death penalty was explicitly outlawed.

Although the 2022 constitution was not successfully ratified, the proposed right to life amendment describes a potential future where life considers not only the physical and mental dimensions of a person, but also their sexual and affective qualities.

Looking deeper into the bill of rights, the proposed constitution included other regulations such as protections against forced disappearance and displacement (chapter II, arts. 22 & 23), the right to be found (chapter II, art 23), the legal recognition of children (chapter II, art 26), and the definition of gender violence and associated penalties (chapter II, art 27). Outside of constitutional

rights, the constitution of 2022 took effort to recognize secular status, the non-traditional family, indigenous nations as well as Chilean sign language as a national language.

Understanding that the right to life amendment of the 1980 constitution (rev. 2021) need not be in competition with the right to life amendment of the proposed 2022 constitution, perhaps a future constitution could properly conceive of life through employing elements of both the 1980 (rev. 2021) and 2022 versions. Regardless, it will be interesting to see the power that will be divined to the God of the next constitution.

Conclusion

Given the foundation of natural law that supports the 1980 constitution (rev. 2021), all rights afforded to man are so, due to God's creation and governance. The position of God, however, may be coopted by another magisterial power, such as a sovereign state. Or, more specifically, governmental leaders, such as Augusto Pinochet (1973-1990). The cooptation of Church power by the Chilean state continues to be apparent today and can be traced to the exercise of the Divine Right of Kings in medieval Spain.

With respect to the right to life amendment, this means that the Chilean state functions as the progenitor and owner of all life. Expanding the definition of life, then, is to broaden the territory over which the state rules. Given the emancipatory potential of this expansion, care should be taken so that an increased number of individuals are considered worthy of life, such as in the case of the abolition of slavery in Chile. To achieve equitable management of brain data, and consequently, of life, decentralized data-management technologies, such as blockchain based technologies, may be employed.

The NeuroRights serve to expand the legal definition of life in Chile; the respective material that was added to the right to life amendment expanded the standing definition to include brain data as a constituent part of a human life. Therefore, situating the NeuroRights within any other constitutional amendment would leave the legal definition of life in Chile unchanged. Ultimately, this would prevent the Chilean state from exercising increased dominion over life, and consequently, death.

Understanding this reality, future discussions should focus on social mechanisms and technologies that incentivize the Chilean state to equitably manage brain data. However, this may be an uphill battle;

is it ever possible to influence a being than which no greater can be conceived?⁴⁴

Epilogue

Ontology

This respective thesis has maintained itself primarily within the realm of political-theology. However, the ontology of God, that is, the study of who God is, has not yet been broached. An ontological exercise would be helpful as this would describe the articulation of the throne upon which magisterial powers may wish to sit. For example, although the God of natural law need not be Christian, given the historical foundation of Chile, this thesis ends with an argument from St. Anselm on the topic of the nature of God. St. Anselm is known within the field of Catholic theology as a patristic writer (1033-1109).

When engaging the ontological question within the *Proslogion*, Chapter III, the theologian begins with the claim that it is possible to conceive in the mind a being greater than all else. If this

⁴⁴ Translatio: “*aliquid quo nihil maius cogitari possit*” (St. Anselm of Canterbury 1077-1078).

being is possible to be conceived in the mind, then this same being, in practice, would be even greater if their existence was not only in the mind, but also in reality. Therefore, the being than which no greater can be conceived necessarily exists in reality, as well as in the mind. St. Anselm writes,

“But, you say, it is as if one should suppose an island in the ocean, which surpasses all lands in its fertility, and which, because of the difficulty, or the impossibility, of discovering what does not exist, is called a lost island; and should say that there can no doubt that this island truly exists in reality, for this reason, that one who hears it described easily understands what he hears.

Now I promise confidently that if any man shall devise anything existing either in reality or in concept alone (except that than which a greater be conceived) to which he can adapt the sequence of my reasoning, I will discover that thing, and will give him his lost island, not to be lost again.

But it now appears that this being than which a greater is inconceivable cannot be conceived not to be, because it exists on so assured a ground of truth; for otherwise it would not exist at all.

Hence, if anyone says that he conceives this being not to exist, I say that at the time when he conceives of this either he conceives of a being than which a greater is inconceivable, or he does not conceive at all. If he does not conceive, he does not conceive of the non-existence of that of which he does not conceive. But if he does conceive, he certainly conceives of a being which cannot be even conceived not to exist. For if it could be conceived not to exist, it could be conceived to have a beginning and an end. But this is impossible.

He, then, who conceives of this being conceives of a being which cannot be even conceived not to exist; but he who conceives of this being does not conceive that it does not exist; else he conceives what is inconceivable. The non-existence, then, of that than which a greater cannot be conceived is inconceivable (St. Anselm 1077-1078).⁴⁵

What is important here is that St. Anselm argues that God exists as more than a conceptual apparatus but is also characterized by its/their materiality. In this case, it is at the material level that the individual, or in this case the Chilean, is able to commune with a higher power. Graffiti, street art, and protests are three examples where material conversations occurred between God and

⁴⁵ In this text I am working with the English translation. The original *Proslogion* was written in Latin.

man, the Chilean state and individual. Effective as this may be, it is through law, specifically constitutional law, that an individual becomes most legible. This said, to augment constitutional law is to speak the language of God in stark terms.

Therefore, regardless the limitations chosen for the NeuroRights amendment, or where the amendment was placed, from the moment the amendment was proposed, to the moment of ratification, and onward into the future, the God of Chilean natural law has been, and will continue to be, in conversation with the lives it/they govern(s). This said, constitutional proposals, as a general concept, may be understood as a form of divine communication. Accordingly, it will be interesting to watch how the limits of this holy conversation will be stretched through future constitutions or constitutional revisions, as it is through the production of words, sacred words (words are necessarily so), that life comes into existence.

This is demonstrated within the first verse of the first book in the Jewish Talmud and Christian Bible.

1. In the beginning God created the heaven and the earth.
2. And the earth was without form, and void; and darkness was upon the face of the deep. And the Spirit of God moved upon the face of the waters.
3. And God said, Let there be light: and there was light.
4. And God saw the light, that it was good: and God divided the light from the darkness (KJV 1604, Genesis 1:1-4).

The importance of the first four verses of the Talmud and Bible is that in these creation stories, life did not exist until God spoke. As Genesis continues, it is through God's voice that all that exists first comes into being. More specifically, God's speech is what brings life into existence.

26. And God said, Let us make man in our image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every creeping thing that creepeth upon the earth.

27. So God created man in his own image, in the image of God created he him; male and female created he them (KJV 1604, Genesis 1:26-27).

This theme of the creative power of speech continues through the second chapter of Genesis,

“And the LORD God formed man of the dust of the ground, and breathed into his nostrils the breath of life; and man became a living soul (KJV 1604, Genesis 2:7).”

Moving beyond the book of Genesis, one finds in written in Proverbs, “The tongue has the power of life and death and those who love it will eat its fruit (ibid, Proverbs 18:21).”

Accordingly, if you listen for God, in all its/their forms, the voice of the creator will come into focus. And as this voice sharpens, it may be mimicked. And through this mimicry, one gains the power to create life. This applies not only to state bodies and magisterial institutions, such as intergovernmental organizations and industrial corporations, but also to individuals; intercession is unnecessary. Rather, through the mimicry of God and the act of creating life, the ability for each individual to sit in the throne of God, becomes known. This is enabled through speech, through words, through breath.⁴⁶

Breath

With breath one can create life. However, one must exercise caution in the use of one’s breath. For example, Victor Jara was a Chilean singer who was tortured and killed in the National Soccer Stadium during the regime of Augusto Pinochet. Interestingly, one of his most famous songs is “El Derecho de Vivir en Paz.”

⁴⁶ In some Spanish dialects, when asked if one speaks Spanish, it is acceptable to respond in the affirmative with, “yes, I can defend myself (*si, puedo defenderme*).” This response highlights the naturally violent and necessarily productive dimension of language; it is this destructive, combative potential, that enables the possibility of creation.

One day while walking with a friend in Downtown Santiago in January 2021, she jokingly expressed that she was immune to tear gas because of how much it was being used in the region of the city in which she lived, *Barrio Lastarria*. She continued in telling me that Victor Jara's song, "El Derecho de Vivir en Paz" (The Right to Live in Peace) would be sung throughout the night during interactions with the state police. The lyrics follow:

*The right to live
poet Ho Chi Minh,
who struck from Vietnam
all of humanity.
No cannon will wipe out
the furrow of your rice paddy.
The right to live in peace.*

*Indochina is the place
beyond the wide sea,
where they ruin the flower
with genocide and napalm.
The moon is an explosion
that blows out all the clamor.
The right to live in peace.*

*Indochina is the place
beyond the wide sea,
where they ruin the flower
with genocide and napalm.
The moon is an explosion
that blows out all the clamor.
The right to live in peace.*

*Uncle Ho, our song
is fire of pure love,
it's a dovecote dove,
olive from an olive grove.
It is the universal song
chain that will triumph,
the right to live in peace.*

*This is the universal song
Chained but we will triumph
The right to live in peace*

*The right to live in peace*⁴⁷

However, the song that would be sung on nights of conflict would eventually become, “El Derecho de Respirar en Paz” (The Right to Breath in Peace). Today, neither right exists within the Chilean constitution.⁴⁸ However, given the emergence of COVID-19, the Right to Breath has become conscionable as a legislation, at least in academia. For example, in the article “The Universal Right to Breath (2021),” Achille Mbembe describes the necessity of having legal protections around breathing. He writes,

“Before this virus, humanity was already threatened with suffocation. If war there must be, it cannot so much be against a specific virus as against everything that condemns the majority of humankind to a premature cessation of breathing, everything that fundamentally attacks the respiratory tract, everything that, in the long reign of capitalism, has constrained entire segments of the world population, entire races, to a difficult, panting breath and life of oppression. To come through this constriction would mean that we conceive of breathing beyond its purely biological aspect, and instead as that which we hold in common, that which, by definition, eludes all calculation. By which I mean the universal right to breathe.

As that which is both ungrounded and our common ground, the universal right to breath is unquantifiable and cannot be appropriated. From a universal perspective, not only is it the right of every member of humankind, but of all life. It must therefore be understood as a fundamental right to existence. Consequently, it cannot be confiscated and thereby eludes all sovereignty, symbolizing the sovereign principle par excellence. Moreover, it is an originary right to living on

⁴⁷ Translated from the original Spanish.

⁴⁸ Given that in using breath in direct confrontation with the presiding state one may be placed in the path of danger, perhaps it is the best case that breath be used indirectly when engaging with magisterial powers. For example, in the case of the Algerian colonial situation, Frantz Fanon describes the mystical character of the Algerian woman. In his book, *A Dying Colonialism*, he describes how French administrators perceived the Algerian woman as “inaccessible, ambivalent, with a masochistic component (Fanon 1965).” Further, Fanon writes, “This woman who sees without being seen frustrates the colonizer. There is no reciprocity. She does not yield herself, does not give herself, does not offer herself. The Algerian has an attitude toward the Algerian woman which is on the whole clear. He does not see her. There is even a permanent intention not to perceive the feminine profile, not to pay attention to women (Fanon *ibid*, 44).” Therefore, it was through silence, through *veiling*, through holding one’s breath on one’s own terms, that the Algerian woman was able to leverage power against the French ruled state. In short, breath is power.

Earth, a right that belongs to the universal community of earthly inhabitants, human and other (Mbembe 2021, S62-S63).”

Mbembe highlights the importance of breath given that this is what connects all life. The suffocation consequently described is therefore an alienation from humanity caused by oppression and the “long reign of capitalism.” To resist the forces alienation, both from others as well as from oneself, breathing serves as the only antidote. This is necessary and important as without breath, there is no speech and without speech, one cannot commune with other individuals, as well as God; without speech, there is no life.

Moving beyond speech, beyond words, beyond breath, what rests at the foundation of creation? In other words, if the mechanisms of breath are employed as tools by magisterial powers and human individuals for the purpose of creation, what forms these tools? Or rather, what precedes breath, therefore giving breath and speech, their creative strength?

In the book, *A Breath of Life (pulsations)*, written by Clarice Lispector, the litterateur describes the space that comes before breath,

“Everything I’m writing here is forged in my silence and in shadows. I see little, I hear almost nothing. I finally dive into myself down to the birthplace of the spirit that inhabits me. My source is obscure. I’m writing because I don’t know what to do with myself. I mean: I don’t know what to do with my spirit. The body tells a lot. But I don’t know the laws of the spirit: it wanders. My thought, with the enunciation of the words mentally blossoming, without my saying or writing anything afterwards — this thought of mine in words is preceded by an instantaneous vision, without words, of the thought — the word that follows, almost immediately — a spatial difference of less than a millimeter. Before thinking, then, I’ve already thought. I suppose that the composer of a symphony only has the “thought before the thought,” is what can be seen in this very quick mute idea little more than an atmosphere? No. It’s actually an atmosphere that, already colored with the symbol, lets me sense the air of the atmosphere from which everything comes. The pre-thought is in black and white. The thought with words has other colors. The pre-thought is the pre-instant. The pre-thought is the immediate past of the instant. Thinking is the concretization, materialization of what was prethought.

Really pre-thinking is what guides us, since it's intimately linked to my mute unconsciousness. The pre-thought is not rational. It's almost virginal.

Sometimes the feeling of pre-thinking is agonizing: it's the tortuous creation that thrashes in the shadows and is only freed after thinking — with words (Lispector 1970, 12).⁴⁹

According to Lispector, to reach the point where one is able to use their breath for the purpose of creation, one must first think, using words. In essence, to inhale without thought is not to breathe, but simply to move air. This said, the only thing that is more powerful than the creative capacity of speech, is to think, and to think well; to turn air into breath and chaos into stillness. This is the first step in creating life. This applies, not only to life in general, but to our own respective lives. Given this, it is possible for one to create their own life, through employing the creative power of thought, thereby undermining the idea that magisterial powers hold a monopoly over life progeneration.

Understanding the gravity of thought, the NeuroRights amendment begins to make more sense. Although the Chilean state holds the right to produce and extinguish life through natural law, by protecting the thoughts of individuals from intrusion, the state has essentially preserved the individual's ability to create life, independent of the state. Strangely enough, by giving one's life over to the Chilean sovereign, another type of life becomes possible; a life that is enriched by freedom of thought, where the creation of life is possible.

“It's that the end, which shouldn't be read beforehand, comes back to the beginning in a circle, a snake swallowing its own tail (Lispector 1970, 13).”

Creation

⁴⁹ The original manuscript was published in Portuguese.

To observe an individual creating life, one need not look further than this paper, I mean the words on this paper. I mean this *literally*. Look;

Words

Do you see what I did there?

I wrote a word. A series of letters that serve as code for a specific meaning or meanings. In another context, this word may have been conveyed through sound or touch. To exercise a word is to express such meaning and not another. To use a word, is therefore, to say that something is and is not at the same time. In essence, words take on a bounded character, a shape if you will, where the external is all that is not that word and the internal is all that is that word. Placing words in succession therefore expands this shape. A word may therefore be thought of as a Polaroid sized picture, whereas the paragraph is perhaps a mural.

Using words as shapes, one is therefore able to build an edifice. It is a building that you observe in reading this thesis. Look at it. Throw these papers on the ground. Look at it again. That is my building. My House... RESPECT IT! lol.

To speak in singular terms causes one to lose sight of what is happening, however.

As my hand places each stone, each word upon this page, another hand, a mirrored hand, reaches inside of me, installing floors and hanging artwork.

There are two buildings.

Unbeknownst to me, in the act of architecturing this project, what was occurring was an inadvertent designing of the self. Looking inside I find cabinetry and crown molding, marble staircases, and perhaps a pool, all of which were absent prior.

How did this get here? I don't remember excavating. Was I gifted this?

No. All that I have now, has been there all along, hidden in the great chaos that exists before breath, before structure; pre-thought in the words of Lispector.

This chaos is not unlike the world. Engaging with madness, the ethnographer is tasked with finding, and sometimes creating, structure. Therefore, as one stands on top of an object of study and begins to scaffold stable truths beneath their feet, the same process is occurring within oneself.

Living in Chile during my transformative years meant that significant events in my formation would occur while existing within the borders of the country. Given the language boundary and the lack of social familiarity, to experience upheaval in this environment is to hear sound, but be in silence; to be touched, but not feel; to receive affection and not recognize. The inherent numbness that is experienced as an outsider, especially as an outsider in distress, causes one to learn quickly; to learn how to, at the same time, become legible to the presiding society, as well as make legible to oneself the society within which one resides. This is a deeply physical process wherein one is cutting off those layers that prevent sensitivity to the world. The respective knife, the means of emancipation, is language, in all its forms. It's through drawing close, through communing in word and consequently, in spirit, that those boundaries that cause externality, disappear. In essence, one creates life by shedding that which disconnects us from the other.

As one nears the core, they are faced with layers of the old self that lay on the floor, much of which bring disgust and shame.

Ultimately, the shedding process dissolves the boundaries of the self to such a degree that there is no self at all.

And this is how you create life. You reveal it.

Pedagogy

Shedding that which disconnects us to the other is a courageous task, however. One must first contemplate within themselves those reasons why they cannot or do not connect to another in the first place. If one makes it past this contemplation, which is a monumental task to begin with, one must then learn to see in two directions at the same time. It is exercising this dual gaze, the one focused towards the psyche and the other towards the psyche of another, that is a nauseating process, as it is akin to calculating distance with no stable reference point; two individuals attempting to touch as they float through outer space.

If one can, however, locate themselves in the mind of the other, we see how we are seen, including our gifts as well as our shortcomings. Further, we will see through the eye of the other how the other hierarchically situates us relative to other others. This, again, is a painful process, but a process wherein our work is cut out. The action plan may be read in the eyes of the other.

However, ethnographers often do not look individuals in the eye, at least not deeply enough to see themselves. This may be for a variety of reasons including the constraints of industrial academia, safety, time concerns, or an otherwise personal aversion to self-awareness.

de Leon recounts such a situation within his book, *The Land of Open Graves*,

“It’s funny how memory works. I made a thousand mental notes of the scene and wrote a good many of them down soon after the event—but only a couple of years later they now seem to be forgotten, buried, reduced to background noise. After spending just a few weeks on the US-Mexico border hanging out with the desperate people looking to breach America’s immigration defenses, I quickly learned that death, violence, and suffering are par for the course. It all started to blur together. Disturbing images lost their edge. As an observer, you grow accustomed to seeing strangers cry at the drop of a hat. Tears no longer had the impact they once did. Tragic stories repeatedly told under the strain of a cracking voice transformed into well-worn hymns that lost their provenience and became difficult to seriate. I fought

sensory overload so as to not lose sight of the big picture or the brutal details. I tried to write it all down so that I could later connect the observed realities to larger structural forces. This, at least, is what I kept telling myself I needed to do during my five years of fieldwork on the Arizona-Mexico border and later as I wrote this book (de Leon 2015, 2).”

de Leon expresses that his blindness of the situation is caused by exhaustion as well as an inundation of second-hand trauma. This said, even the most experienced ethnographers experience disconnection and alienation from the society within which they reside.

To fix this issue, we must allow ethnographers the opportunity to slow down and look people in the eyes. Of course, deadlines must be met, but to move quickly through the field is to lose sight of what’s happening; life is being brought into existence; not only through the writing of the ethnographer, but also through the thinking of the ethnographer. Therefore, it is a lost opportunity for an individual to be pushed too quickly, or at least more quickly than their eye is prepared to entrain.

More seriously, if pushed too quickly, an individual will retreat into the self to escape the chaos that is the outside world, therefore housing oneself within a perpetual state of numbness. I have experienced this temptation myself on multiple occasions while jumping quickly between milieus, within an abbreviated period of time.

This said, perhaps, when the body is not still, neither too can be the mind (if the two can be separated in the first place). And if this is so, when the mind is not still, it is simply the case that one cannot think properly. And if one cannot think, one cannot create a proper ethnography, let alone their own life.⁵⁰

⁵⁰ Contrary to what René Descartes described in *Discours de la Méthode* (1637), regarding the phrase “I think there for, I am,” perhaps it is truly the case that “I am, therefore there has been thought.” In other words, by existence, this

Therefore, as an ethnographic pedagogue, thought should be taught, not suppressed. To avoid such suppression, one must walk slowly with the student, as the student, thereby gaining an understanding of how to be one's own teacher. It is only then that we can truly walk with another in such a way that they become able to think and think well. Without this, for what looks to the experienced guide as a clear, calm path, to the student, the road will appear as tumultuous safari complicated by a soiled windshield.

The experienced guide will know what to do, however, by looking into the eyes of the student. It is there that they will see themselves in another; a person fighting to contend with the great all that is.

This is where we begin. This is genesis.

Afterword

The goal of the next project will be to explore how auto-ethnography and para-ethnography of the self, or writing more generally, may be employed to construct the self, as opposed to the state. By meeting the aims of the self primarily, as opposed to the intellectual needs of presiding magisterial institutions, the ethnographer may emancipate themselves from the oppressive constraints of their respective field(s). The intent is to achieve generalizability not only across academia, but also without.

means that some thinker, potentially oneself, brought oneself into being. This is because thinking is the thing that precedes breath, the thing that brings life into existence.

Book 2: Revelation

Introduction

The first book, Genesis, speaks about the beginning of things. Through breath, as well as through law, the progenitor creates life. However, how does the progenitor grow their respective self? Or, at the least, become aware of their growth. This book, Revelation, uncovers this process, a process that uncovers the self.

On Architecture

“Preserve your soul like it’s your bedroom. For a time, you were by yourself, learning the choreography of your vulnerability. Over time you may let people come in for the kickback you’re hosting, they may have some critiques for the poems on the wall, but they can leave this room; you have to stay here, decorate it, spray it with the fragrances of your youth, for nostalgia, with the incense your momma used to use. This room has been designed just for you (Mamadou. 2023).”

To build any structure, one must, at some point, consider the materials that will be used to construct the edifice. The first book serves as a meditation on such materiality, whereas the second book is interested in construction. More clearly, this respective book attempts to address the question, how can one build the self through the boundary making process? In other words, how do we make heaven on earth?

Beginning first with the notion that to build is to strip away that which disconnects us from the other, it is this literal writing that is serving, in this very moment, as a revealing, a *revelation*. To understand this thesis, therefore, is to understand a shape; to understand that this is some thing, and not a series of others. For example, this is not a work about cricket culture in contemporary South India written in Tamil. However, this reality serves as a necessary external to that which I have been describing through this paper, a shape. It is an ordering process that you are witnessing; wherein, nonsense is formed into clarity.

It is the ethnographer whose writing and diction is that of a babbling baby until, suddenly, a word appears. In the same way that an ethnographer connects with a cashier in a foreign tongue for the first time, these words are connecting you, as the reader, and me, in this very moment.

While your eyes read each individual word on this page, our minds synchronize as you now think what I have thought. The boundaries of you and me become we. We are within the shape. We are the shape. The limit of us is the limit of this work. The limit of this work is the limit of us. Do you feel the expansion? Of both us and of this work? Now *we* are authors. Now this work has two authors. This expansion is afforded by the dissolution and rebuilding of boundaries. This is described in an excerpt of singer-songwriter Sinéad O'Connor on Rastafarianism:

“What I love about the Rastas is this thing of I and I. The use of the word I, where if I am sitting, talking to you, I don't say if I am a Rasta “You have work to do,” I say “The I has work to do.” In other words, there is an acknowledgement all the time that when you and I are talking, it's God whose talking, it isn't our personalities, but God in you and God in me are having a conversation. So when I call you the I, I mean your soul, God in you, has work to do (O'Connor).”

Growth of the self therefore necessitates locating the boundaries of the I, of God, and pushing, in some direction, such that that individual thing becomes greater.

In a clear example, I manage an intellectual property (IP) portfolio for Magnus Medical, a medical device company based in Burlingame, California. Within the field of IP law, specifically patent law, practitioners colloquially refer to the art of patent drafting, prosecution, and litigation as the act of building fences or walls. This is what was referred to in the first book as a “limitation.” Through the writing of limitations, a series of fences are built.

To speak briefly regarding the anatomy of a patent, the document is divided into two parts, the specification, and the claim set. The specification is prose that describes the background and function of the respective invention. The claim set are the respective limitations that define the

boundaries of the invention. To meet or go beyond such limitations is to commit patent infringement. Patent litigation is a discussion regarding whether such limitations were met.

Limitations are set in stone upon the grant of a patent. Between the period of application to grant, however, is prosecution. During prosecution, the examiner of the respective patent office argues against the validity of the claims, therefore challenging the walls of the fortress that is being built. If the walls cannot stand up to the arguments of the examiner, then the walls will be pushed inward, therefore narrowing the scope of the claim. If the claim does stand up against the examiner's arguments, the limitation will be upheld upon allowance and grant of the patent. In other words, the integrity of the wall will be respected, and its bounds will be left alone.

After prosecution, the patent enters a period of allowance. It is during this time that the patent owner can file a "continuation." A continuation uses the material in the original specification to build the claim set further. In short, the specification serves as the bricks, the materials, and the claim set is the structure, the construction, that exists as a form of intellectual property. By property ownership, I am referring to the legal right to exclude any secondary party from commercialization.

A patent owner can expand, or contract in some instances, the intellectual property that they own through the filing of patent continuations. Once a continuation is allowed, prior to grant, the owner may file an additional continuation. This process may go on for a period of approximately 17 years. During this time, one patent may grow to contain various fences. It is upon examination of these fences that one sees how not only the legal-conceptual idea grows, but also the material manifestation of the patented idea augments. In the same fashion, it is through both forms of growth, the legal and material types, that the individual is able to grow.

Looking at Magnus Medical's publicly available IP portfolio, their respective intellectual properties are divided into proprietary and licensed properties. One of their licensees, Stanford University, is responsible for the creation of SAINT™, the Stanford Accelerated Intelligent Neuromodulation Therapy. The International Neuromodulation Society defines neuromodulation as “the alteration of nerve activity through targeted delivery of a stimulus, such as electrical stimulation or chemical agents, to specific neurological sites in the body (Shafik 2020).”

SAINT is a form of neuromodulation that is traditionally administered through TMS, transcranial magnetic stimulation. TMS involves applying an electric pulse or current to a coiled metallic wire, often copper litz wire, creating a magnetic pulse. Magnetic pulses may then be directed to the brain to elicit stimulation of neurons. SAINT employs targeted TMS, meaning that the magnetic pulses are directed to a specific region of the brain. For example, for the treatment of major depressive disorder (MDD), stimulation is applied to those regions of the dorsolateral prefrontal cortex (DLPFC) that are functionally anticorrelated to the subgenual anterior cingulate cortex (sgACC). Functional anticorrelation means that when observing two or more brain regions, when activation increases in one region, in another region or regions, activation decreases. To measure this, clinicians use functional MRI to measure changes in the concentration of oxygen within respective brain regions. Post-hoc assessments may be conducted using MRI to confirm successful modulation of the targeted brain region. SAINT is divided into various patents. However, one patent in particular demonstrates how the legal and material worlds are built.

United States patent US11013423B2 was filed December 10, 2018, to cover systems and methods for treatment of neurological conditions using implantable neurostimulators. The specification was written quite broadly, however, the strategy here was to file a narrow claim set to shorten prosecution and obtain a grant earlier. In other words, by claiming a small territory, the

applicants anticipated that the examiner would have less material to argue against, therefore bringing the patent to allowance sooner than later.

This strategy was successful in the sense that a short prosecution occurred. However, the territory that was claimed only involves a method for implanting a neurostimulator and does not cover the applicant for usage of the SAINT treatment protocol within an implanted neurostimulator. Accordingly, on May 21, 2021, after allowance of the parent application, US20210378531A1 was filed and has since published. Within this respective continuation, all the claims from the parent application were cancelled. In essence, this knocks down the fences that were built in the parent application. Next, the continuation contains specific claims directed to the usage of the SAINT protocol within the SAINT implantable. For example, in claim 39 it is written:

“39. An implantable neurostimulator for the treatment of neurological conditions, comprising:

A neurostimulator configured to apply accelerated intermittent theta burst stimulation (aiTBS) to a target brain structure during a plurality of sessions on a given day in order to treat a neurological condition, where the aiTBS comprises a plurality of pulse trains that each comprise a set of pulses, where each set of pulses is separated by an intertrain interval;

where each session in the plurality of sessions is separated by an intersession interval lasting between 25 and 120 minutes during which no neurostimulation is applied.”

In place of the fences that were built in the parent application, the continuation builds fences even wider such that the constructed fortress now encompasses the use of the SAINT neurostimulation protocol within an implantable. Interestingly, however, these fences have not yet been concretized given that the continuation has not been allowed. Until allowance occurs, the applicant will be unable to defend these respective claims. Defending these claims means excluding other entities from commercializing the respective intellectual property.

The importance of this pending continuation is that it expands the legal territory that may be claimed by the applicant. By excluding others from this territory, value is created for the owner. Without this value, one is unable to sell the intellectual property. And although the intellectual property may exist somewhere in the minds of individuals or in some physical form, the extent of its materiality is limited due to the absence of legal delimitation. In this light, to create intellectual property is to create life. Here, this creation has double meaning as the intent of the SAINT treatment is to improve quality of life for patients.

Here, one sees how life is made through the process of building walls, tearing them down, and building anew. This is the methodology of intellectual property, as well as any other academic field wherein new ideas support or replace existing ideas. Moving broader, one might also argue that all fields are in some way involved in boundary making. Given the ubiquity of world building, perhaps it is time to turn these efforts inward such that the intention is to build one's internal landscape as opposed to that which is external. To achieve this goal, we must first find the boundaries of the self to find where next to build.

On Anti-architecture⁵¹

Managing an intellectual property portfolio is to see in two directions at the same time. To protect and build a portfolio, one must also become aware of how to deconstruct and consequently, undermine the institution upon which the portfolio serves as a foundation. This is necessary as the goal is to protect the portfolio, even against oneself. Inevitably, this causes one to structure intellectual property in such a way that it fences off any potential threat. To see the image of a

⁵¹ Anti-architecture may be understood as the opposite of architecture. In this sense, if architecture is the generation of that which is without, anti-architecture is the generation of that which is within. Here anti-architecture and architecture are opposite sides of the same spectrum. This differs from an-architecture which relates to reducing created order.

potential threat, one need only look at the portfolio in its inverse. This is akin to looking at the surface of the mold and intuiting the object that was placed inside. In this case, inside that mold are the hopes and anxieties of the company founders, inventors, intellectual property lawyers and agents, as well as myself. This said, if I have built myself into this mold, thereby pressing outwards its limitations, how can I be aware of how my own limitations are stretched in this same process?

Immediately prior to joining Magnus Medical, I worked full-time at the Durham Garden Center in Durham, North Carolina. It was here that I first found the boundaries of myself, physically, at least. When working with plants, one realizes quickly that if you listen, plants talk; looking down at my arms, a plethora of cuts and bruises would be present after a day's work. After a few weeks, however, this type of work becomes less difficult. Not only will one's skin become more able to withstand discomfort, but one will also intuitively learn how to move around plants in a manner that causes less damage. It is this process that draws one into a greater state of sensitivity and awareness of one's body; to have, at all times, some sort of pressure against the body (e.g., soil, sun, plants), is to become intimately aware of the outline of oneself as well as the outline of all that is not oneself. The external pressures that lead to the drafting of a patent are no different.

Upon joining Magnus Medical, a company that is focused on the treatment of mental illness, my attention turned from moderating bonsai tree sun exposure, to designing methods to treat anxiety and depression. This was difficult not only because of the distance between the topics, but because of the anxieties that arise within oneself when attempting to heal others. By attending to these fears, specifically the shape of those fears, I witnessed the portfolio take my form, in the inverse.

For example, when sitting in the treatment chair, one imagines themselves as a patient. To think of one as the recipient receiving therapy is to consciously bring to mind a series of what ifs? What if my body shape and size are not conducive to treatment? What if I had epilepsy? What if I was schizophrenic? These are examples of realities that could possibly exist. However, in the moment of imagination, these realities exist inside of me. As this newness emerges, it is the outer boundary of myself that begins protruding. It is this protrusion around which intellectual property is shaped. Consequently, intellectual property serves as the necessary external to such fears. Akin to the handprint that is left after working with soil, intellectual property is a form that has been impressed into the shape of the progenitor, by the progenitor.

More generally, the world begins to shape around your form as you are revealed to yourself. To accept those fears, pains, anxieties within oneself, as oneself, and let the world around oneself be, this is how you make the world a better place. Note the shape of your discomfort; find the boundary beyond which all is good and build a fence; This is how you make heaven on earth; this is revelation.

Conclusion

Returning to the concept of NeuroRights, how might this concept of revelation be applied to those individuals who crafted the respective legislation? If it is the case that legislation forms itself around the fears and anxieties of its authors, then what is revealed when one examines the mold once cracked open? Do these concerns apply namely to those individuals who created the legislation or are they held by individuals across the population? If these concerns are limited to the ruling classes, the act of revelation is different for each population. For example, if one does not have access to neurotechnologies, fears related to neurotechnologies are only hypothetical. This said, how does one wrestle with competing revelations. And further, how does a society move

forward when eschatological imaginations are non-aligned? Future study will investigate this question.

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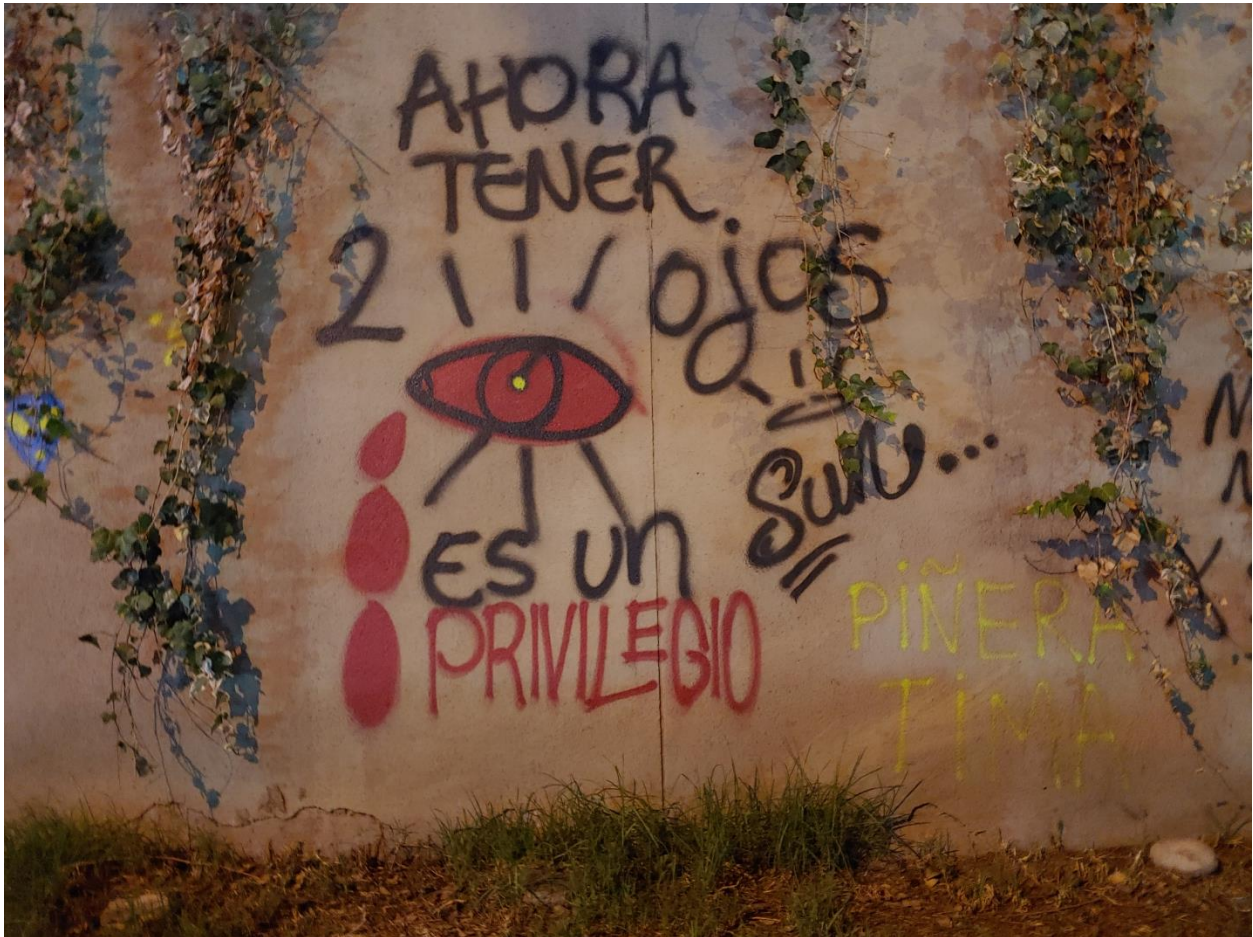
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