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Of Force Fields and Men: Fiction and Race on the **Mexican Border**

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ARCHITECTURE AND CULTURE

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Of Force Fields and Men: Fiction and Race on the Mexican Border Luis Hernan

ABSTRACT In this paper, I engage with the "invisible wall" at the Mexico-United States border. The idea of an invisible border is not new, but recent proposals are defined by the involvement of Silicon Valley, as well as by the use of Science Fiction (SF) and the mythological to reframe and create new fictions. I trace the trope of the "force field" and the way it has been mobilized by Palmer Luckey in his promotion of the Anduril Sentry, a mobile observation post fitted with technologies of surveillance and deterrence. I argue that the SF trope can be traced to racialized understandings of the homeland in the nineteenth century and, later, in hegemonic tendencies in popular culture. Combined with evolving masculinities and far right politics, these SF tropes reinforce the already complex histories and historical violence of border technologies.

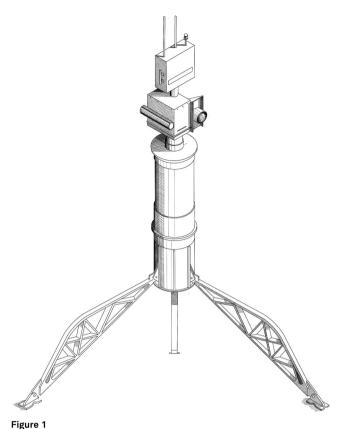
I sit down and stare at the paper. How does one write up a border? ¿Cómo escribo esta frontera, ésta, en especial? This border, specifically. I start with the facts. The Mexico-United States border spans over 3,000 kilometers across four states in the United States, Texas, New Mexico, Arizona and California; and six in Mexico, Baja California, Sonora, Chihuahua, Coahuila, Nuevo León, Tamaulipas. Straddling these are fifteen "twin cities," some of which are larger on

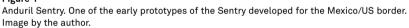
the northern side, others on the southern: Reynosa, Matamoros, Piedras Negras, Nuevo Laredo, Ciudad Juárez, Tijuana.¹ It is a border that divides and joins communities. There are, precisely, forty-eight legal crossings where a "paper" of some sort, a passport or a visa, will let you through. There are other crossing points, "illegal," impossible to quantify. An inventory of names and figures that doesn't take me closer to the actual border, *la frontera gringa*. I will try again. I was born on the southern side and, despite the fact that my hometown is at least, 900 kilometers away, it is a border that is deeply woven to my identity as Mexican and as a migrant. I speak two languages and write about *la frontera* from an ocean away, on the other side of another border.

I first crossed the Mexico-United States border when I was four years old. I can hardly remember the event but the story has been told many times, passed around and smoothed over by the whole family, refined in each telling. We were driving north from Reynosa and reached the Anzalduas Bridge at night. I fell asleep in the kilometers-long queue and, when we reached the crossing, the border agent asked for our documents as he paced around the car, shining a torch inside. He saw me and his voice grew tense. El niño es Americano, ¿verdad? The boy is American, isn't he? At family gatherings the story is concluded, among cackle and chortle, by saying that the agent must have thought I was being kidnapped. The Black ancestry on my father's side is rarely mentioned, discussed in hushed tones, unlike the European lineage on my mother's side, where the improbable existence of a Spanish greatgreat-grandfather is asserted in a serious, matter-of-fact tone. The story of my first crossing is an old favorite for the way it subtly reasserts the racial hierarchies of the family: my father is dark skinned and much is made of how I take after my mother, who is fair skinned. The border agent eventually stamped our passports and let us through. I didn't wake up until we reached our hotel, ; ya llegamos al otro lado?

I remember the story as I try to make sense of the place where these two countries meet. This border, any border, is tightly bound to the act of making some feel safe and others excluded. It is estimated that hundreds of millions of people cross the border each year and their ability to do so depends as much on passports, WHTI compliant documents and SENTRI cards, as much as it does on the individual's ability to pass as "white."² The border wall itself is not a homogeneous piece of infrastructure but a series of historically and spatially disconnected barriers, designed to maim and control "undocumented" bodies, and configured with small gateways to let the "documented" through.

I am interested in the way bordering is increasingly defined by technological cultures. In June 2018, the United States Customs and Border Protection (CBP) announced a strategic collaboration with Silicon Valley, the metonym for the corporations based in the Santa Clara Valley in California who have been instrumental in the emergence of the so-called personal computing revolution since the 1980s.³ A collaboration





with the military has long been speculated about; it materialized in the Anduril Sentry, a mobile observation post that is meant to create an "invisible," more efficient border (Figure 1). A key figure in this deal is Palmer Luckey, an entrepreneur known for the Virtual Reality headset Oculus Drift. Luckey represents technological sophistication and an altright nationalism that feeds on popular culture and Science Fiction (SF), invoking TV series and comic books to depoliticize his inventions.⁴ When describing the Anduril Sentry, Luckey suggests that the inspiration came from the 1960s TV series Star Trek: "what if we build a force field?"⁵

The Mexico-United States border has always been articulated by a racial discourse, designed to keep the wetbacks out.⁶ The new invisible border, with its association with Silicon Valley and figures like Palmer Luckey, is offered as a humane alternative; the use of sensing technology and Artificial Intelligence is meant to make decisions less biased and therefore neutral. I argue here that references to "force fields" reinforce the racial underpinnings of this border and its historical violence, becoming entangled with discourses that racialise bodies. The force field is a calque of real-world military technologies, a re-envisioning of shields which protect troops and provide tactical advantage. At its most

fundamental, however, the force field provides an invisible barrier against the Other. Gaining popularity in "Space Opera" narratives, the force field protects humans from mixing and being contaminated by aliens, a function that hints at assumptions of race and purity that continue to dominate extractive logics of Empire and violence against bodies that are considered other and inferior.⁷

I use two case studies to examine how the lineage of force fields is already entangled with racial and colonial motivations. The first is *Rondah, or Thirty-Three Years in a Star*, by Florence Carpenter Dieudonné (1887), one of the first texts to imagine an invisible wall and which situates the technology in the context of Manifest Destiny, protecting colonizing bodies from mixing with the more primitive alien natives.⁸ The second is the force fields of Star Trek, credited as the main reference in the creation of the Anduril Sentry. Although the articulation of the force field in the original Star Trek series is not overtly racial, it is explicitly hegemonic, making a not-so-subtle reference to the American Empire. I contrast the imagination of the force field as a protection against the Other with two SF stories written on the Mexican side of the border, which explore the force field as a technology that enforces racial purity and imagines a false utopia.

The Mexico-United States Border

The borderscape between Mexico and the United States has been contingent on racist, imperialist and militaristic practices.⁹ Prem Rajaram and Carl Grundy-Warr suggest that national borders are neither a neutral line of separation, nor a fundamental way of defining the nation state. Instead, they are a legal and moral way of demarcating belonging, an envelope to protect "a space of utopic unity (...) a grounded base for thinking and responding to chaotic heterotopia in the world."¹⁰ The term 'borderscape' is particularly useful in making sense of the Mexico-United States border, which is defined by increasingly sophisticated infrastructure that follows and reinforces discourses of territorialist imperative. Border technologies here have always aimed to create a bubble to protect the "utopia" of the United States; the new technologies of the border, in their reference to SF tropes of the force field, create a literal membrane to protect a utopia along racial lines.

The current border, running from the Pacific Ocean to the Gulf of Mexico, was only defined in the nineteenth century. The peace treaty of Guadalupe-Hidalgo, signed in 1847 at the end of the Mexican-American War, resulted in the United States' annexation of the Mexican territories of Texas, New Mexico, Arizona, Colorado and California. The Mexican government agreed to shift their territorial border from the Río Nueces to the Río Grande, losing more than half its territory in exchange for 15 million dollars (never paid). As a result, communities found themselves displaced and straddling an arbitrary border which, as Gloria Anzaldúa describes, resulted in them feeling "jerked out by the roots, truncated,

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disemboweled, dispossessed and separated from [their] identity and history."¹¹ Spanish speaking communities found themselves, mostly, south of the new border, while English speaking ones stayed in the north.

The territorial demarcation line has evolved since its initial drawing into bordering practices linked to violence, symbolic and material, enacted in the past and present. The line between the two countries has become an "open wound," the place "where the Third World grates against the first and bleeds."¹² It has also produced a contested land with its own people, the chicanos, who see themselves as the inbetween culture straddling the border wall, fitting in neither as Mexicans nor Americans. The dilemma of the borderland cultures is best embodied in the myth of Aztlán: Náhuatls, the ancestors of the Aztec people, are said to have migrated from northern lands, the place of herons, until they reached a place where they found an eagle with a writhing serpent in its beak perched on a cactus, which they called Aztlán. In the 1960s historians suggested that Aztlán was not only a mythical but also a real place, located around Arizona and California. The hypothesis inspired the Chicano movement to write El Plan Espiritual de Aztlán, denouncing the "brutal gringo invasion of [their] territories," declaring the independence of the "mestizo nation," and refusing to "recognise the capricious frontiers on the bronze continent."13

The border wall was, for well over a century, a rickety patchwork of fencing and barriers and it was not until 1986 that the idea came about for a continuous wall from San Diego, California, where the border line meets the Pacific Ocean, to Brownsville, Texas, the start of the Bravo River, used as a natural barrier between the two countries. Major works to create a more "secure" border followed the promulgation of the Illegal Immigrant Reform and Immigrant Responsibility Act (IIRIRA) on 30 September 1996.¹⁴ Since then, the development of the wall has become an ever more ambitious and expansive project, involving both the military and private contractors to develop a catalogue of border wall typologies. The US Customs and Border Protection Bureau defines four typologies: Normandy and Bollard, named after military campaigns, Landing Mat, built with surplus material from the Vietnam War, and Aesthetic, meant to create a "friendlier" relationship with the surrounding communities. As Victoria Hattam analyses, these typologies operate at a material and symbolic level, and their references to war signal the end of one military campaign and the redeployment of its hardware to create "the next imperial frontier."¹⁵

The borderscape is defined by asymmetries and contradictions. On the southern side, Carlos Monsiváis writes, the wall is a reminder of the distrust of the North for the South. It is a wall built of military waste that forbids but doesn't deter.¹⁶ The contradiction is that the militarized border emerged in parallel with the North American Free Trade Agreement (NAFTA), signed by the United States, Canada and Mexico in 1994. Despite the agreement being hailed as an example of a global,

borderless world, NAFTA represented a dual process of the debordering of the North, creating an inconspicuous border between Canada and the United States, and the rebordering of the Global South to keep poor and racialized bodies away, as an ever more technological and material border with Mexico signifies.¹⁷

The idea of the border wall as a barrier to keep dangerous (and racialized) peoples outside has long been present in the United States media, but it has been recently appropriated by the far right to reinforce the link between nation, sovereignty and territory.¹⁸ The 2016 and 2020 Trump campaigns, and the intervening term in office, weaponized the wall to mobilize sentiments of disenfranchisement, belonging and economic inequality in targeted sectors of the American public. The image of a crisis at the border is key and suggests the need for decisive and swift action to keep the "bad hombres" away and stem the flow of an invasion of "people with lots of trouble." The border wall is needed to protect the people of the North, it is said, who are different from those on the other side, los mojados, the wetbacks. The bordering practices between Mexico and the United States are animated by what Bolívar Echeverría calls *blanguitud*, whiteness.¹⁹ To many Mexicans, the journey up-north is a pilgrimage, an eternal return and the promise to be whitened and accepted in the wealthier, more advanced civilization on the other side of the wall. Usted es Americano, ;verdad?

Making the Border Invisible

The recent generation of invisible border walls is the result of political maneuvering by the United States' Democratic and Republican Parties. The Trump campaign reaped the benefits of a polarized discourse which leveraged anti-immigrant sentiment to promote the vision of a "big, beautiful" wall to stop an (imagined) immigrant invasion. In office between 2017 and 2021, however, Trump's notion of a reinforced border wall proved highly controversial and, after a standoff that triggered a shutdown of the federal government, the idea of an invisible "smart wall" emerged as a sensible, cross-party compromise.²⁰ The term has been used to describe drones, ground sensors, satellite imagery, and blimps (small airships), all used to create cheaper and more efficient alternatives to existing physical barriers, which were perceived as ineffective at stemming the flow of people.²¹

Technology however is just one of the ways in which the border is made invisible. As Harsha Walia writes, the militarization of the Mexican border has been made invisible by popular media in the United States, justifying the need for a more aggressive approach to immigration despite the way that surveillance affects native communities such as the O'odham, for whom freedom of movement across the Mexican and American territories is an important part of their identity.²² Artist and documentarist Eva Lewis challenges this invisibility in her documentary Undeterred, where she highlights the tense relationship between the

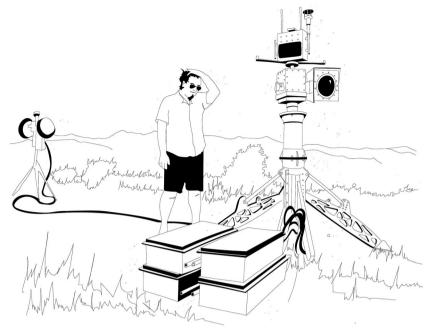


Figure 2 Palmer Luckey and one of the early prototypes of the Anduril Sentry. Image by the author.

Border Patrol and the inhabitants of Arivaca in Arizona.²³ The invisibility of the border, as Anzaldúa reminds us, results in its parallel existence as abstract territorial demarcation with a strong and also a symbolic reality which makes it a "vague and undetermined place made manifest in the bodies and minds of those that cross it."²⁴

The technological means of making the border "invisible" go back half a century. The Border Patrol's intrusion detection system of the 1970s, a collection of sensors and radio transmitters, was inspired by the McNamara line used by the United States military to detect enemy troops during the Vietnam War.²⁵ Anduril promotes their Sentry as the latest generation of invisible walls, describing the use of Artificial Intelligence (AI) as key in overcoming the failures of past iterations. SBINet, developed by Boeing, resulted in observation towers installed along a 28-mile section of the Arizona desert but, before the system could be implemented more widely, it was canceled due to multiple sensor failures and the frequent occurrence of "false positives" where roaming animals were confused with "illegal" migrants.²⁶ The Sentry uses off-the-shelf, cheaper sensors but analyses data with AI to filter and analyze signals for "signatures" of illegal crossings which, it promises, liberates agents so they can spend more time on the ground, dealing with real threats (Figure 2).²⁷

New Mythologies of the Border

In addition to the use of AI as a key selling point of the Sentry, the persona of Palmer Luckey is important in creating new fictions and discourses around smart borders. Luckey was meticulous in the way he

presented himself as an entrepreneur when promoting the Oculus Drift VR headset. He would, for example, wear Hawaiian shirts and flip flops to conferences, an attire that reinforced his "geek" persona, interested in creating "cool" technology and with little patience for the big corporations who had let gamers down. References to videogames and SF are crucial, giving him an air of "authenticity" in the gaming community, which shares a passion for this form of popular culture.²⁸ He maintains a very public profile, for example, in the "cosplaying" community, using elaborate costumes and accessories to become fictional characters from TV series and anime.²⁹

This persona would prove crucial as he moved from videogames to defence procurement. Luckey's involvement in the 2016 Trump campaign, financing far right groups to smear Hillary Clinton, created a media scandal which forced him to resign from Facebook, which had acquired Oculus by this stage and kept Luckey as CEO.³⁰ He then announced an interest in working with the defence sector and was later granted access to the drafting of the SMART Act, a bill promoted by Texan Representatives Will Hurd and Henry Cuellar to force technological alternatives to secure the border wall with Mexico.³¹ Anduril was later awarded contracts from Custom and Border Protection to develop prototypes for a situational awareness system to be deployed, initially, at the Mexico-United States border.³²

Early prototypes of the Sentry were featured in *Wired* magazine, targeted at an audience of technology enthusiasts and gamers familiar with Luckey from his Oculus years. Apart from the choice of publication, the terms of the narrative are consistent with the persona that Luckey had spent years building. When asked about the creative process, Luckey describes long conversations with his co-founders which would begin with popular culture references. As they wondered about the best product to get a foothold in the security sector, the team came up with a list of technologies taken from SF: Star Wars lightsabers, Iron Man suits. They settled with the idea that felt most exciting and achievable: "what if we build a force field?"³³

To understand the significance of the Palmer Luckey persona, and its references to SF in promoting the Sentry, it is important to consider previous efforts by Silicon Valley to leverage its technology for military purposes. As Fred Turner analyzes it, the development of digital computation has drawn on references to counterculture which frame the technology as helping to "globalize society, decentralize control, and help harmonize people." This ethos was mobilized by entrepreneurs such as Mark Zuckerberg, Bill Gates, Steve Jobs, Larry Page and Sergey Brin, who promoted their products as a force for good and vowed not to "do evil." When Microsoft, Google and Amazon signed contracts with the United States military, they faced a backlash from their customers and employees who accused the corporations of hypocrisy and described the deals as a betrayal of their foundational values.³⁴

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When Luckey became involved with the Trump campaign, he faced a similar backlash which, eventually, would lead to his dismissal from Facebook. But when he moved to the defence sector, he mobilized the references he had used in Oculus. There is the name of the company, Anduril, which references the mythological sword in Lord of the Rings, capable of summoning the deadliest army ever to walk the Earth.³⁵ Not only does the name suggest a powerful weapon but it also points to a righteous cause, one that would appeal to his target market. When Luckey launched the first prototype of the Oculus Drift, he demonstrated its capabilities with a virtual reality version of Doom 3, a "shooter" videogame where the player is tasked with defending a military facility on Mars, overrun by demons after the Gates of Hell have been prized opened by rogue scientists. The same connection is used when describing the longer-term objective of the Anduril Sentry, which the company likes to describe as "Call of Duty goggles" for the Department of Defence.³⁶

Tracing a Force Field Genealogy

Force fields became popular at the height of the "Space Opera" age of SF, especially in the novels of Edward Elmer "Doc" Smith, who introduced the concept in "Spacehounds of IPC" (1931), published in Amazing Stories.³⁷ The story imagines a "tractor beam" capable of attracting objects without physical contact, a concept that would evolve in Smith's "Skylark" and "Lensman" series where invisible shields protect planets and spaceships. glowing red and orange when attacked and violet and black before breaking down.³⁸ Tracing the genealogy of force fields reveals a diverse catalogue of armor that protects human "explorers" against alien species. In Robert Sheckley's Early Model (1957) the force field is a personal shield paired with a translation device which, in a comic twist, renders aliens, described as short orange humanoids carrying shields and spears, with a Received Pronunciation British accent.³⁹ The trope followed a similar logic in SF films: in one of the iconic scenes in George Pal's War of the Worlds (1953), human troops realize their weapons have no effect on the invading alien spacecrafts which are shielded by an invisible field (shown as a glass bell jar in the special effects). As he ducks behind the sandbags shielding the human troops, the famous atomic scientist Dr Clayton Forrester explains that the alien shield destroys the "mesons" which are "the atomic glue that holds matter together." Forrester shouts to a steely but terrified General Mann: "cut across their lines of magnetic force and any object will simply cease to exist!"40

Set in their historical context, each force field resonates with political projects and ways of understanding warfare, colonization and, more importantly, the Other. The racial violence implicit in the force field is best illustrated by two case studies: the protective wall in Dieudonné's 1887 novella *Rondah*, considered the earliest example of force fields; and the original Star Trek series, credited by Luckey as the direct inspiration for the Anduril Sentry. These case studies are inevitably partial and

selective, not intended to provide an exhaustive analysis of the politics behind the idea of force fields, but to suggest the way in which the Force Field, as a protective shield which converts and deflects the energy of the attacker, suggests a protection against direct content with the Other, reverberating with the racial othering and violence that occur in the nonfictional world.

Rondah and the Proto Force Field

Everett Franklin Bleiler identifies *Rondah; or, Thirty-three Years in a Star*, as the earliest example of the use of force fields.⁴¹ The novel chronicles a group of travelers who discover a still-forming planet inhabited by "vegetable people" who are kept separate from a superior race of "angel men" by an invisible wall, a barrier that repels bodies to stop them from crossing from one side to the other. The invisible wall becomes central in the narrative and establishes the colonial and racial undertones of the story: it produces a safety bubble for the humans to establish a colony and make a home for themselves. The role of this home in "civilising" the natives is reinforced when Rondah describes the planet as "small, but (...) all ours!" and the vegetable people as the ideal colonized subjects: "there were no warlike races to conquer, no insubordinate people to subdue. There was nothing to hinder the grand march of progress."⁴²

The home becomes an important motif in *Rondah* and in the identity of Dieudonné as a writer. A contemporary account describes how "her fondness for scientific and historical reading clashed with the attention which she felt her first duty to give to her home," a conflict she managed to resolve by "improving her spare minutes."⁴³ The domestic character of her writing, created in the physical space of the home but also dependent on the rhythms of work and leisure allowed to her as a housewife, situates Dieudonné in the "cult of domesticity," a middle-class, protestant ideology which gained prominence in the nineteenth-century and promoted gendered and separate spheres, identifying women with the domestic sphere, a sanctuary against the world, and men with the public sphere of economic competition.

Amy Kaplan argues that the cult of domesticity paralleled the discourse of Manifest Destiny in the antebellum United States, a political doctrine which promoted a sense that white races were divinely ordained to provide superior forms of government and trade on the American continent.⁴⁴ The language and themes of the cult of domesticity create a close link between the home and the nation state, situating the domestic in opposition to the foreign and, in doing so, enlisting "men and women [to] become national allies against the alien, and the determining division is not gender but racial demarcations of otherness."⁴⁵ The borders separating the Other from the familiar were elastic, accommodating the different wars that the United States was involved in, making the alien Indian, Mexican or European as needed.

Rondah alludes to the settler colonialism of Manifest Destiny, creating an ever-expanding boundary that delineates an interior world for a "superior race," while pushing the unknown, strange and exotic ever further away beyond the periphery.⁴⁶ The invisible wall weaves together notions of race, territory and the nation state, prefiguring the way the force field would be understood as a bordering practice while being an invisible, yet material, piece of infrastructure. The invisible wall of the Mexico-United States border is not territorially expansive, but it shares with Diedounné's an understanding of the racial Other and the need to keep order and hierarchy in place so that civilization can progress.

Star Trek Force Fields

Rondah can also be credited with imagining the force field trope which would evolve in the novels of EE "Doc" Smith and, later, reached a zenith in the TV series and films of the Star Trek franchise, to which Luckey attributes the inspiration for the Sentry (Figure 3).⁴⁷ The force field imagined in the original Star Trek series (1966–1969) contributes to an understanding of the invisible barrier as a means of maintaining social order and asserting hegemony. For Patricia Thomson, Star Trek's force fields are "designed to protect insiders" and to "constitute little self-contained worlds."⁴⁸ Although each spacecraft and its interior world has its particularities, there are homologies between them: they follow "patterned, regular and predictable practices." Without the shield "the

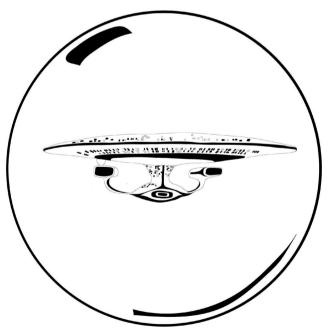


Figure 3

The Star Trek Force Field. One of the staples of the original series, the force field has become synonymous with Star Trek, alongside other fictional technologies like the Holodeck. When an attack on the USS Enterprise was imminent, Captain Kirk would shout: "activate the Force Field, Spock." Image by the author.

social world inside the force field would become anarchic and cease to function."⁴⁹ It is the highly structured, regimented practices of these interiors that enable a hierarchy, with people who give orders, and those who follow them. This interiority results in a tight, homogenous social order that is often heteronormative and patriarchal.

The force field protects and regulates the doings inside the ship, but it is also instrumental to the mission of the USS Enterprise in expanding Western hegemony.⁵⁰ Fiona Davidson sees in Star Trek a notso-subtle celebration of American expansionism and its implicit moral superiority. For her, the United Federation of Planets alludes to the ideal United States: an "inclusive, altruistic, progressive umbrella organisation that is under threat from irrational, aggressive, and often solitary external threats."⁵¹ The ships are seldom in need of activating their shields when they are at home. As the fans of the original series will know, activating a force field is the preface to battle — the preamble to the maneuvers when the Federation, and its values, are under threat. This understanding of a border which is constantly redrawn through the voyages of the USS Enterprise is nostalgic. Keith Booker points to the opening phrase of the original series, "the ultimate frontier," and the famous description "the Wagon Train to the stars," to suggest a conceptual and ethical relationship of the series with the American "Wild" West.52

The Star Trek universe has been assembled over decades of TV series and films, making it difficult to locate its politics. The Next Generation (1987–1994), and Enterprise (2001–2005), aligned themselves with a broadly progressive politics, declaring the United Federation of Planets as a non-colonialist force aiming to abolish any forms of race and gender-based oppression.⁵³ And as with any other form of SF, Star Trek is open to divergent interpretations. Damien Broderick suggests that SF produces a network of intertextuality, a "mega-text" from which readers can glean a range of explanations and interpretations.⁵⁴ Luckey's reading of Star Trek and its force fields are not exclusively defined by the series, but also by other SF and fantasy texts, as well as fan discussions on internet forums, conventions, and parodies.

Luckey's less progressive and more instrumental reading of Star Trek parallels the way that other Silicon Valley entrepreneurs use the fictional universe as a bag of tricks to inspire and narrate themselves. Elon Musk and Jeff Bezos, for example, often reference Star Trek, using it as a way of demonstrating their own adherence to a progressive agenda (despite their business strategies suggesting otherwise). This partial reading of the Star Trek universe reinforces the aspect of the series which interweaves capitalism and Empire. As Dan Hassler-Forest suggests, the operations of the Starfleet are justified by a mission to spread civilization and common sense, which he sees as a veiled apologia of twentiethcentury "American-dominated globalization."⁵⁵ Explaining this narrow and instrumental reading of Star Trek is the way that Silicon Valley uses techno-utopianism to motivate its efforts and justify the need for its products to society. Howard Segal argues that techno-utopianism was crucial in building the identity of the United States and in justifying the practices of settler colonialism in the late nineteenth and early twentieth centuries. The sense of technology as a neutral device to achieve better societies explains the pull that SF texts have in justifying and narrating real technologies, and also the difficulties in countering a discourse in which technological progress is always irrefutable and inevitable.⁵⁶ Read from this perspective, the more progressive aspects of Star Trek are ignored and the colonial, hegemonic elements are thrown into sharp relief.

Other Imaginaries of the Border

Force Fields, as a technology imagined to provide protection from the alien Other, speaks of the wider tensions involved in the acts of imagining and giving a voice to the Other. As Leon Stover describes it, in the 1970s SF was still a genre written by "Americans and Britons, and not by foreigners and women."⁵⁷ Representation improved in the following decades with the emergence of influential voices in Feminist SF. such as Ursula LeGuin and Octavia Butler: the emergence of Afrofuturism, which, in the work of writers such as Samuel Delany, directly criticizes the "whiteness" of the genre; or the commercial success of authors from the Global South and East such as Ted Chiang and Liu Cixin. But despite this progress, the tension of representation continues in the SF community. The 2015 edition of the Hugo Awards was dominated by the vocal protests of the "Sad" and "Rabid Puppies," groups linked to alt-right figures who complained of prizes being awarded to works that were "niche, academic, overtly to the left in ideology and flavour, and ultimately lacking what might best be called visceral, gutlevel, swashbuckling fun."58

The representation of diverse voices in SF is important not only on ethical grounds, but also as a way of fulfilling the potential of the genre to offer a "cognitive estrangement" with the capacity to explore what is lost in keeping the Other away.⁵⁹ Pepe Rojo, a Mexican writer and academic who has lived on both sides of the border for the last few decades, explored this possibility in "You Can See the Future From Here," an "intervention and experiment of collective imagination" developed with his students at the Universidad Autónoma de Baja California (UABC), Tijuana and the Tijuana Liberation Front.⁶⁰ The project reimagines the San Ysidro crossing on the Mexican side of the border in Tijuana, drawing on a series of performances, installations, workshops and communal readings meant to invent and describe "possible futures, taking advantage of an area characterised by the transition between realities."⁶¹

The work of Rojo and the Tijuana Liberation Front is part of a network of solidarity to enhance the visibility of the SF written on "this" side of the border, which has involved writing residencies, anthologies and

exchanges.⁶² One of the anthologies is *Futuros por Cruzar* (Futures to Cross), edited by Mexican writer Gabriel Trujillo Muñoz, in collaboration with the University of Colorado, Colorado Springs and the UABC, to recognize and chronicle the long tradition of SF on the southern side of the border.⁶³ In "Dragón de Origami" (Origami Dragon), one of the stories in the collection, Iván Molina Jiménez imagines a near future in which the United States demolishes the border wall to replace it with a force field designed to allow anyone to cross "provided their DNA codifies citizenship, a residence permit or the appropriate visa;" those who did not qualify would be "disintegrated crossing the force field." In a twist of fate, an earthquake hits the control center triggering the field to reprogram itself and annihilate all human beings. As the field expands its reach, it wipes out Los Angeles and Miami before continuing its slow advance to the North.⁶⁴

Trujillo Muñoz turns the force field back in on itself to understand its motivations. The strategy is explored further in the short story "Valla" (Fence) where Mexican writer José Luis Zárate Herrera imagines a United States gripped in the "paranoia of imagined safety" after a nuclear attack destroys Houston, which motivates the construction of an electromagnetic dome isolating the United States. In the new world defined by fences "never was purity of race more important for North Americans, a purity measured not in genes but in documents: a green card, a passport that identifies one as a citizen of that country."⁶⁵ To belong meant allegiance to the conviction that anything beyond the shield was not worth having: "anything worth having was domestic, just, normal; everything which occurred within the fence."⁶⁶

The mirror image of the American hegemony is constituted by the ghost towns on the Mexican side of the border, desolate places inhabited by the *orilleros* (borderers), a nomadic tribe who roam a land devastated by radiation from the fence and by rabies. Zárate's story describes a utopian United States: "an astounding reality of golden beaches, enviable realities and cities of light," a description which we soon learn is part of the mythology of the borderers.⁶⁷ The absurdity of this articulation, of a utopia and dystopia separated by a force field, is revealed when John, born in Mexico of North American parents, falls ill and attempts to cross to the "other" side to be treated. As he does, the real United States reveals itself as a paranoid, autocratic state which terrorizes its own citizens.

Conclusion

In this paper I have traced the trope of the force field as it is used to narrate and make sense of new technologies to make the Mexican border invisible. I started with an auto-fictional account of crossing the border and how the geographical act of going from one side to the other is always a symbolic transmigration, a going from one shade to another which signifies higher status. By examining the involvement of Silicon Valley in designing the technologies to secure and police the border, I have aimed to show the way that the inherent violence and racism of its mythologies coincides with and reinforces the violence which has long existed on the Mexican border. The trope of the force field is used to narrate and justify the Anduril Sentry, a strategy that is well in keeping with the construction of the persona of Palmer Luckey, the entrepreneur most closely associated with Anduril, through references to SF. To argue that fictional references come to reinforce the existing violence of the border, I have used two case studies of force fields. The origin of the term in Dieudonné's *Rondah* suggests a link between the fictional technology and racial ideas of the homeland and a shifting, expansive border. Later, the use of force fields in the original Star Trek TV series speaks of a technology to create ordered, hegemonic worlds which are a not-too-subtle celebration of the American Empire and its policies of overseas intervention.

But just as the force field is meant to provide a protection against the Other, the trope can also be used to give voice to the Other and create a cognitive estrangement that lays bare the dangers of shielding from the alien. The speculative exercises of Pepe Rojo and the Tijuana Liberation Front, and the stories by Trujillo Muñoz and Zárate Herrera, bring into sharp relief the dangers of mobilizing SF tropes that reinforce the already complex borderlands and the racial violence that has been exerted on migrant bodies.

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Notes

- Alberto Hernández Hernández, "La Frontera México-Estados Unidos: Asimetrías y Transgresiones," *Nueva Sociedad*, no. 289 (2020): 59–69.
- WHTI is the Western Hemisphere Travel Initiative, introduced by the US after 9/11 in 2004 to control travel from Canada, Mexico, the Caribbean and

Bermuda. SENTRI is the Secure Electronic Network for Travelers Rapid Inspection, also overseen by the US Customs and Border Protection force, for pre-approved, low-risk travelers.

 The Valley, as it is referred to by the technologists it attracts, is a system of mythologies based on fantasies of

meritocracy, intellectual prowess, democratisation of technology, flat hierarchies, efficiency, social mobility, playing nice, not being evil and technology as a force for good. One of the central figures in this narrative is that of the "techbros." Techbros are men said to drive innovation by the sheer might of their will. For a critical reading of Silicon Valley, see Wendy Liu, *Abolish Silicon Valley: How to Liberate Technology from Capitalism* (London: Repeater, 2020).

- 4. Using the acronym SF for the genre reveals allegiance and ideological leanings. Discussions in online forums and specialised publications refer to sci-fi, scifi, and some to science-fiction. Scholarship on the genre sometimes mimics these discussions but often settles for the more neutral "Science Fiction." Donna Haraway draws on this when she talks of SF, which is meant to provide some ambiguity to admit science fiction, speculative fabulation, string figures, speculative feminism, science fact. Haraway's understanding of the term is part of the tactics of "staying with the trouble," a project which involves creating collaborations, multispecism and creating connectedness. I use SF here as an allusion to the need for a wider understanding of the genre. See Donna J. Haraway, Stoying with the Trouble: Making Kin in the Chthulucene (Durham, NC: Duke University Press, 2016).
- Stephen Levy, "Inside Palmer Luckey's Bid to Build a Border Wall," Wired, November 6, 2018, https://www.wired. com/story/palmer-luckey-andurilborder-wall/.
- A wetback is a derogatory term for a Mexican living in the US, particularly an illegal immigrant.
- 7. The politics of "Space Opera" are relevant in the discussion of borders and its technologies. As Jerome Winter writes, the genre is defined by "fasterthan-light starships, future wars, Byzantine intergalactic diplomacy, doomsday devices and dramatic encounters with alien planets and species." Because of its ideological underpinning, "its quasi-fascistic

fascination with supermen and super weapons, its abiding racism, sexism, and class bigotry as well as its juvenile wishfulfilment fantasy," "Space Opera" has tended to fall into disgrace with the wider SF community. But despite these problematic genealogies, the genre has seen a renaissance in what Winter calls the "New Space Opera" and the "Nostalgia for Infinity." See Jerome Winter, Science Fiction, New Space Opera, and Neoliberal Globalism: Nostalgia for Infinity (Cardiff: University of Wales Press, 2016).

- 8. Rondah, or Thirty-Three Years in a Star, Florence Carpenter Dieudonné (Philadelphia, PA: T.B. Peterson and Brothers, 1887). Manifest Destiny is a political doctrine which emerged in the nineteenth century and argues that Americans are divinely ordained to conquer and rule over the American continent, often synthesised in the phrase "America for Americans." It is important to clarify that the idea of "Americans" in this context refers to the Anglo-Saxon American settlers. The doctrine has survived through the following two centuries and, in Mexico, is etched in the national consciousness as an explanation for the inevitable interference of the United States government in the region, often contained in the quip that Mexico is "America's backyard." See Reginald Horsman, Race and Manifest Destiny: The Origins of American Racial Anglo-Saxonism (Cambridge, MA: Harvard University Press, 1981).
- 9. The term "borderscape" here signals the shift taking place in border studies, where borders are seen less as naturalised and static territorial lines and more as "dynamic social processes and practices of spatial differentiation." As Chiara Brambilla writes, to talk of borderscapes instead of borders means "re-tooling in face of the diffusion and complexification of borders, moving beyond the 'territorialist epistemology' still pervasive in the study of borders;" it enables engagement with the growing complexity in "the relationship between borders, territory, sovereignty as well as citizenship, identity and otherness." See

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Chiara Brambilla, "Exploring the Critical Potential of the Borderscapes Concept," *Geopolitics*, 20, no. 1 (January 2015), 16.

- Prem Kumar Rajaram and Carl Grundy-Warr, eds., Borderscapes: Hidden Geographies and Politics at Territory's Edge, vol. 29, Borderlines series (Minneapolis, MN: University of Minnesota Press, 2007), ix.
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- 12. Anzaldúa, Borderlands, 25.
- Rodolpho González and Alberto Urista, "El Plan Espiritual de Aztlán," in *El Grito Del Norte*, July 6, 1969, ICAA International Center for the Arts of the Americas at the Museum of Fine Arts, Houston.

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- Victoria Hattam, "Imperial Designs: Remembering Vietnam at the US– Mexico Border Wall," *Memory Studies* 9, no. 1 (December 2015): 27–47, doi:10.1177/1750698015613971.
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- 21. Ibid.
- Harsha Walia, Undoing Border Imperialism (Washington, DC: Institute for Anarchist Studies, 2013).
- 23. Eva Lewis, dir., Undeterred (New Day Films, United States, 2018).
- 24. The way in which Anzaldúa signifies the vagueness of the border, especially in her poetry, is analyzed by Miriam Bornstein-Gómez, "Gloria Anzaldúa: Borders of Knowledge and (Re) Signification," *Confluencia*, 26.1 (2010), 46–55.
- Iván Chaar-López, "Sensing Intruders: Race and the Automation of Border Control," American Quarterly 71, no. 2 (2019): 495–518, doi:10.1353/ aq.2019.0040; Sareeta Amrute and Ivan Chaar-López, "A Conversation with Iván Chaar López," ACM Interactions, April 2021, https://interactions.acm.org/ archive/view/march-april-2021/aconversation-with-ivn-chaar-lpez.
- 26. SBInet was the Secure Border Initiative Network, initiated in 2006 and canceled in 2011. See Reed Abrahamson. "Developments in the Executive Branch: Fixing the Net: The Fall of SBInet, the Rise of Integrated Fixed Towers," Georgetown Immigration Law Journal 25 (2010): 743; United States Congress, SBInet: Does It Pass the Border Security Tests? (Washington, DC: US Government Printing Office, 2011); Phillip Bump, "The Last Time the United States Tried to Build a Virtual Border Wall, It Wasn't Exactly a Big Success," Washington Post, August 30, 2016, https://www. washingtonpost.com/news/the-fix/wp/ 2016/08/30/the-last-time-the-unitedstates-tried-to-build-a-virtual-borderwall-it-wasnt-exactly-a-big-success/.
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- 33. The dialogues here are a composite from different interviews given by Palmer Luckey and Anduril's co-founder Brian Schimpf, See Tom Simonite, "Behind Anduril's Effort to Create an Operating System for War," Wired, October 8, 2020, https://www.wired.com/ story/behind-anduril-effort-createoperating-system-war/; Stephen Levy, Inside Palmer Luckey's Bid; Laurie Segall, interview with Trae Stephens. "Stark Industries and Lightsabers: The Sci-Fi That Inspired a Billion Dollar Defense Company," Mostly Human Media, February 24, 2020, https:// dotdotdotmedia.com/stark-industriesand-lightsabers-the-sci-fi-that-inspireda-billion-dollar-defense-company/.
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distinct publishing category. Pulp magazines were printed on rough wood pulp paper, which made them cheaper to post, and published thrilling stories which were popular with the wider public: adventure, detective, Westerns, love stories, produced by "hack" writers who were hired by the magazines to produce the content. Hugo Gernsback, founder of Amazing is credited with creating the genre of SF by introducing stories that took place in deep space to the roster of popular offerings. For an anthropological reading of the genre see Leon E. Stover, "Anthropology and Science Fiction," Current Anthropology, 14, no. 4 (1973), 471-74.

- 38. The "Skylark" series has been released in a single volume by Hachette in the United Kingdom. The "Lensman" series includes six novels, starting with E. E. 'Doc' Smith, Gateway Omnibus: The Skylark of Space, Skylark Three, Skylark of Valeron, Skylark DuQuesne (London: Hachette, 2013); Edward Elmer Smith, Triplanetary: A Tale of Cosmic Adventure (Reading, PA: Fantasy Press, 1948).
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- 40. Byron Haskin, dir., The War of the Worlds (1953).
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- 42. Dieudonné, Rondah, 120.
- Frances Elizabeth Willard and Mary Ashton Rice Livermore, eds.,
 "Dieudonne, Florence Carpenter," in A Woman of the Century; Fourteen Hundred-Seventy Biographical Sketches Accompanied by Portraits of Leading American Women in All Walks of Life (Buffalo, NY: Charles Wells Moulton, 1893), 243, http://archive.org/details/ womanofcenturyfo00will.
- 44. Reginald Horsman, *Race and Manifest Destiny.*
- Amy Kaplan, "Manifest Domesticity," *American Literature*, 70, no. 3 (1998), 581–82.
- 46. Barbara Gurr has analysed the way in which the "Wild West" is a constant reference in SF films and TV shows. For Gurr, "wherever and whenever the Old West shows up (...) it is a masculine space, and the triumphalism of that masculinity is primarily racialized as white." One of her examples is Star Trek, which recreated the Wild West in several episodes in the original series (1966-1969), The Next Generation (1987-1994), and Enterprise (2001-2005). See Barbara Gurr, "Masculinity, Race, and the (Re?)Imagined American Frontier," in Race, Gender, and Sexuality in Post-Apocalyptic TV and Film, ed. Barbara Gurr (New York: Palgrave Macmillan, 2015), 31-44.
- 47. Roger Sabin, "Invisible Force Fields In Science Fiction," in *The Invisible Force Field Experiments*, eds. Kypros Kyprianou and Simon Hollington, (London: Saigsed Booklet), http://www.electronicsunset. org/published/saigsed_booklet/invisible_ force_fields_in_science_fiction.
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- 49. Thomson, Field, 68.
- 50. Chris Gregory, "Mythos and Logos: Star Trek as Mythic Narrative," in *Star Trek:*

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- 53. Booker, Politics, 206.
- Damien Broderick, "Reading SF as a Mega-Text" in Science Fiction Criticism: An Anthology of Essential Writings, ed. Rob Latham (New York: Bloomsbury Academic, 2017), 139–48.
- Dan Hassler-Forest, Science Fiction, Fantasy, and Politics: Transmedia World-Building Beyond Capitalism (Lanham, MD: Rowman & Littlefield, 2016), 51.
- Howard P. Segal, Utopias: A Brief History from Ancient Writings to Virtual Communities (New York: John Wiley & Sons, 2012).
- 57. Stover, Anthropology, 471.
- 58. Sian Cain, "Pepe Rojo, 'Desperately Looking for Others'," Los Angeles Review of Books (24 May 2016), available online: https://lareviewofbooks.org/ article/desperatelylooking-others/. The Sad Puppies group is led by authors Brad Torgersen and Larry Correia, while the Rabid Puppies are led by game designer Vox Day (the pen name of Theodore Beale) who is linked to white suprematism and the alt-right in the United States, aligning him with the ideologies of Palmer Luckey (albeit indirectly). For more information on Vox Day and the puppies see Adi Robertson, "Two Months Ago, the Internet Tried to Banish Nazis. No One Knows If It Worked," The Verge, 2017, https://www. theverge.com/2017/10/9/16446920/ internet-ban-nazis-white-supremacisthosting-providers-charlottesville; Mike Van Helder, "Culture Wars Rage Within Science Fiction Fandom," Popular

Science, 2015, https://www.popsci.com/ culture-wars-raging-within-sciencefiction-fandom; Helen Lewis, "If Only the Sci-Fi Writers Who Hijacked the Hugo Awards Had the Wit to Imagine a World beyond the Good Old Days," The Guardian, April 18, 2015, https://www. theguardian.com/commentisfree/2015/ apr/18/hugo-award-hijack-just-provesprogressives-right; Sian Cain, "George RR Martin: Rabid Puppies Are 'big Winners' in Hugo Shortlists." The Guardian, April 27, 2016, https://www. theguardian.com/books/2016/apr/27/ george-rr-martin-rabid-puppies-are-bigwinners-in-hugo-shortlists.

59. Darko Sulivan famously defined SF as a genre of "cognitive estrangement." Drawing on Bertolt Brecht, estrangement here means the "capacity for exploring the significantly different" Gregory Renault criticizes this definition as being prescriptive rather than a reflection of the actually-occurring SF. I am here expanding on Renault's critique to propose SF, written by the Other, as a way of reversing the logic of the force field. See Gregory Renault, "Science Fiction as Cognitive Estrangement: Darko Suvin and the Marxist Critique of Mass Culture," Discourse, 2 (1980), 113-41; Darko Suvin, Metamorphoses of Science

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- 62. The publication of anthologies has historically been an obstacle to the visibility of non-English speaking authors. Stoker refers to Harry Harrison and Brian Aldiss' tenure editing *The Year's Best Science Fiction* in which they famously "struggled" to find decent enough stories outside the United States and the United Kingdom. See Stover, *Anthropology*, 471.
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- 65. Ibid., 38.
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