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Darker and Darker Still:
Media-Technology, Darkness Narratives, and Fear

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in Comparative Literature

by

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by

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ABSTRACT

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This dissertation examines the relationship between select media-technological phenomena and historically configured narratives concerning darkness. Approaching said narratives through the work of Hans Blumenberg’s “metaphorology”, Friedrich Nietzsche’s conceptual paradigm, and Frederic Jameson’s concept of the “master narrative”, this project argues that darkness metaphors function as irreducible and fundamental blocks of meaning from which more complex narratives are built. This is informed principally by Blumenberg’s concept of the “absolute metaphor”, those being metaphors which serve to explain phenomena that evade empirical or logical deduction, such as evil, supernatural or metaphysical entities, and invisible threats, amongst others. From this, I argue that contemporary deployments of such darkness metaphors or their more complex narrative permutations link back to their nascent forms, thus imbuing their use with a trace of their early explanatory force. I examine four case studies in which darkness metaphors and narratives are used to describe or articulate different media-technological phenomena, namely the Dark Web, light pollution maps, numbers stations, and hypothetical nuclear EMP strikes. After identifying the operating darkness narrative for each, I offer historical and literary lineages in an attempt to locate the root source of these narratives, all in the service of

attempting to explain the particular sense of fear or anxiety associated with each of these case studies. In doing so, I identify unproductive or dangerous relationships with said media-technology that draw from the taproot of these darkness narratives, and then offer potential strategies to reevaluate and reconfigure these relationships into a more productive form.

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Introduction: Living in Shadow

Even absolute metaphors therefore have a history. They have a history in a more radical sense than concepts, for the historical transformation of a metaphor brings to light the metakinetics of the historical horizons of meaning and ways of seeing within which concepts undergo their modifications.¹

-Hans Blumenberg

On December 4, 2017, around 9:00 PM, I lost all power in my apartment. There was little to distinguish it from any other short-lasting power outage that one experiences from time to time, and I could only chuckle inwardly at the moment, having recently solidified my plans to write my dissertation, *this* dissertation, on technology and darkness. I decided to reach out to a colleague who lived closer to the UC Santa Barbara campus and ask if she too had lost power, only to find that I had no cell phone service at all, the first sign of the situation's exigency. I walked outside and was struck by precisely how dark it was, realizing in that moment that I could not remember the last time I had experienced a darkness so consuming and total. Making my way to the closest street intersection, I could faintly make out that this was not a localized fault of my apartment complex's electrical system: streetlights, traffic lights; all was pitch black, and I still lacked the means to reach out to anyone via phone call or internet. And so, I got into my car and headed to my colleague's apartment, at first to check in on whether or not she too was experiencing the same thing. It was as I noticed the lack of illumination on the freeway, something I had never seen occur in a blackout, that I too noticed a gnawing dread in my chest. I realized that I was no longer

¹ Blumenberg, Hans. *Paradigms for a Metaphorology*. Ithaca: Cornell University Press, 2010. 5.

going to my colleague's to simply ask if she had power, but was doing so because I distinctly did not want to be alone. I knew that this feeling was misplaced. I, as an adult, had no reason to be afraid of the dark: I slept in the dark, I mulled over work in the dark, I pulled the covers over my head on especially early mornings to keep myself in the dark for just a bit longer. As I arrived at my destination, only my headlights illuminating the route, I realized that I do not quite like darkness when I have no guarantee that it will cease on command, save the rising of the sun. My colleague and I exchanged pleasantries, and curiosity got the better of me, prompting me to drive southward as far as I could go before seeing a region with power. I did not find that point before turning around and heading back home, but on the way, I decided in a last-ditch effort to get a bird's eye view, driving up the Santa Barbara mountains as a means to peer out over the landscape. I could see a single area holding the line, a small group of streetlights illuminating a tiny stretch of a residential road in the distance. Everything else was as dark as the ocean that meets the city's shoreline. Something was very wrong.

For myself, and the residents of the Santa Barbara area, this was the first sign of the Thomas Fire, a devastating wildfire that consumed hundreds of thousands of acres, in turn becoming the largest fire in California's modern era. It started as the result of a power line fault in a plant run by Southern California Edison, the principle reason for the trenchant and widespread blackout that engulfed the surrounding areas.² It is not altogether that common for a power outage to also effect cellular service, but cell phone use remained greatly hampered throughout the night, almost certainly compounded by the amount of calls

² Weber, Christopher. "Report: power lines sparked massive California fire." apnews.com. <https://apnews.com/5b5695bb61ca44ad9079eba0f57cee77>. 13 Mar 2019

attempted during the time. The blackout would eventually stop with time, and the fire would be quelled after an agonizingly long burn, but in the early moments of its effects, the moments when I realized just how extended the blackout was, my mind experienced what amounts to a Proustian effect, dancing through memories I had of such scenes. It did not matter if I had directly experienced them or not: they just rushed forward with ferocity. I thought about Hurricane Maria and the endless blackouts the Puerto Rican people suffered only months earlier in 2017. I thought about growing up in Mountain View, California, right at the heart of the Enron scandal. I remembered how, during that time period, a rolling blackout hit our city while my family was in Target, and I remembered how it hit only weeks after the September 11th attacks on the World Trade Center. I remembered the customers inside screaming, sprinting towards the doors in fear that the blackout was the first sign of a terrorist attack, one on our neighborhood Target. I thought back through the little blackouts, the ones that were fixed within minutes, and still could feel the falling sensation from the pit of my stomach when the light vanished. I thought about how those times feel like I am in the start of my own horror movie. “What if,” I thought to myself, “an EMP strike hit the United States? What if this blackout right now were a taste of that, and how unprepared would I be to survive that unimaginable disaster? What would I do if we were suddenly at war?” Two days later, still in Santa Barbara proper, I struggled to pump gas into my car in between intermittent outages, standing at a Shell station helplessly with several of my fellow residents, ash raining at midnight; I passed out any extra masks I had to them, ones I had been so lucky to get at our local Home Depot before they ran out; I waited anxiously to fill my tank so that I could just get out of town, drive back to the Bay Area and see my mom; I waited for my chance to run. But no matter how hard I tried, the gas station could not get its

system operational, and I could not go home. I was *not* prepared, and as I learned, I was very, very afraid of the dark.

There is a minor trend in media theory to privilege moments of disconnection, to celebrate the places where the “network” falls to pieces. For example, the work of Ulises Ali Meijas critiques the inherent disparities of network access and how this inequality runs aground of network culture’s egalitarian principles.³ McKenzie Wark finds resonance in the phenomenology of wirelessness with a new form of embodiment, so that the myriad reconnections and *disconnections* so indicative of contemporary media culture can be transposed onto a new experiential paradigm.⁴ Where connections break away can be just as productive as where they are formed, allowing for novelty and modularity to take root. Hito Steyerl calls for a practice of withdrawal from a world of incessant images, done so as a means to shield oneself from an onslaught of targeted marketing and image manipulation.⁵ Her work speaks to a loosely knit post-digital subculture, theorizing and practicing disconnection as a holistic, regenerative project amidst a culture fueled by data collection and exploitation. These three make up a small sample of such a trend, but are representative nonetheless of its aims, as niche as they may seem. But they are not without reflection in the “real world”: wellness retreats away from technology, Apple’s “Screen Time” function monitoring phone usage and promoting healthy habits, Yondr pouches at concerts requiring attendees to surrender their phones at the door, both to curtail recording and promote

³ Meijas, Ulises Ali. *Off the Network: Disrupting the Digital World*. Minneapolis: University of Minnesota Press, 2013

⁴ Wark, McKenzie. *Wirelessness*. Chicago: University of Chicago Press, 2010.

⁵ Steyerl, Hito. “The Spam of the Earth: Withdrawal from Representation”. *e-flux*. Journal #32. Feb 2012

attentiveness. Disconnection is a goal, a practice towards a more authentic and healthier state of existence. And the work of the aforementioned theorists is critically significant across the board: network culture *does* engender unequal access, and data collection is wielded as an exploitative weapon with frightening efficacy, to date most dramatically displayed in the Cambridge Analytica scandal of 2018. In certain instances, disconnection can be a liberating and productive exercise, and the untethering of subject from technological object can lead to a sense of restored autonomy. In layman's terms, disconnection can free us.

There is a caveat to this claim, however. As my own anecdote shows, disconnection can also be smothering; it can entrap you and leave you adrift, lay existence bare and reveal weaknesses. Taken as a philosophical framework, it can serve as the groundwork for revolutionary practice, but it is not something to be applied universally, and this is a reality that I am sure these writers know in good faith. My original point of intervention for this project was to examine technological disconnection as a source of anxiety, and my aim was to pry into the particular affects of disconnection that lead to distress within the affected parties. As I developed this idea, what continued to capture my attention was the mitigating factor of darkness in these situations: blackouts, radio transmissions "going dark", the spider-web of "dark fiber" beneath the United States as a monument to the failed fiber-optic revolution⁶. My interest shifted away from exploring disconnection proper, and instead turned to the particular modality of darkness in media-technological culture. What I discovered was a relatively subterranean narrative history, wherein darkness is applied in such ways that extend beyond the typical associations with disconnection or system failure. For example, Eugene Thacker's essay "Dark Media" posits its titular subject as media that

⁶ For more on this parallel history, see: Hui-Hu, Tung. *A Prehistory of the Cloud*. Cambridge: MIT Press, 2015.

connect *too well*, opening up gateways to unknown realities or planes of existence and confronting their users with a unique type of horror.⁷ Further, one can see this inverted application of darkness in the term “dark web”, which signifies not a faulty network, but a fully functioning “shadow” network whose operations are perfectly solvent. As the first chapter of this dissertation will show, the term “dark web” is by no means a universally positive, or even neutral, nomenclature: its name conjures images for many of violence, illegality, and, frankly, evil.

Given that media and technology are colloquially taken to be tools of enlightenment or illumination (metaphorical or literal), my fascination takes root in the moments wherein the concept of darkness is affixed to certain media-technological phenomena. This dissertation will examine four case studies thereof, and it will principally explore the hermeneutic processes through which these phenomena are deigned fearful, dreadful, or unsettling. To establish my terms from the start, “darkness” will be applied liberally in certain cases, functioning metaphorically or symbolically within the parameters of its application. While two of the following chapters examine moments of darkness in its experiential, visible form (namely that of blackouts and visible dark zones on maps), the other two examine the dark web and numbers stations, the latter of which opens up the complex dynamics of “dark sound”, the former using darkness as a metaphorical proxy for secrecy and obscurity. The reasoning behind this motley selection extends beyond the simple link of darkness in each, and in actuality serves as the core thrust of this dissertation. I argue

⁷ Thacker, Eugene. “Dark Media”. *Exocommunication: Three Inquiries in Media and Mediation*. Chicago: University of Chicago Press, 2013.

I will take up this point with more detail in Chapter 3.

that despite the vast gulfs between these four examples, in concert they lend further support to the idea of a fundamental and unimpeachable narrative/metaphorical complex concerning darkness at a generative level. Their differences in scale and sensory domains find themselves drawn together through the hermeneutic application of darkness as an explanatory function. In an ironic twist, there is an attempt to render the phenomena in these case studies intelligible through the deployment of a metaphor closely associated with the unintelligible. I use “phenomena” here to indicate a complex of the object or event and the way that they are experienced, and by extension this includes the way in which these objects or events are “read”. Conditioned by “darkness”, they function as a sort of bizarre text, and as such are drawn into fundamental darkness metaphors that stretch back to Antiquity. Furthermore, their “betrayal” of the cultural assumption of technology as illuminating makes them particularly efficient vectors for the particular narrative of darkness as a frightening or dangerous force. As such, these cases take within them a particular permutation of the darkness narrative, and this allows them to be generative, in that they further propagate the originating metaphorical circumstances from which they took their shape. Through tracing onto these cases fundamental metaphors of darkness, they then become further steps into a larger darkness narrative, in turn bolstering and further affixing its persistent cultural relevance. Furthermore, this aspect also allows them to be approached hermeneutically, or, in other words, interpreted as textual objects, with concomitant historical traces and applications. In selecting “dark zones” within media-technological culture that inspire fear or dread, I also aim to approach the ways in which these particular affects disrupt the development of productive relationships with technology. They regenerate narratives of fear that, in certain cases, propagate deleterious effects. Finally, I put forth the claim that despite

these particular darkness narratives being linked to the greater genealogy of darkness narratives dating back to Antiquity, they reemerge into the media-technological sphere in surprisingly unadulterated fashion. As such, I will often turn to literature as a point of comparison, done so as a means to chart certain evolutionary strands of these narratives through their most resonant field of application: novels, poetry, etc. Where possible (and practical), I also will offer counternarratives or steps towards more productive relationships with these “dark zones” in an attempt to perhaps disarm especially pernicious aspects of these dominant narratives.

With the overall trajectory of this dissertation set up, for the remainder of this introduction I will develop the theoretical framework through which I arrived at this project’s formation. The first, and most significant, idea comes from Hans Blumenberg, whose work on “metaphorology” serves as the groundwork for my treatment of the darkness narrative. In his book *Paradigms for a Metaphorology*, Blumenberg attempts to establish a historical foundation for the relationship of metaphor to truth, ultimately arguing that metaphor’s perceived indexical failings perhaps could be read as its unique strength. He notes that in Antiquity:

The traditional classification of metaphor among the ornaments of public speech is hardly fortuitous: for antiquity, the logos was fundamentally adequate to the totality of what exists. Cosmos and logos were correlates. Metaphor is here deemed incapable of enriching the capacity of expressive means; it contributes only to the *effect* of a statement, the ‘punchiness’ with which it gets through to its political and forensic addresses.⁸

Consequently, the “proper” domain for the acquisition of truth was rigid philosophical examination and deductive reason. The poetics of metaphor found little room for their input

⁸ Blumenberg, Hans. *Paradigms for a Metaphorology*. Ithaca: Cornell University Press, 2010. 2.

outside of the aesthetic dimension, in this regard, and Blumenberg traces this provision all the way to Descartes' philosophical method.⁹ While possessing great utility in the domain of rhetoric, metaphors at best could only ever augment the impact of inferable concepts gleaned as the product of deductive reasoning: in other words, ideas that correspond directly to the terminology set out for them. Describing something as another thing only works to distance concept from reality in this case.

And yet, as in all assumedly “complete” systems, the aberrant radicals and glitches sing loudest. Blumenberg notes the existence of some particularly obstinate metaphors throughout the history of philosophy, seemingly the lowest reduction possible concerning a given relationship. Otherwise stated, these metaphors either form such a tight relationship with a given concept or prove so rich in conceptual connectivity that they themselves become integral components of the creation of concepts rather than simple adornments: “a catalytic sphere from which the universe of concepts continually renews itself”.¹⁰ Naming these phenomena “absolute metaphors”, Blumenberg further asserts that while, like all metaphors, these unique types still may not offer a direct apprehension of a truth, they still serve to fill voids created by existential questions or aporias with no discernable answer. He explains:

Metaphors are unable to satisfy the requirement that truth, by definition, be the result of a methodologically secure procedure of verification. They therefore not only fail to say ‘nothing but the truth’, they do not say anything truthful at all. Absolute metaphors ‘answer’ the supposedly naïve, in principle unanswerable questions whose relevance lies quite simply in the fact that they cannot be brushed aside, since we do not *pose* them ourselves but find them already *posed* in the ground of our existence. [...] By providing a point of orientation, the content of absolute metaphors determines a particular attitude

⁹ Blumenberg, Hans. *Paradigms for a Metaphorology*. Ithaca: Cornell University Press, 2010. 1.

¹⁰ *Ibid.* 4.

or conduct; they give structure to a world, representing the nonexperienceable, nonapprehensible totality of the real.¹¹

It is the final line of this excerpt that proves most bracing, as Blumenberg's claim that such absolute metaphors effectively structure the world on a representational level, and this imbues them with no less power than the "pure" elements of truth that they enjoin. They would have to be metaphors of such resilience that they serve as a generative font for concepts, by which I mean that the metaphorical relationship itself produces conceptual units or constants, similar to those used in mathematics or physics equations. For example, the association of darkness with evil (evil itself being notoriously undefinable through philosophical logic) becomes so ubiquitous that it calcifies into a replicable conceptual unit, a certain "type" of darkness that functions to signify "evil" with pronounced aptitude. This conceptual block (i.e. "evil darkness") then may serve as a composite unit in an evolving narrative of darkness and evil over time, evolving and being redeployed to serve the needs of cultural development or alteration. A particularly damaging example of this would be the association of darkness and evil being taken from its metaphysical function in Biblical parable and being transposed onto racist ideology of the 20th century. As such, if "darkness" serves as an *Ur*-metaphor, an "absolute metaphor" in Blumenbergian terms, then the resultant fragmentary concepts can be traced back to it along the lines of their evolution. Hence the quote which starts this introduction: absolute metaphor provides the "way of seeing" (or lens) through which concepts are created.

This play between "metaphor" and "concept" can be elucidated further by referring to a work to which Blumenberg almost certainly is responding with his "metaphorology", and

¹¹ Blumenberg, Hans. *Paradigms for a Metaphorology*. Ithaca: Cornell University Press, 2010. Pp. 14

that is Friedrich Nietzsche's "On Truth And Lying in a Non-Moral Sense." In this, Nietzsche critiques the human sovereignty of knowledge, questioning the ability of language to fully capture the truth or essence of a designated object. He writes, "We believe that when we speak of trees, colours, snow, and flowers, we have knowledge of the things themselves, and yet we possess only metaphors of things which in no way correspond to the original entities."¹² Familiar territory for 19th century philosophy, Nietzsche accepts the inability to know a "thing-in-itself", instead deploying metaphor as a means to best approximate the truth content of an object. But these metaphors are at the core artificial stopgaps, standing in for total knowledge on the part of humanity as a whole. This is a significantly less forgiving view than Blumenberg's, the latter of whom appears to acknowledge the ability of deductive reason and sciences to truly grasp worldly phenomena, with absolute metaphor operating only at the limits of these fields. Nevertheless, Nietzsche presses on to claim that "each word immediately becomes a concept", an admittedly confusing turnaround as it quite closely follows his earlier pronouncement of all language as metaphor.¹³ He elaborates that when a word is spoken into existence, it always will be modified into a designation that can be taken as representative of a unified group rather than necessitate rearticulating each unique instance of a phenomenon. Put more simply, he uses the example of the word "leaf", which can be used to indicate an individual leaf *or* represent the concept of leaf in general.¹⁴ Through the development and combination of concepts, human beings thus form a consistent system of truth that explains the outside world. Furthermore, this removes the need to develop

¹² Nietzsche, Friedrich. "On Truth and Lying in a Non-Moral Sense." *The Birth of Tragedy and Other Writings*. Cambridge: Cambridge University Press, 1999. 144.

¹³ *Ibid.* 145.

¹⁴ *Ibid.* 145.

metaphors for each instance of a phenomenon, thus dropping the need for a type of “truth-poetics” (a significant point of despair for him.) Nietzsche writes:

What then is truth? A mobile army of metaphors, metonymies, anthropomorphisms, in short a sum of human relations which have been subjected to poetic intensification, translation, and decoration, and which, after they have been in use for a long time, strike a people as firmly established, canonical, and binding; truths are illusions of which we have forgotten that they are illusions, metaphors which have become worn by frequent use and have lost all sensuous vigor, coins which having lost their stamp, are now regarded as metal and no longer coins.¹⁵

In relying on concepts to build a network of truth, humans lose not only the ability to recognize truth as an artistic creation, but also risk losing the ability to see *oneself* as artistically creative.¹⁶ Concepts, themselves “the left-over *residue of a metaphor*”¹⁷ are stacked into what Nietzsche famously calls a “Roman *columbarium*”.¹⁸ What is meant to be a monument to human knowledge is instead a vast mausoleum of dead metaphors, an epitaph for human creativity.

The danger, for Nietzsche, is what then follows over the span of centuries, and his remarks on this are critical for my own argumentative aims. He writes:

Even a relation of a nervous stimulation to the image produced thereby is inherently not a necessary relationship; but when that same image has been produced millions of times and has been passed down through many generations of humanity, indeed eventually appears in the whole of humanity as a consequence of the same occasion, it finally acquires the same significance for all human beings, as if it were the only necessary image and as if that relation of the original nervous stimulus to the image produced were

¹⁵ Nietzsche, Friedrich. “On Truth and Lying in a Non-Moral Sense.” *The Birth of Tragedy and Other Writings*. Cambridge: Cambridge University Press, 1999. 146.

¹⁶ *Ibid.* 148.

¹⁷ *Ibid.* 147.

¹⁸ *Ibid.* 147.

a relation of strict causality – in exactly the same way as a dream, if repeated eternally, would be felt and judged entirely as reality.¹⁹

Taking his opaque phrasing of nervous stimulations and images to mean the sensory experience of a phenomenon and the word/description/thought/metaphor/concept used to explain it, Nietzsche quite adeptly summarizes the manner through which such associations reify and crystallize into replicable patterns. As a concept or, more accurately, conceptual relationship repeats itself, it assumes the form of the *only* plausible conceptual relationship between a phenomenon and its meaning. For a practical example, as darkness is associated with danger time and time again over the course of humanity, the conceptual complex of darkness and danger takes the form of a given relationship, and it loses its sense of artifice or “created-ness.” Granted, the dark does contain unique dangers: predators hunt at nighttime, activity is less easy to see, one can even trip and fall down. In this sense, the link between darkness and a sense of fear can be explained in biological or evolutionary terms. However, Nietzsche would question the nature of the systems of biology or evolutionary sciences in the grand scheme of truth, and I pose the following wrinkle: what rationally explainable reason exists for the association of darkness and evil?

To find some middle ground between Blumenberg and Nietzsche, Blumenberg rehabilitates the desiccated metaphor of Nietzsche’s argument and finds a home for it in such instances. Metaphor may still persist in a world of concepts, but it only holds shape for cases in which the metaphor is used to capture that which is difficult to conceptualize on its own: something such as “evil.”²⁰ However, as Nietzsche suggests, this does not preclude the

¹⁹ Nietzsche, Friedrich. “On Truth and Lying in a Non-Moral Sense.” *The Birth of Tragedy and Other Writings*. Cambridge: Cambridge University Press, 1999. 149.

²⁰ Granted, one could quite succinctly define evil as “That which is not good”. Of course, all one must ask then is “What is good?” to then ignite a millennium of philosophical inquiry.

human tendency to repeat these absolute metaphorical relationships *as if they were replicable concepts*. Hence my earlier point: these quasi-concepts are taken as givens and can be traced onto a multitude of objects or phenomena, dragging along with them age-old metaphorical histories that (either consciously or subconsciously) condition the response to these phenomena from the start. I argue that this set of operations create and/or contribute to a narrative history, changing over time and producing a chartable trajectory of evolution not unlike the development of a literary trope over time, or even the plot of a novel. Media and technological objects are by no means exempt from this process, and as such form the grounds for this dissertation.

I turn to more concrete examples here to further elaborate on this point. The first absolute metaphor that Blumenberg identifies is “light.” He summarizes this claim quite succinctly, as follows:

If, however, we pursue the history of the metaphor most closely linked to the problem of truth, the metaphor of *light*, the question [“What is truth?”] explicates itself in a concealed plenitude never yet hazarded by any system. The metaphors of light cannot be translated back into concepts: analysis seeks to disclose the questions to which answers are sought and risked, questions of a presystematic nature whose intentional fullness ‘provoked’ the metaphors as it were.²¹

Essentially put, the question of what truth is in itself proves so vast that it proves functionally unanswerable on the terms of consensus. Certainly, there are and have been myriad answers to the question ‘What is truth?’, but it still resists any sort of systematic pinpointing that proves universally satisfactory. In such a case, an absolute metaphor such as “light” steps in as if it were summoned to fill this gap, and it does so in such a way that it allows for such

²¹ Blumenberg, Hans. “Light as a Metaphor for Truth”. *Modernity and the Hegemony of Vision*. Edited by David Michael Levin. Berkeley: University of California Press, 1993. 7.

discussion to even happen in the first place. In other words, light in some cases offers a grammar through which truth can be articulated prior to any attempted schematization or categorization. Due to its attractive simplicity, “light as truth” thus repeats over time and enters into the cultural consciousness as a useful conceptual relationship.

Again, what signifies the ascension of a metaphor into the realm of the absolute, for Blumenberg, is when it gains a history, i.e. a pattern of usages so consistent that it functions as a truncated but no less fascinating summation concerning both the function of light as a metaphor as well as the means through which it is historically engendered. I cite the following in full:

Light can be a directed beam, a guiding beacon in the dark, an advancing dethronement of darkness, but also a dazzling super-abundance, as well as an indefinite, omnipresent brightness containing all: the ‘letting-appear’ that does not itself appear, the inaccessible accessibility of things. Light and darkness can represent the absolute metaphysical counterforces that exclude each other and yet bring the world-constellation into existence. Or, light is the absolute power of Being, which reveals the paltriness of the dark, which can no longer exist once light has come into existence. Light is intrusive; in its abundance, it creates the overwhelming, conspicuous clarity with which the true “comes forth”; it forcibly acquires the irrevocability of Spirit’s consent. Light remains what it is while letting the infinite participate in it; it is consumption without loss. Light produces space, distance, orientation, calm contemplation; it is the gift that makes no demands, the illumination capable of conquering without force.²²

The accumulation of such readings over time coupled with a discernible homogeneity of readings gives the absolute metaphor its force, and in turn the ability to be used as a concept. Deriving the following from Blumenberg’s analysis, light is power, it is consuming and radiating, and it operates via revelation, destruction, and purification. In action one can see

²² Blumenberg, Hans. “Light as a Metaphor for Truth”. *Modernity and the Hegemony of Vision*. Edited by David Michael Levin. Berkeley: University of California Press, 1993. 31.

how the metaphor assumes the illusion of a concept here, as it can be discussed and defined in a similar manner. Thus, over time, light as metaphor lapses into light as pseudo-index, and its own historical trajectory weaves into the fabric of its meaning over decades and centuries.

However, what stands out to me in this excerpt is the emergence of darkness, peeking out from behind light's metaphorical force. Blumenberg himself notes that the two effectively must always be entwined, light and darkness serving as "metaphysical counterforces." His implication here is, of course, that darkness functions as an absolute metaphor of its own. In the same article, he offers claims such as, "Darkness is unable to bring about [the congruence of reality and perception]; it is ontically and ontologically impotent"²³, or that darkness generally serves as a "vanquished emptiness."²⁴ He does also acknowledge that darkness can sometimes in fact serve as a productive force, but his historical framing provokes some questions. Citing Novalis, he states:

Here, the light of the diurnal world signifies limitation and unfreedom through its association with the finitude of a gaze that it is bound to and determined by material things, whereas the dark of the night signifies the diminishment of material determination, which makes it possible for the horizonless entirety of Being to be affectively present as a unity.²⁵

While I do, in fact, agree with his reading here, that darkness ultimately contains a productive potential inaccessible to light, he frames this claim as follows: "There is yet another, extreme form that this metaphor can take, one that can be asserted only after "darkness" has gained a positive value, as in the Romantic concept of night and darkness."²⁶ I find the scope of this

²³ Blumenberg, Hans. "Light as a Metaphor for Truth". *Modernity and the Hegemony of Vision*. Edited by David Michael Levin. Berkeley: University of California Press, 1993. 33.

²⁴ *Ibid.* 36.

²⁵ *Ibid.* 46.

²⁶ *Ibid.* 46.

claim puzzling in what appears to be an overly strict limitation. In claiming that darkness transitioned to a symbol of productive and unrestricted change or growth only after the Romantic period, it would seem as if Blumenberg does not account for the fact that darkness frequently serves as a generative font in creation myths. This would position this particular use of the darkness metaphor (or reading thereof) at the dawn of narrative formations rather than as a comparatively new development. Furthermore, it reinforces certain immutable characteristics of the darkness metaphor, reinforcing its “absoluteness” beyond even the scope of Blumenberg’s own analysis on the matter. Simply put, darkness as a productive force far predates the age of Novalis, stretching back to the primordial gods of Greek mythology, namely Nyx and Erebus.

These two gods—particularly the latter—prove quite difficult at times to define, directly appearing in only a handful of mythological sources, if any at all. What is certain is that these two gods both served as representations of darkness, with Nyx developing into a feminized metaphorical construct for night, indicated by one such euphemistic instance at the start of Hesiod’s *Theogony*, one of the few written Classical sources to make direct reference to both deities²⁷. Erebus, however, proves a greater interpretive challenge, possibly because his name shared the same meaning as a semiotic marker of darkness *in general*. Nanno Marinatos addresses this confusion in his essay “Light and Darkness and Archaic Greek Cosmography”, in which he notes that not only Hesiod but also Homer makes reference to *erebos* as a location, a darkness into which people are cast upon death or from which they

²⁷ Hesiod. *Theogony and Works and Days*. Evanston: Northwestern University Press, 2017. 9.

arise to speak directly to Odysseus, respectively.²⁸ That said, Hesiod explicitly makes reference to Erebus as a deity in itself, the sibling of Nyx, no less. He writes, “Chaos whelped Erebus and blackest Night./Out of Night were born Aither and Day,/Conceived in clasping love with Erebus.”²⁹ While I will return this later on, it is worth noting the inversion here regarding day as being birthed by the coupling of twinned darkness. Erebus appears to be a darkness of a similar metaphorical register than Nyx, something likewise argued by Marinatos, “[Erebus] is clearly distinguished from Nyx, its sister and consort. Erebus, then, may be defined as primeval perpetual darkness as is also Nyx, although the latter is female and gives birth to day.”³⁰ I assert that the definition is, once again, *similar*, but that one cannot describe them as the same due to the far greater implications of Nyx’s multiple births than Marinatos appears to acknowledge.

Indeed, Blumenberg’s very bifurcation of darkness into two registers (that of pure emptiness, diametrically opposed to cleansing light, versus darkness as productive and liberating in terms of the imaginary) appears to function within this singular moment in Greek cosmology. Whereas Erebus functions as an all-consuming and treacherous darkness, Nyx quite literally produces new phenomena, most notably a metaphorical surrogate for light itself. The implications here are fascinating: in this generative moment, wherein darkness and light perhaps take their first step towards forming the history indicative of an absolute metaphor, it is darkness that precedes light, giving it shape and form before introducing it

²⁸ Marinatos, Nanno. “Light and Darkness and Archaic Greek Cosmography”. *Light and Darkness in Ancient Greek Myth and Religion*. Edited by Menelaos Christopoulos, Efimia D. Karakantza, & Olga Levaniouk. Lanham: Lexington Books, 2010. 198.

²⁹ Hesiod. *Theogony and Works and Days*. Evanston: Northwestern University Press, 2017. 17.

³⁰ Marinatos, Nanno. “Light and Darkness and Archaic Greek Cosmography”. *Light and Darkness in Ancient Greek Myth and Religion*. Edited by Menelaos Christopoulos, Efimia D. Karakantza, & Olga Levaniouk. Lanham: Lexington Books, 2010. 198.

into the world. Fascinating, but perhaps unsurprising, as a plethora of mythological or religious cosmology begin with a void out of which creation arises: a blank canvas for a designer's vision. But even still, Hesiod denotes both Erebus and Nyx as first order creations, appearing out of an even more primeval void in the form of Chaos. Whether or not this implies that both Erebus and Nyx are of higher levels of orderliness is an interesting, if not wandering, question. My point here is that in this instance, Nyx represents a darkness that functionally emulates Novalis's poetic claim: a font of imagination divorced from material sensibility, and a darkness out of which the concept of order is abstracted.

This is of course *not* a darkness, akin to Erebus, that threatens to consume all light or, more stereotypically, be eradicated by it. In fact, Hesiod depicts Nyx/Night and Day as two aspects of a synergistic cycle, writing:

Unfaltering, there where Night and Day draw near to one another,
Nodding as they trade places across the great threshold
Of bronze. When one ducks inside the door, the other leaves;
Never does the ceiling shelter both within,
But every time one ventures from the house
To circle over the earth, the other stays at home.³¹

A rhetoric of eradication or purification holds no place in this cycle, depicting day and night—light and darkness—in close proximity but never encroaching upon the other. The metaphorically combative³² interaction of light and dark, one that Blumenberg sees as

³¹ Hesiod. *Theogony and Works and Days*. Evanston: Northwestern University Press, 2017. 53.

³² Interestingly, the relationship between Nyx and her offspring, Day, may itself be a progression from the bellicose aspect between the two. Early Egyptian mythology makes reference to a chaos god, Apep, whose principle identity is that he stood diametrically opposed to the god of order,

emblematic to the progression of philosophy (most notably in the Enlightenment), seems inelegant in light of this system, wherein the dark inhabits a harmonious relationship within the order of existence rather than acting as a consuming void that threatens to rend it asunder. But one must stop short of falsely portraying Nyx/Night as benign or beloved in this regard, as this is explicitly disproven within the same text. Hesiod gives Nyx the epithet “doomful”³³ before describe two more of her children, Hypnos and Thanatos, gods of sleep and death, respectively.

He writes:

There the children of blackest Night keep chambers:
Hypnos and Thanatos, dreadful divines. Never upon them
The radiant sun gazes with his rays,
Neither mounting to heaven nor sinking down the sky.
Of the brothers the former wanders over the land
And the sea’s broad back, gentle and soothing to mortals.
But the other’s heart is iron, and merciless
In his chest his spirit of brass. Whom once he snatches,
He grips that one fast. Detested is he by the deathless gods.³⁴

Characterizing sleep and death as aspects of the dark, Hesiod is clear to note that these figures are ones that light cannot even affect. They are two metaphorical functions that cannot be purged or eradicated in the terms of Enlightenment rhetoric, nor can they be substituted for a sense of “truthlessness.” Indeed, sleep and death remain unknowable for the

³³ Hesiod. *Theogony and Works and Days*. Evanston: Northwestern University Press, 2017. 53.

³⁴ *Ibid.* 53-54

subject, as by the nature of their action, consciousness is either momentarily or permanently lost. But these two concepts are real and definable states. No metaphor of light holds force here, it being depicted as powerless, and this is a direct inversion of “ontological impotency,” as Blumenberg puts it. If anything, the unknowability of these particular descendants of darkness, their ability to transform and produce change within the shadows (something perhaps inherited from their own mother’s fertile nature) is precisely what instills them with a sense of dread (or in the case of death, detestation).

Taking darkness to be an absolute metaphor in line with Blumenberg’s definition, I argue that darkness as a productive or positive function is not in fact an extreme or exceptional form thereof, and certainly not one that finds its inception as recently as Novalis. Rather, darkness as an absolute metaphor for unknowable and unchecked production or change is *fundamental* to its internal consistency. Furthermore, darkness’s role in a hermeneutic network that links such productivity with chaos or total unknowability (i.e. Blumenberg’s “primary” reading of darkness), inspires a large portion of its associated fear. While this is not to argue that darkness stands as anathema to the liberating or imaginative principle articulated by Novalis, I do assert that obscured productive potential of darkness is one of its greatest sources of anxiety, perhaps even more than simple obscurity. Put more colloquially, it is not the unknown that inspires fear, but what the unknown could be doing in the dark, away from any illumination. However, productivity is by no means the only source of aversion or fear. In his book *From Light to Dark: Daylight, Illumination, and Gloom*, Tim Edensor charts the fear of darkness into medieval times and beyond, referring to it as

“nyctophobia.”³⁵ He writes, “In medieval times, besides the evident threats it posed to health and safety, darkness was the occasion for all manner of invisible, spectral, ungodly forces to emerge, negative associations that continue to linger across Western popular culture.”³⁶ Detailing the connection of nighttime with paganism and Satan, Edensor notes that darkness was a realm in which all evil could run amok, representing the very sense of baneful productivity articulated above.³⁷ He then goes on to chart a wide variety of such negative associations, both religious and secular. These include the coopting of religious conceptions of light and darkness by the Enlightenment’s rational goals, the myth of Africa as a “Dark Continent” (a history I will cover in detail in Chapter 2), the association of dark alleys and slums with criminality, and even the Dark Ages themselves as a symbol of regression.³⁸ He notes that, “criminal activities, sedition, political opposition, illicit romances, subcultural practices, urban exploration, flyer posting, and graffiti writing typically take place under cover of darkness,”³⁹ and cites Bryan Palmer’s reading of darkness as a site of transgression.⁴⁰

What I find compelling about this spread of references is that it is quite difficult to find a unifying principle underpinning the use of darkness as a negative force. Some deal with productivity and illicit activity, others imply regression or ignorance, and others with the potential for violence and/or death (flyer posting and urban exploration notwithstanding). In the wide breadth of this historical survey, darkness is “bad”, something to be avoided if

³⁵ Edensor, Tim. *From Light to Dark: Daylight, Illumination, and Gloom*. Minneapolis: University of Minnesota Press, 2017. 167.

³⁶ *Ibid.* 167.

³⁷ *Ibid.* 167-168.

³⁸ *Ibid.* 168-169.

³⁹ *Ibid.* 172.

⁴⁰ *Ibid.* 172.

not outright purged from existence. Edensor is acutely aware of this effect as well. Drawing the following conclusion from the variety of responses to electrical blackouts, he writes, “The examples of blackouts highlight how darkness is not essentially neutral, positive, or negative: its power depends on the temporal and spatial contexts in which it is experienced.”⁴¹ Indeed, Edensor spends great lengths to articulate historically positive associations with darkness, forming a narrative or conceptual history of their own. This history includes (but is not limited to) romantic activities, meditative practices, family gatherings, and even the most obvious of all: a good night’s sleep.⁴² For that matter, this is an analytic trajectory shared by Elisabeth Bromfen, whose book *Night Passages* examines a similar positive evolution in written or visual accounts of darkness.⁴³ Notably, Edensor’s book focuses predominately on the historical evolution of artificial illumination as well as its reconfiguring force on the cultural conceptions of darkness all the more. As darkness shrinks away from public places, so too does the experience of darkness morph in suit. To connect back to his comment on blackouts, the very concept of an electrical blackout cannot exist prior to the development of electricity or, more importantly, the lightbulb. As he argues, artificial illumination is largely taken for granted by this point, and the titanic ramifications of its invention are “an ordinary miracle we no longer acknowledge.”⁴⁴ Nevertheless, even if experienced passively through force of habit, I agree with Edensor’s claims that both light and dark “shape our everyday worlds”, and that “the atmospheres through which we

⁴¹ Edensor, Tim. *From Light to Dark: Daylight, Illumination, and Gloom*. Minneapolis: University of Minnesota Press, 2017. 179.

⁴² *Ibid.* 170-171.

⁴³ Bromfen, Elisabeth. *Night Passages: Philosophy, Literature, and Film*. New York: Columbia University Press, 2013.

⁴⁴ Edensor, Tim. *From Light to Dark: Daylight, Illumination, and Gloom*. Minneapolis: University of Minnesota Press, 2017. viii.

continuously move are cooked by levels of darkness and light, foregrounding their more than representational attributes.”⁴⁵ While his work pays significant attention to the effect of light and darkness on space and its cognitive representations, my intervention is that the very narrative processes that give shape to the reception of such spaces can be deployed into even more unique and quizzical objects or events.

However, the main point I wish to make here in referencing Edensor’s work is twofold: Firstly, through this wide breadth of references one can see verification of Blumenberg’s (and by extension, Nietzsche’s) thought, that the absolute metaphor of darkness serves as a creative font for conceptual relationships of *both* positive and negative forms. Secondly, I also wish to situate myself into the burgeoning and critical conversation regarding these fundamental metaphors. In part, Edensor wishes to find a way to rehabilitate darkness, or at the least propose a means to restore more of its positive associations in a world growing ever brighter with artificial illumination. Further, he spends the first two thirds of his book examining the creative potentials of light and illumination both in terms of geographic/spatial planning and artistic fields. I will offer little in the way of considering light or illumination in this dissertation, save my second chapter on light pollution maps. My principle aim is to chart the manner in which some of these narrative configurations find new homes in the some of the unlikeliest of media-technological phenomena, and I consider here *both* the object or event itself as well as the interpretations thereof. It is a complex position to navigate, but a crucial one, as the resonant “dark” qualities of the following case studies both fuel and are created by cultural reception and interpretation. In the same vein, there is an

⁴⁵ Edensor, Tim. *From Light to Dark: Daylight, Illumination, and Gloom*. Minneapolis: University of Minnesota Press, 2017. ix-x.

inherent slippage to the use of terms “metaphor” and “narrative” here as well. To elaborate, as the previous examples indicate, the metaphorical deployments of darkness are often far more complex and elaborate than one may expect. If fundamental metaphors of darkness lead to more complex and nested usages within cultural narratives over time, I take as fundamental that the complexity of these narratives can quite readily be absorbed into the continued transmission of these metaphors over time. As I make clear in my conclusion, in which I invoke Frederic Jameson’s work on narrative and political unconscious, the lines between Blumenberg’s “absolute metaphor”, Nietzsche’s “concept”, and Jameson’s “master narrative” begin to blur, as the three orbit the same interpretive process. That said, there is in all likelihood a rich conversation to be found within the liminal differences of these terms as they are used by these three thinkers, and it perhaps would serve as the springboard for a continued analysis of the central issue put forth in this dissertation.

As mentioned earlier, two of the following case studies concern phenomena that are “dark” in metaphorical terms *only*, possessing no visual component of darkness whatsoever. My own ultimate goal for each case study that follows (the Dark Web, light pollution maps, numbers stations, and EMPs) is to decipher and identify the narrative genealogy (or genealogies) of darkness that clandestinely informs the cultural responses to each of these cases, and in doing so identify the particular timbre of fear for each. I then will demonstrate this genealogy (in part) by way of literary or cultural examples that provide a diachronic view of the conceptual evolution of the darkness narrative at play. I do this mainly for two reasons: First, situating the following media-technological phenomena within a greater narrative history resists the seductive lure of ascribing to these phenomena a false sense of total incomparability. In discussing the more destructive of these cases (namely EMPs but to

a lesser extent the Dark Web) as unique in their global effects, there is a real risk of paralysis in terms of addressing strategies of protection or the management of anxiety and fear. By locating these cases within a greater narrative history, I hold that the manner through which these phenomena are experienced and interpreted can be shifted in such a way that they possess less in the way of disturbing force. In short, if one can dig up the roots of fear, the less chance it has of sprouting back. For the second reason, I am before all things a literary scholar: it is the domain in which I have been trained and have cut my teeth until this very point. If these phenomena are interpreted and inscribed in narrative terms by the public, then so too may they be read as cultural texts. And if they may indeed be read as cultural texts, then it stands to reason that they resonate with the same narrative force as literature in the broadest sense. While my conclusion will treat the following quote with more detail, I preempt it by citing Frederic Jameson here: “I take [narrative] to be the central function or *instance* of the human mind.”⁴⁶ I find this claim to be fundamental to my own scholarly aims, and as such the bridging of literature to these case studies is only natural for me. Finally, I do not wish to rehabilitate the positive aspects of darkness in these situations so much as I wish to deconstruct some of conceptual relationships between particular narratives of darkness and their associated media-technological objects. In three of the following cases, I argue that these associations promote unproductive, if not outright dangerous relationships with these particular phenomena, risking stunting the growth of functional anti-surveillant communication, perpetuating trenchant racist stereotypes, and in the last case, embracing a potential apocalypse as just recompense. This dissertation as whole then puts forth the following question: are some of these “dark” media-technological phenomena *less*

⁴⁶ Jameson, Frederic. *The Political Unconscious*. Ithaca, New York: Cornell University Press, 1981. 13.

destructive than the fear or panic that their narrative associations engender? If this is in fact the case, to what degree are these narrative associations damaging, and are there productive steps that one could take to reconfigure their conceptual relationships therewith? Crucially, barring the examination of Japan in the final chapter of this dissertation, I must note that this analysis draws much of its force from primary research in the Western cultural domain, namely the United States and Europe. While darkness has a universal timbre, there are still cultural variants based on cultural context and time periods. Secondly, the focus of this dissertation on narrative construction goes hand in hand with cultural interpretation, and this latter factor plays a significant role in determining the lens through which these phenomena are experienced. As such, it bears noting the boundaries to my research and the inherent limitations thereof. While I have made fleeting references to the chapters up until this point, I offer a detailed outline of them below.

Chapter 1 focuses on the Dark Web, a segmented off portion of the Deep Web solely accessible through the use of the TOR browser. I will examine the way in which its cultural perception both invites the very kind of disturbing content that further reinforces its “dark” status. Following this, I will examine two prominent works of non-fiction concerning the dark web and discuss the efficacy with which they attempt a demythologization of the network’s “darkness”. I will then offer a brief history of “shadow networks” across literary history as a means to offer a subterranean conceptual history that may lend support to the reinforcement of the Dark Web’s macabre fascination. Finally, I will put forth a small sample of hidden service websites that defy the darkness narrative associated with the dark web, one of illicit activity and unchecked production, all in hopes of dispelling (in part) the notion that the dark web exists solely for criminality and is thus a tainted configuration at the core. The

Dark Web's sordid reputation frequently precedes it, distorting its original egalitarian aims of free discourse. My argument is that this very reputation not only fuels itself, but also helps condition the Dark Web to foster the very kind of illicit behavior so associated with it due in part to this narrative history.

Chapter 2 turns to light pollution maps, specifically satellite photography that reveals wide swaths of darkness around the globe. I will examine the ways in which such photography has been used to reinforce the darkness narrative of regression, focusing principally on North Korea and the African continent. After developing a theoretical framework to complicate the notion of photographic (and cartographic) objectivity, principally by way of Edward Soja and Franco Moretti amongst others, I will further discuss the manner in which these depictions of Africa join with the narrative history of the "Dark Continent," turning to colonial literature as a means to uncover a trajectory that extends into the contemporary moment. Beyond the immediate connection to a racist history, these maps risk propagating and rejuvenating a culturally conditioned view of these "dark" regions as dangerous and derelict. My goal is to expose the threads of this history so as to make clear the narrative forces at work behind such images, all in the service of disrupting this trenchant metaphorical association.

Chapter 3 focuses on the perplexing phenomenon of numbers stations, mysterious transmissions that contain long strings of numbers read by synthesized voices. Publicly accessible by all shortwave radio owners and long considered to be spy transmissions, numbers stations serve as a means to approach the concept of "dark sound," which I take to mean aural phenomena that inspire fear through means both inexplicable or easily

identifiable. As numbers stations fall squarely into the former, I will approach their unique uncanniness through the theoretical lenses of Eugene Thacker's concept of the World-Without-Us and Roland Barthes work on the "genovoice," a pre-signifying vocal utterance that communicates tangible human presence. I will also place numbers stations into a longer history of "spectral radio" by way of the archival work of Jeffrey Sconce, arguing that numbers stations fit into the narrative history of the radio opening up to a "dark" paranormal realm. While numbers stations appear on the surface to be a niche trifle, they nevertheless demonstrate the transversal power of darkness narratives, and as such demonstrate a unique application thereof. Of particular interest is the manner through which these stations are "read" both by aficionados and passers-by, offering a "real-world" example of the very kind of cultural textual analysis at play in this dissertation as a whole.

Finally, Chapter 4 will examine the theoretical phenomenon of a weaponized EMP strike, an event with the distinct capacity for global catastrophe if not outright destruction. After detailing the implications of an EMP strike for both the United States and Japan, both of which were recently threatened with such a strike by the North Korean government, I will first examine the official responses to the threat on the part of both countries, followed by three depictions of an EMP strike in popular media, specifically a film, video game, and anime series. In these responses I locate a distinct rhetorical similarity to myths concerning darkness plagues, specifically those of the Christian Bible. I argue that the connection to this narrative history betrays a dangerously eschatological attitude, one that views an EMP as a divine punishment, earned through the sin of overreliance on technology. This imbues the darkness of EMPs with a purgative force, and as such reveals an unsettling reflection of the death drive within this particular conceptual relationship.

Chapter 1: Into the Abyss: The Narrative Construction of a “Dark” Web

1. Intro – A Selection of Portraits

In late August of 2017, a series of setbacks befell the white nationalist/neo-Nazi website *The Daily Stormer*. Spearheaded by avowed white nationalist Andrew Anglin, the website unifies once disparate strains of far-right extremist thought under the banner of a shotgun radius approach to racism and discriminatory rhetoric, aiming its sights at women, the LGBTQ community, people of color, and most explicitly Jewish individuals with a scorched earth philosophy of total rejection. Peppered with inflammatory slurs and references to genocide, the frontpage of the website nonetheless claims that:

We here at the Daily Stormer are opposed to violence. We seek revolution through the education of the masses. When the information is available to the people, systemic change will be inevitable and unavoidable. Anyone suggesting or promoting violence in the comments section will be immediately banned, permanently.⁴⁷

Legitimacy of this claim to disciplinary action aside, the statement was (and still is) not without some truth, as the website was indeed freely available to the people. Hosted by domain registry company GoDaddy, *The Daily Stormer* held a comfortably transparent position on the surface web for several years despite facing a veritable assault of fiery criticism and calls for its immediate deletion on the part of the public. Under the aegis of free speech, Anglin’s noxious hatred found its platform, drawing in readers at a steady rate.

This period would come to a swift end shortly after the tragic events that occurred during the Unite the Right rally in Charlottesville, Virginia on August 12th, 2017, in which

⁴⁷ *The Daily Stormer*. www.dailystormer.name. 14 Aug 2017

James Alex Fields Jr. drove a car into a crowd of counter-protesters in a fit of rage. One of these people, Heather Heyer, died on site from her injuries.⁴⁸ Wasting little time, *The Daily Stormer* ran a post celebrating Heyer's death, claiming that "most people are glad that she is dead,"⁴⁹ amongst a myriad of degrading insults to her appearance and "social worth". The backlash was swift, with so many decrying the post that GoDaddy finally buckled and removed the website from its hosting. Shortly thereafter, *The Daily Stormer* had a brief period of revival on Google, only to be promptly dropped again, all under the justification that the post in particular unveiled the website's potential as an incitement to violence, a claim that even its disclaimer finally could no longer dispel.⁵⁰ After a similar sequence of rejection from several domains, the site finally found a home on the deep web⁵¹, with several news articles referring to this move as a "retreat"⁵² or, more colorfully, a move to the "shadows"⁵³. Despite its tacit permission, the move prompted a notably passionate response from The Tor Project itself, creators of the very routing system that effectively cordons off,

⁴⁸ Hart, Benjamin & Chas Danner. "3 Dead and Dozens Injured After Violent White-Nationalist Rally in Virginia". *Daily Intelligencer*. <http://nymag.com/daily/intelligencer/2017/08/state-of-emergency-in-va-after-white-nationalist-rally.html> 13 Aug 2017.

⁴⁹ Mettler, Katie and Avi Selk. "GoDaddy – then Google – ban neo-Nazi site Daily Stormer for disparaging Charlottesville victim". *Washington Post*. https://www.washingtonpost.com/news/morning-mix/wp/2017/08/14/godaddy-bans-neo-nazi-site-daily-stormer-for-disparaging-woman-killed-at-charlottesville-rally/?noredirect=on&utm_term=.66c23ade46b6 14 Aug. 2017.

⁵⁰ *Ibid.*

⁵¹ The semantic difference (or lack thereof) between "deep web", "dark web", and "dark net" will be addressed in its own section in due time, as it is a more critical differentiation than appears at first blush, and yet one that is frequently disregarded by many writers. Until that point in this chapter arrives, I refer to any mention of its permutations as the "dark web" for the sake of consistency.

⁵² Biggs, Josh. "Daily Stormer has officially retreated to the dark web". *TechCrunch*. <https://techcrunch.com/2017/08/24/daily-stormer-has-officially-retreated-to-the-dark-web/> 24 Aug 2017.

⁵³ Lieberman, Eric. "How the Daily Stormer went from GoDaddy to the shadows of the dark web." *Daily Caller*. <http://dailycaller.com/2017/08/19/how-the-daily-stormer-went-from-godaddy-to-the-shadows-of-the-dark-web/> 19 Aug 2017.

structures, and allows access to a designated section of the dark web. In this statement, the admin Steph stated:

We are disgusted, angered, and appalled by everything these racists stand for and do. We feel this way any time the Tor network and software are used for vile purposes. But we can't build free and open source tools that protect journalists, human rights activists, and ordinary people around the world if we also control who uses those tools. Tor is designed to defend human rights and privacy by preventing anyone from censoring things, even us.⁵⁴

While the philosophical and critical utility of this statement is more than apparent, such considerations will wait for the time being. What is, however, noteworthy is that what effectively occurred here was a guardian of the aforementioned “shadows” announcing their revulsion to one of its own denizens, tantamount to Hades retching in disgust at one of its demons. Nevertheless, Anglin proclaimed the move a victory for free speech, a curious claim given its sovereign claim of freely available information taking one step back behind the curtain of a proprietary routing program. While the site now is accessible via a standard domain name on the surface web, there still exists the all too brief moment wherein *The Daily Stormer* found itself cast into the pit.

Experian, one of the three major United States credit bureaus, offers a novel service, the “Dark Web Triple Scan”⁵⁵, a tool that claims to run an extensive search of the “dark web” and can locate compromised social security numbers, e-mail addresses, and phone numbers. The search itself claims to reach back to 2006, and if one’s information is located, Experian

⁵⁴ Biggs, Josh. “Daily Stormer has officially retreated to the dark web”. *TechCrunch*. <https://techcrunch.com/2017/08/24/daily-stormer-has-officially-retreated-to-the-dark-web/> 24 Aug 2017.

⁵⁵ Experian. experian.com. <https://www.experian.com/consumer-products/free-dark-web-email-scan.html>

then offers steps and advice for the user to take as a means of self-protection. Beneath the product's description Experian offers the following statement: "Identity thieves use the Dark Web to buy and sell personal information. If you have ever been a victim of a data breach, the Dark Web is a place where your sensitive information might live. If your information is there, criminals can potentially use it to commit fraud."⁵⁶ This statement is in actuality a response to the following question hanging above it: "What is the Dark Web?"

As a dose of frightening rhetoric, Experian's description serves its purpose, but as an ontological claim it is somewhat inept. This shortcoming is cast into greater relief given that on another page the bureau actually offers a particularly good (if not a bit *too* succinct) explanation of what the "dark web" actually is. Employing the all but canonized image of an iceberg at sea, the page points to the visible tip of the iceberg as the "public web" (already a questionable choice of words), and states, "If you're like most people, this is where you spend the majority of your time—doing things like online shopping, searching for information, and sharing photos and videos on social media."⁵⁷ Experian's claim the majority of people exclusively use the public web can only be taken as true, even in the absence of a full-scale empirical study thereof, something that does not exist in this context. However, Joseph Cox's article for *Wired* titled "The Dark Web as You Know It is a Myth" does report the following:

The Tor Project⁵⁸ claims that only 1.5 percent of overall traffic on its anonymity network is to do with hidden sites, and that 2 million people per

⁵⁶ Experian. experian.com. <https://www.experian.com/consumer-products/free-dark-web-email-scan.html>

⁵⁷ Experian. <https://www.experian.com/blogs/ask-experian/what-is-the-dark-web/>

⁵⁸ It is worth adding a bit more detail to the nature of Tor at this point, despite the fact that it will be addressed with totality later on. In short, the Tor Project's titular browser (short for The Onion Router) functions as the principle gateway into the dark net in the contemporary moment. It is *not*, however, solely a

day use Tor in total. In short, the number of people visiting the dark web is a fraction of overall Tor users, the majority of whom are likely just using it to protect their regular browsing habits. Not only are dark web visitors a drop in the bucket of Tor users, they are a spec [*sic*] of dust in the galaxy of total Internet users.⁵⁹

Cox's article hails from 2015, worthy of consideration in the context of a medium that can experience radical change or augmentation in the course of months. But one is inclined to believe that his citation still holds merit, and that no matter what level of growth dark web use could experience, surface web exclusive users still would eclipse the total amount of dark web users at any given moment. While this effective reality adds merit to Experian's claims at first glance, it becomes more than a bit problematic as their descriptions continue.

Moving to the center of the iceberg beneath the water line, the "deep web" is described as follows:

The deep web is the next level of the Internet, representing approximately 90% of what's actually online. These sites aren't indexed by search engines, meaning they won't show up in any search results. Just because information is here, it doesn't mean it's something bad or illegal though.[...] These sites may live in this space because they're something that the owners don't want accessible to the public. Many deep web sites are legal, just purposely hidden. Sometimes you may hear the deep web referred to as a "bad" place to go, but that's usually because many people confuse the deep web with the dark web.⁶⁰

While this passage alone contains scores of rhetorical decisions ripe for unpacking (of particular note is the manner in which it frequently defaults to conceptualizing the internet in terms of rigid spaces), I focus now on the second half of the description. Without having defined the "dark web" by this point in any sort of detail, the indisputably suggested

portal to the dark net, and can instead be used as a method to browse the internet at large with IP address anonymity.

⁵⁹ Cox, Joseph. "The Dark Web as You Know It is a Myth". *Wired*. <https://www.wired.com/2015/06/dark-web-know-myth/> 18 Jun. 2015.

⁶⁰ Experian. experian.com <https://www.experian.com/blogs/ask-experian/what-is-the-dark-web/>

takeaway is that the “dark web”, as opposed to the “deep web”, is a principally “bad” or dangerous space. By acknowledging the frequent conceptual slip of transposing the relatively benign deep web onto the threatening spaces of the dark web, Experian effectively force a binary opposition of good and evil onto their object of analysis, and it is difficult to determine if it is earned. If any doubt remains, though, the following two sections of their description dispel it with ease. Under the “Dark Web” heading, it explains, “At the bottom part of the deep web lies the dark web. The dark web isn’t an actual place, but rather a hidden network of websites.⁶¹[...] When you visit a website on the world wide web, IP addresses trace online activity on your computer. But on the dark web, with the masking software activated, a computer takes a randomized path to its file destination, bouncing around a number of encrypted connections to ultimately mask both location and identity.”⁶² This is for all intents and purposes an adequate description of Tor’s processes for an uninformed reader, but the following section, “Why Is the Dark Web So Popular with Criminals?” presents some rhetorical concerns. To summarize, Experian claims (not without reason) that the inherent anonymity of the dark web fosters the ability for criminals to act with more fluidity, and as such it serves as a “haven for all kinds of illicit activity”, including identity theft and the sale of sensitive financial information.⁶³ Once again, this is not expressly untrue, but it is also a very clear case of cherry-picking to serve an established narrative. As this chapter will demonstrate later on, there are a variety of both criminal and absolutely *un*-criminal sites accessible via Tor, and given the fact that such sites are *by their very nature hidden*, there is no verifiable way to speak for the whole. That the final section

⁶¹ The prior spatial analogy now apparently insufficient.

⁶² Experian. experian.com <https://www.experian.com/blogs/ask-experian/what-is-the-dark-web/>

⁶³ *Ibid.*

on the page is titled “How Can You Protect Yourself from the Dark Web?” as if it is a sentient menace creeping into the idyllic “space” of the surface web essentially belabors the point already established. In short, what starts as an apparently informative piece ends up leaning into the bolstering of a predetermined narrative, one example of a pattern amongst many pieces concerning the nature of the deep web/dark web conceptual divide. Of course, one might suggest that given the content, such nitpicking is itself misguided, as the piece is delivered with the best of intentions: letting people know how to better protect their information in an age of great access. As a riposte to that, consider that the final suggestion in their list of tips is their very own protection service at a fee of \$19.99 a month following a 30-day free trial period, and further consider that in the case of advertisements, single word choices do in fact matter greatly. Like a screenplay, all ads need a pitch.

The pitch of the film *Unfriended: Dark Web* is that using the dark web is a quick way to get yourself murdered. The plot progresses as follows: A computer engineer named Matias obtains a secondhand laptop as a means to develop a program so that he can better communicate with his deaf girlfriend, Amaya. After receiving messages from a person named Erica directed towards the laptop’s previous owner, Norah, the audience is introduced to Matias circle of tech savvy friends via video chat. It is revealed that Erica is in fact Norah, and further that Norah is a pseudonym for a user who goes by the screenname Charon. Matias is lured by Charon onto the dark web and is quickly targeted (along with his friends) by a hacker group called “The Circle”, all of whose members use a permutation of Charon as their handles. In typical horror movie fashion, the film embarks on a sequence of disturbing

murders, all colored with Web 2.0 iconography. One of Matias's friends is pushed off of a roof while on video, posted on the dark web for public viewing. Another is "swatted", meaning that The Circle calls the police to his house and takes the extra step of splicing clips of his voice together in such a way that it suggests he is planning to commit a mass shooting. The police, of course, shoot him first. Another is goaded into having to choose between saving the life of his mother who is on life support or the life of his own girlfriend. Unable to choose, the hackers remove his mother from life support, murder his girlfriend, and in a final flourish, push him in front of a train, again all caught on video. In a particularly disturbing reference, another friend is hanged with a fake suicide note placed beside him, perhaps referencing the ongoing phenomenon of live-feed suicides in video chat websites. Finally, Matias' girlfriend is kidnapped and The Circle creates a public poll to vote on whether he lives or dies, with the vote decidedly not going in his favor. After being run over by a member of The Circle in a van, the members celebrate and the camera pans back, revealing that the audience has served as a proxy viewer, watching all of the events occur from their screen at home.

It is difficult to know where to begin discussing this film in terms of its narrative conceits. Not only does *Unfriended* weaponize a selection of genuinely disturbing real-life internet phenomena (swatting, on-screen suicide, etc.), it also taps into the persistent cultural myth since the dawn of video: the snuff film. The term "snuff movie" comes from a peculiar origin, that being a biography of Charles Manson's family from 1971.⁶⁴ While in this context the term was used to describe the simple filming of a murder for personal pleasure (many examples of which do in fact exist), the term over time evolved into a greater specificity.

⁶⁴ Sanders, Ed. *The Family: The Story of Charles Manson's Dune Buggy Attack Battalion*. Dutton, 1971.

Namely, snuff films are videos of murders or suicides created either for the financial gain of the creator or for the entertainment of other viewers or customers (of which a single verifiable example has yet to be officially noted.). This concept found narrative resonance all too easily with the dark web, as its very existence lends itself to the idea of a shadow economy of violence, one supported by single-faceted descriptions such as Experian's. That said, the existence of snuff films on the surface web existed long before the dark web was solidified as a distinct cultural phenomenon, so what is at play here is less a matter of genesis but of narrative convergence.

Similarly, *Unfriended* gleefully taps into a separate, but no less pervasive, cultural history of fear: the existence of secret societies. This chapter will embark on a short history of such fears later on, but it is worth noting here that this film nurtures its terror a step beyond the concept of the dark web as a lawless or chaotic zone of toxicity and evil. Instead, the dark web allows for the *organization of evil*, a way in which similarly disturbed individuals can mobilize as a unit and besiege the "surface world" with nearly unstoppable force due to the apparently infinite powers of anonymity. Unsatisfied even with this demonstration, *Unfriended*'s final twist taps into a moral platitude that extends into the deepest foundations of ethical philosophy: "The dark web is a reflection of humankind's darkest desires." As will be shown in this chapter's review of literature, even the most purportedly neutral examinations of the dark web are prone to falling into this claim, perhaps in an attempt to rationalize a relativist flattening of the playing field. The irony is not lost that project likewise seeks to bridge the artificial gap between contemporary mediatechnology and narrative histories in a flattening of its own, but there is something conceptually unsatisfying about this particular claim's deployment of complicity onto the public at large.

While I am sympathetic to the idea that pre-existing narratives tend to influence or outright produce cultural objects that enable their continued existence, it is at best troubling to claim that the dark web exists solely as the result of humankind's inherent desire to commit and view unspeakable acts. Reduction seems almost inescapable when discussing the dark web, and perhaps it is this apparently universal tendency on the part of humans that is worthier of exploration.

In May of 2018, the New York Times ran an opinion piece by Bari Weiss titled “Meet the Renegades of the Intellectual Dark Web” (dubbed the IDW), highlighting a group of thinkers who have almost universally found themselves the object of ire of the left in the 2010's. Taking its name from an off-hand comment made by self-proclaimed “professor-in-exile” Bret Weinstein⁶⁵, the group is unified by a sense of exclusion, one engendered by what a portion of its members saw as acts of persecution or silencing on the part of mainstream media for their transgressive thoughts and statements. The members are a rogues gallery of figures that range from the political center to the Alt-Right (if the term can be used with any sense of solidity): Ben Shapiro of college campus debate fame; James Damore, author of a swiftly publicized memo criticizing the forced diversity and culture of repression fostered by Google; Jordan Peterson, enemy to extremism *and* political correctness and successful self-help author; Christina Hoff Sommers, critic of 20th century feminism (not to be confused with 20th century femin-*ist* critic); etc. What its members share is indeed a contentious position amongst contemporary discourse, and their college talks, media appearances, and

⁶⁵ Splash page. intellectualdark.website.

books have been met with a remarkable amount of push-back, both popular and organizational in the case of cancelled talks and the like. Yet if there is indeed resonance between the sense of suppression that unites these figures and the treatment that they have received in the public, and there very much so *is*, it is the co-opting of the term “dark web” that begs more than a few questions.

What these figures generally do not lack is mainstream media exposure, for as contentious and embattled their contributions to popular discourse may be within the contemporary social and political discussion, they are in fact part of that discussion nonetheless. If Weinstein is to be taken as a proxy head of the I.D.W. (already a conceptual paradox), his own words carry their share of peculiar impact. Weiss quotes Weinstein’s response to the growing fame of the I.D.W as follows: “I’m really only interested in building this intellectual movement. The I.D.W. has bigger goals than anyone’s buzz or celebrity.”⁶⁶ *Unfriended: Dark Web* aside, to ascribe a sense of organized goals to anything that adopts metaphoric similarity to the dark web proper (semi-facetious or otherwise) is to assume a uniform momentum and direction of a network that has offered no unified sense of effect outside of its own conceptual space. To be sure, discrete organizations such as narcotics markets breach the boundaries of Tor into the “surface world”, but the dark web’s existence as a network is by no means contingent upon the sale of drugs, and it cannot be reduced to a single goal in kind. But this assignment of a teleological engine to something as amorphous as the dark web is quite typical, as it is within human nature to conceptually fuse ontological status with a concomitant sense of ends. Through the lens of motivated goals, perhaps the

⁶⁶ Weiss, Bari. “Meet the Renegades of the Intellectual Dark Web”. *The New York Times*. <https://www.nytimes.com/2018/05/08/opinion/intellectual-dark-web.html> 8 May 2018.

definitive existence of a concept or entity will come into greater relief, something adopted in spirit by the “IDW”.

Whatever the case may be for them, there is in fact (as I will later expand) at least one aspect of the “IDW”’s motivations that does in fact resonate with the dark web proper, and that is the desire for illumination or (paradoxically) transparency. As I will demonstrate further along in this chapter, a significant portion of sites on the dark web attempt to offer freedom of access, be it information, goods and products, services, or expression. This freedom, of course, comes at the price of fostering frankly disturbing content in certain amounts, but amounts that do not compose the entirety of the dark web proper. Nonetheless, the great irony is that behind the veil of secrecy lies a space that appears to embrace classic Enlightenment values of thought and liberty, partially a response to the increasing monitoring and regulation of “surface level” network culture. This positive comparison, the IDW’s self-characterization of a loose-knit renegade group cast into the shadows maintains a one-dimensional appropriation of the dark web as metaphorical conceit; it is an appropriation shared by *The Daily Stormer*, for worse. Even if the “dark web” serves as a refuge for those escaping repressive or *surveillant* network cultures (and it certainly does, in part), this cannot and does not preclude the existence of incipient or “native” subcultures. In other words: the dark web is not solely the space for refugees. Rather, it is (as with all networks), a practically undefinable mix of cultures and individuals both experienced and inexperienced who use the dark web for a vibrant set of purposes. That its endemic disturbing content captures the most attention is an expected result, something with which the “IDW” appears to want to align. Of course, it is safe to assume that they would not in fact want to be associated with pedophilia, murder-for-hire scams, and drug sales, in which case their metaphorical hijacking of the term

“dark web” seems all the more baffling. Once again, its uncontainable aspects are reduced to an operative metaphor that communicates but one sense of its multifaceted significance, and one is left wondering if such a move would have unintended results.

In fact, the self-mythologization of the “IDW” serves as a paradigm for this chapter, matched in step by the other three portraits offered above. As a phenomenon that by its own definition resists easy approximation, the dark web frequently finds itself reduced and abstracted to a metaphorical episteme, either in an attempt to give structural meaning to the whole or in order to be appropriated for its charged tonal and affective significance. In practical terms, the mainstream media tends to use the most unsettling content associated with the dark web as a means to define the whole, thus establishing a direct correspondence between the two. In turn, this constructed understanding of “dark web” overcodes the full breadth of its functions, and assumes the position of a fully-realized concept. Consider in this regard Experian’s negation of the dark web to nothing more than a criminal haven, something that it is *in part* (no matter how large that part may be). This concept then holds great force in determining the future deployment of the dark web for aesthetic purposes, as evidenced by *Unfriended: Dark Web*, the justly earned plight of *The Daily Stormer*, and the “IDW”’s appropriation of the term. Here, “dark web” is used for its narrative import, a constellation of revulsion and fear that serves to signify a sense of danger or violation. So far, this would be par for the course, and nothing more than a flat explanation of how narrative works in general. But what this potentially obscures is the fact that the epistemic conceptualization of “dark web” from which these narratives draw force is not empirically

determinate. In other words, “dark web” as a concept is likewise narratively charged in the sense that as an attempt to epistemically enclose a portion of the concept “network” at large, it already imports aesthetic and affective functions prior to the empirical experience of its contents.

There is a simple litmus test for this claim: in a vast array of cultures from antiquity to the contemporary moment, darkness is associated with a pronounced sense of anxiety or fear, a claim in alignment with the introduction to this project. These particular anxieties (eradication, unchecked production, etc.) do not speak for the whole of darkness’s aesthetic development over the course of history, but as Blumenberg claims, darkness, like any metaphor, *does have a history*. In the case of the dark web, the deployment of the term “dark” has a relatively practical and uncontroversial purpose: the activities are kept as anonymous as possible behind unique (and often difficult to parse) web addresses. Thus, the obscurity of the dark web makes it seem as if the activities within are undertaken in the darkness or shadows, effectively unseen. But the history of the metaphor “darkness” can never be excised from its use in any capacity, and as an absolute metaphor – *qua* Blumenberg – it frequently comes part and parcel with deep narrative histories amassed over time for the purpose of grasping the ungraspable. More straightforwardly, one cannot call the dark web “dark” and expect it to not bestow onto it this very same narrative history, one that by default provokes an affective, almost reflexive, response of fear. In turn, the commandeering of the term “dark web” by the “IDW” or *Unfriended*, for instance, recursively bolsters this metaphorical aspect to the point that “darkness” as a source of fear, this ancient metaphor, strangles the nuance of its functions for cultural passers-by. Furthermore, the truly terrible activities that occur on the dark web (as they do off the internet behind closed doors, for that

matter), find an easy path to speak for the whole, creating an autopoietic loop of signification.

The aims of this chapter are multifarious, but all serve the purpose of exploring the narrative history and development of the term “dark web” since the inception of the Arpanet until the present moment. While the dark web is in fact a distinct and identifiable network, “dark web” in its conceptual usage functions as a nexus of narrative operations, oftentimes in direct conflict with the ostensible goals of the dark web as a network service. The ramifications of this interaction extend far beyond the scope of a single network, instead illuminating a longstanding cultural aggression against “darkness” in the pursuit of control and intellectual enlightenment (ironically opposed to many dark web users’ pursuit of capital-E Enlightenment values, namely freedom of speech and individualism). In concert with this, while unique in its computing operations, the dark web is another inscription into the similarly lengthy narrative fascination with secret societies and shadow organizations that pockmark both literary and cultural history. Even when directly unspoken, I argue that this narrative history haunts contemporary deployments of the term “dark web” as much as its metaphoric history in the absolute sense, which is to say its use as a proxy to explain otherwise “un-totalizable” phenomena. From this fundamental darkness metaphor or mythos, the calcification of this *particular* sense of darkness into a deployable concept distorts and taints the dark web, self-generating its nefarious reputation and quite likely adding incentive the criminal activity which *does* occur within it.

This chapter will begin with a short history of the dark web proper in material terms, followed by a discussion of two recent pieces of journalism concerning the network: Jamie

Bartlett's *The Dark Web* and Eileen Ormsby's *The Darkest Web*. These are complex works, each hailing from a different epistemological approach (sociology and journalism, respectively), but they both share a desire to demystify or demythologize the dark web via case studies of particular figures or phenomena. Nevertheless, each of them still lapses into bolstering the insidious and frightening narrative structure of "dark web" as a conceptual unit in ways both conscious and potentially unintentional. My claim here is that if such works of formidable research and objectivity can still be drawn into this operation of this narrative complex, then it goes to show the trenchant resilience of such processes. In light of this, I will then examine a selection of literary works that engage with the topic of shadow societies or secret organizations as a means to demonstrate the deep historical lines that potentially inform the current cultural consensus of the dark web. While some of these works are relatively well known (such as Pynchon's *The Crying of Lot 49* and Kafka's *The Trial*), others are less so, namely Balzac's *History of the Thirteen*. While this will by no means be a complete sample (something that would likely require a book triple this size), I attest that this literary history shines light into the way in which narrative production gives force to the conceptual and affective import contained within the term "dark web". In other words, while the dark web appears to be (and in some ways actually *is*) a unique instance in the history of network culture, I argue that reactions and attitudes towards it come preloaded with this prior narrative history. Finally, I will offer a sample set of dark web pages from my own direct research and analyze them through a philosophical lens, drawing from the work of Michel Serres as a means to offer an alternate (but not dominant) hermeneutic.

2. My Little Corner of the World

Contrary to its popular depictions, the dark web did not spring into the world fully formed and without precedent. There is a directly causal sequence of events and prototype networks that form a kind of genetic lineage of anonymous or alternative network cultures. While I will address Bartlett's book *The Dark Net* more closely later on, I introduce it here to draw attention to its exceptional historical scope. Bartlett traces the dark web's line all the way back to the first instance of what would become the internet at large – Arpanet. Arpanet originated as a project of the Advanced Research Projects Agency (ARPA)⁶⁷ in the 1960's, fully government funded and designed as a way to link both academics as well as weapons installations around the world.⁶⁸ While its early ambitions were large, its first form was charmingly bespoke by contemporary standards, a small TCP/IP packet switching network linking four computers at UCLA, SRI International, UC Santa Barbara, and the University of Utah.⁶⁹ Despite its limited material framework, its network infrastructure would essentially remain unchanged at a fundamental level over its evolution into the internet of today. For instance, IP packet switching (i.e. the reduction of data into smaller “packets” for ease of sending, then sent to a destinations indicated via IP [Internet Protocol] addresses) remains the standard mode of data transmission that composes the foundation of the internet as it currently stands. This early form was quite rudimentary, determined (and thus bound) in terms of space by the length of the cables that connected it. Bartlett notes that it would not be until July 1973 that the Arpanet finally expanded overseas to the UK via undersea phone

⁶⁷ Bartlett, Jamie. *The Dark Net*. Brooklyn: Melville House, 2015. 8.

⁶⁸ Schneider, Gary, Jessica Evans & Katherine Pinard. *The Internet-Illustrated*. Cengage, 2010. 6.

⁶⁹ Bartlett, Jamie. *The Dark Net*. Brooklyn: Melville House, 2015. 6.

cables, first signaling the potential of the Arpanet as something truly “world-wide”.⁷⁰ This potential access would for the moment remain potential, however, as the Arpanet was effectively a self-restricting service. The equipment and costs needed to maintain an Arpanet connected computer was out of reach of the public, and due to this it remained largely the domain of government or academic institutions.⁷¹ Despite this relative restriction, though, even then researchers were developing key platforms that would give rise to the open communication of the internet as it is known today. For instance, Bartlett mentions that soon after the development of Arpanet, its TALK function became the dominant mode of communication across the network, setting the stage for e-mail to follow.⁷² This function would eventually give shape to mailing lists, newsgroups, and the BBS (Bulletin Board System)⁷³, widely seen as the progenitor to modern forums and chat rooms. This latter platform in particular was comparatively more accessible to the public, requiring simpler equipment that could be connected via simple telephone lines rather than the large cable system of Arpanet proper.⁷⁴

At the time, Arpanet’s rudimentary IP and packet switching technology offered total transparency in terms of which computers sent and received packets of data, something not all that distant from how IP addresses are used to identify individual computers even today. The major difference, however, was the relative scarcity of computers even amongst the research teams behind Arpanet’s inception. As such, while one could trace a single computer in terms of IP addresses, the user who had sent or received the relevant data could be entirely

⁷⁰ Bartlett, Jamie. *The Dark Net*. Brooklyn: Melville House, 2015. 8.

⁷¹ *Ibid.* 24.

⁷² *Ibid.* 24.

⁷³ Schneider, Gary, Jessica Evans & Katherine Pinard. *The Internet-Illustrated*. Cengage, 2010. 6.

⁷⁴ Bartlett, Jamie. *The Dark Net*. Brooklyn: Melville House, 2015. 25-26.

obscured if a multitude of people used the same computer in the same time frame. In 1979, a group created a system called “Finger” that would log and record who was on the computer at any given time, thus offering user transparency as well as that of each device. This was almost immediately met with the proposition of a function that would allow people to opt out of this system, something rejected by fellow academics as betraying the “open, transparent nature of the Arpanet.”⁷⁵ It is worth noting how bizarre this response seems in the context of contemporary fears towards net neutrality, internet surveillance, algorithmic advertisement, etc. In the halcyon days of the internet’s birth, such transparency and openness was lauded, a clear realization of liberal values of freedom and the exchange of ideas. Now, this is not to say that the desire for internet transparency has completely vanished, especially in terms of the dark web proper, but this is a matter that will be taken up more directly in due time.

What is important here is that within a decade of its creation, what would come to be the internet was already facing its own internal conflicts regarding privacy and access, ones that would come to inform the eventual evolution of VPN’s and the dark web, amongst other methods of identity obscuration. This sense of partitioning would only continue to grow as the proto-internet expanded as well, a necessity given how swiftly Arpanet became congested with traffic that far exceeded expectations. By 1987, several other discrete networks (such as CSNET, BITNET, and NSFnet, among others) began to merge with Arpanet as a means to alleviate congestion issues, taking a large leap towards what would become the World Wide Web in the 90’s, and finally the internet as it is known today.⁷⁶ Bartlett’s account takes particular note of Usenet, created around the same time as the BBS⁷⁷, as it fits into the minor

⁷⁵ Bartlett, Jamie. *The Dark Net*. Brooklyn: Melville House, 2015. 24-25.

⁷⁶ Schneider, Gary, Jessica Evans & Katherine Pinard. *The Internet-Illustrated*. Cengage, 2010. 6.

⁷⁷ Bartlett, Jamie. *The Dark Net*. Brooklyn: Melville House, 2015. 27.

history of trolling that he offers in his second chapter. Despite this pointed examination, however, his discussion of Usenet reveals more links in the chain that lead steadily to the dark web as an “alternative” space. Usenet never seemed keen to merge with Arpanet as the process began, instead positioning itself as an alternative rival to Arpanet’s inaccessibility. A little under a decade into its existence, Usenet admins reorganized all groups into the follow seven major headings: “*comp.* (computing), *misc.* (miscellaneous), *news.*, *rec.* (recreation), *sci.* (science), *soc.* (social), and *talk.*”⁷⁸ Ostensibly, this organizational hierarchy would include all potential topics, if for nothing else than the fact that *misc.* would be the default selection for alternative topics. Instead, it did not, as a group of Usenet users, irritated at the presence of censorship amongst the boards, created an eighth heading, titled *alt.* for “alternative”.⁷⁹ *Alt.* swiftly became the home for a nearly unhinged amalgam of trolling groups, hacking collectives, and irreverent threads amongst others, positioning itself as something more than an alternative communication channel: a subculture of its own. Bartlett essentially argues that this development paved the way for the more anarchic image boards of the contemporary moment, most notoriously 4chan’s /b/ board, itself the “random” heading for the website.

The takeaway from this series of events is that a conscious debate and push towards both privacy and hyper-specification existed almost from the dawn of the internet itself. *Alt.* did not directly evolve to the dark net proper, but the sentiment of a group wishing for a freer space (either from surveillance or censorship) permeates the context of its inception. This libertarian spirit would eventually come to be attached to the dark web as a conceptual

⁷⁸ Bartlett, Jamie. *The Dark Net*. Brooklyn: Melville House, 2015. 28.

⁷⁹ *Ibid.* 28.

community (as much as the word community could even apply to the disparate groups that use the dark web). However, in order to discuss the material evolution of the dark web, it would actually require returning to the first years of Arpanet, decades before the arrival of *alt.* itself. While Arpanet was the first functioning network, it was not the *only* network to co-exist at the time, as the aforementioned sequence of events demonstrates. The creation of the internet as it is known today was the result of a consolidation of several networks, not a single dominant one winning out over failing alternatives. Furthermore, despite referring to internet as a singular idea today, this is more of a conceptual placeholder than indexical signifier, as the internet remains a constellation of networks to a certain degree, the dark net included. In any case, several concurrent networks to Arpanet were known as “darknets” in the 70’s for a variety of reasons, most frequently that of security reasons. While information from Arpanet could be sent to them, they remained invisible in lists and could not have information extracted or read from them.^{80 81} Note that in this formative instance, the “dark” aspect of “dark net” solely referred to the invisible or secretive *form* of said networks rather than “dark” as a metaphorical reference for the moral quality or depravity of the *content* found within, a conceptual elision that will become significant in short order. In short, these early “darknets” were overlay networks, networks that were built onto the pre-existing structure of a larger or more stable network. As a demonstrative example: peer-to-peer networks are networks of computers that share in the workload for a certain task or set of tasks. File-sharing networks (such as torrent networks) utilize the computing power of each user by having them upload and seed files once having downloaded them, expanding the

⁸⁰ McCormick, Ty. “The Darknet: A Short History”. *Foreign Policy*. <https://foreignpolicy.com/2013/12/09/the-darknet-a-short-history/> 9 Dec 2013.

⁸¹ *Technopedia*. “Darknet”. <https://www.techopedia.com/definition/2395/darknet>

number of instances of said file and contributing to faster overall downloads. This type of peer-to-peer network would be considered an overlay network as it builds up from the general infrastructure of the internet (namely the ability to connect with each other) in order to construct a semi-independent satellite network “on top.” By this definition, Arpanet (and by extension the internet as a whole) originated as an overlay network insofar that it used the telephone network as a means to send and receive information. As it stands today, the internet is replete with such overlay networks, many integrated and many sealed off (relatively speaking) in the same manner as these original “darknets.”

It is this aggregation of clandestine networks that compose the dark web in its current form, but this definition can only provide the bare minimum of information, as the variety and purposes of these networks is as varied as those on the surface web. As the internet expanded in the 80’s, the question of where to store sensitive data proved more and more pressing, as the simple use of private computers akin to the early days of Arpanet became untenable in the face of exponentially growing data. To combat this, one of the first solutions was the creation of “data haven” servers that would be placed in relatively remote locations, thus able to store a variety of information, both legal and illicit.⁸² The privacy of said servers proved to be especially attractive to the latter ends, and this was one of the key shifts that established the link between dark networks and illegal activity. Once file compression and storage costs became reasonable in the following years, peer-to-peer and private networks blossomed, giving shape to the expansive reaches of the deep web (and the dark web within it.)⁸³ Note that the use of the term “deep web” here is considered, as this growing array of

⁸² McCormick, Ty. “The Darknet: A Short History”. *Foreign Policy*. <https://foreignpolicy.com/2013/12/09/the-darknet-a-short-history/> 9 Dec 2013.

⁸³ *Ibid*. 9 Dec 2013.

isolated and private networks did not necessarily function as dark web networks. Experian's definition once again comes to mind here, as deep web content is information that is merely absent from search engine returns, such as password protected login credentials, banking information, streaming services, academic databases, etc. While these functions are similar in part to the dark web, insofar that they are contained in servers and networks relatively detached from the searchable surface web, the information contained within is still accessible through a standard internet browser. For example, logging into a bank account requires accessing the deep web, as both the password function as well as the actual banking information are stored in deep web networks disconnected from search engines, but the information is returned via the standard browser through which the customer accessed the site to begin with. Dark web content or websites, as a rule, cannot be accessed via standard browsers in any form, thus placing them separated from the surface web to a larger degree.

One of the first special browsers designed for accessing the dark web (or *a* dark web) was Freenet, debuted by Ian Clarke in 2000.⁸⁴ Clarke first proposed the system in his graduation project for the University of Edinburgh, titled "A Distributed Decentralised Information Storage and Retrieval System" and written in 1999. He starts his report with a prophetic, and characteristically dramatic, flourish:

At present the Internet is seen as a hotbed of anarchy, beyond the controls of individual governments, a system which ensures free-speech and free-thought by its very nature. Unfortunately, while this seems true at present, it is caused more by a lack of knowledge about the technology involved, rather than being a feature of the technology. It is actually the case that the Internet could lead

⁸⁴ McCormick, Ty. "The Darknet: A Short History". *Foreign Policy*. <https://foreignpolicy.com/2013/12/09/the-darknet-a-short-history/> 9 Dec 2013.

to our lives being monitored, and our thinking manipulated and corrupted to a degree that would go beyond the wildest imaginings of Orwell.⁸⁵

A far cry from the protestations of the original Arpanet members, bemoaning the loss of transparency. Given the ever-increasingly shocking displays of social engineering in the age of social media, one can only, unfortunately, read Clarke's claims as correct. He further targets the traceability of all actions and information on the internet to source computers, proposing that such transparency could be wielded as a deterrent for those fearing retribution for their actions, or even what they search.⁸⁶ He notes that while most see the internet as a fluid and open system, this is an understandable but incorrect assumption, as the central architecture of the internet is deeply centralized. He explains, "Internet Protocol (IP) addresses are passed down from a centrally controlled system. The Domain Name System (DNS) upon which the modern Internet depends is ultimately controlled by one organization."⁸⁷ This centralized aspect (that both the identifying markers for computers and the domain addresses that allow sites to be hosted are handled by single authorities) allows for both catastrophic system failures as well as an easy source through which one could trace any user. Clarke's proposed solution is a truly decentralized network that also provides anonymity and could handle errors more effectively due principally to its less fragile infrastructure.⁸⁸

Incidentally, the model that he takes as his principle inspiration for this proposed network is Usenet, as Usenet's information distribution system relies on users storing and

⁸⁵ Clarke, Ian. "A Distributed Decentralised Information Storage and Retrieval System." <https://freenetproject.org/papers/ddisrs.pdf> University of Edinburgh: Division of Informatics. 1999. 4.

⁸⁶ *Ibid.* 4.

⁸⁷ *Ibid.* 5.

⁸⁸ *Ibid.* 6.

distributing new posts between each other rather than be transmitted from a single transmission point or server.⁸⁹ Clarke considered this system to be inefficient at the core, unable to handle amounts of information comparable to standard internet traffic at the time. But it nonetheless stood to provide the central model for what Freenet would become, and not just in an infrastructural scope. Recall that by this point, Usenet's establishment of *alt* had long since gained traction, and the spirit of a censorship-less and free information exchange had become associated with Usenet proper, at least in part. After finally developing a preliminary build of Freenet, Clarke explained the general architecture in a follow-up paper:

Freenet is implemented as an adaptive peer-to-peer network of nodes that query one another to store and retrieve data files, which are named by location-independent keys. Each node maintains its own local datastore which it makes available to the network for reading and writing, as well as a dynamic routing table containing addresses of other nodes and the keys that they are thought to hold. It is intended that most users of the system will run nodes, both to provide security guarantees against inadvertently using a hostile foreign node and to increase the storage capacity available to the network as a whole.⁹⁰

In layman's terms, every computer connected to Freenet stores files or portions thereof (as a node), along with identifying information for each chunk of information (keys). No node is definitively marked as holding a particular file, and file requests via a key can only send the request to an approximate location. If the request does not locate the desired information at its first approximate destination node, it then moves onto the following possibilities until it is

⁸⁹ Clarke, Ian. "A Distributed Decentralised Information Storage and Retrieval System." <https://freenetproject.org/papers/ddisrs.pdf> University of Edinburgh: Division of Informatics. 1999. 11.

⁹⁰ Clarke, Ian, Theodore W. Hong, Oskar Sandberg & Brandon Wiley. "Freenet: A Distributed Anonymous Information Storage and Retrieval System". <https://www.cs.cornell.edu/people/egs/615/freenet.pdf> Ithaca: Cornell University, 2002. pp. 3

found.⁹¹ In short, this allows for no computer to be definitively traced in terms of either stored information or requests made, directly countering the comparatively transparent searchability of the surface web. The drawback to this is that in order to access websites or information stored on the surface-web, that information must be replicated and directly loaded into the Freenet peer-to-peer network in order to allow access via Freenet's anonymous process. In turn, Freenet cannot function as a proxy that simply obscures identifying information on the surface web, instead functioning as an alternative overlay network that obscures its users' information via a special browsing system. Otherwise stated, it is a proto-darknet.

If Freenet set the stage for accessible anonymity networks, it would be the ascension of Tor that would catalyze the dark web's narrative evolution in the eyes of the mainstream public. Tor (short for "The Onion Router") was originally researched and developed by the United States Naval Research Laboratory in the 90's, as its function as a network that obscured user location and IP addresses proved promising for national defense.⁹² Akin to Freenet's spiritual predecessor in Usenet, DARPA continued researching Tor in the late 90's, the very same DARPA who first developed Arpanet in decades prior. Rather than Freenet's distributed storage of files or fragments thereof on users' personal computers, Tor instead operates through designated relay computers, hosted either by volunteers or those who use Tor themselves. Packets of information are first wrapped in several layers of encrypted

⁹¹ Clarke, Ian, Theodore W. Hong, Oskar Sandberg & Brandon Wiley. "Freenet: A Distributed Anonymous Information Storage and Retrieval System". <https://www.cs.cornell.edu/people/egs/615/freenet.pdf> Cornell University, 2002. 6.

⁹² McCormick, Ty. "The Darknet: A Short History". *Foreign Policy*. <https://foreignpolicy.com/2013/12/09/the-darknet-a-short-history/> 9 Dec 2013.

information⁹³, each layer containing directions for the next destination along the route of relay computers, or nodes.⁹⁴ The only node that can identify its own position in this relay is the final one, or “exit node”, as the prior nodes in the chain can only identify their immediate predecessor and successor, thus sequentially obscuring the original node from which the packet of data was sent.⁹⁵ Early versions of onion routing sent each onion via a combination of a public key that determined the route and a set of secret-keys that allowed each node to decrypt layers in sequence (thus having the route laid out from the start). Still, this was susceptible to being recorded by a single node and in turn having this recorded information used to trace the information’s path via this pre-determined sequence of keys, right back to the source and compromising anonymity. Tor, the current manifestation of onion routing, instead has each node negotiate a new set of keys at each instance in the relay and then deleting them once used, thus leaving the path almost entirely obscured and leaves anonymity intact.⁹⁶ While markedly more secure than its prior incarnation, Tor still has one critical vulnerability, that being the susceptibility of exit nodes. In short, an exit node can be targeted as it is the only self-identifying node in every chain, and this node would contain the raw information that had been obscured along the route. If captured, this information could be used to identify sensitive information about the sender (such as identifying information or passwords), and it is well known that the NSA has used such exit nodes as “honeypots”, from which they can extrapolate that a user had entered and exited Tor (if not the activity undertaken on the dark web proper as well). In extreme cases (as will be approached when

⁹³ Hence why they are called “onions”, as this encryption resembles the layering of the vegetable.

⁹⁴ Goldschlag, David, Michael Reed & Paul Syverson. “Onion routing for Anonymous and Private Internet Connections.” 28 Jan 1999 <https://www.onion-router.net/Publications/CACM-1999.pdf> 2.

⁹⁵ Dingledine, Roger, Nick Mathewson, & Paul Syverson. “Tor: The Second-Generation Onion Router”. <https://www.onion-router.net/Publications/tor-design.pdf>.

⁹⁶ *Ibid.* 1.

discussing Ormsby's book), the FBI or NSA have fully hijacked illegal piracy networks, black markets, child pornography exchanges, and even assassination markets on the dark web, collecting requests and financial information from potential buyers under the guise of being owners of the network, in turn using that to locate and arrest suspects.

Indeed, Tor's space in the dark web does contain its fair share of such nefarious services, as its process can be separated into two procedures. On one hand, Tor can be used as a proxy, deploying the aforementioned anonymity system so as to allow users to surf the web with their identity largely obscured. Since 2006, Tor has been maintained by Roger Dingledine (cited above) and several other researchers through the non-profit organization The Tor Project (TTP), still largely funded by the United States Government.⁹⁷ Keeping the faith that Tor serves as an innovative (if not crucial) development towards the ends of protecting internet users, TTP continues to update and improve Tor in the face of a growing deluge of bad press, questions of its deservedness notwithstanding. In an attempt to perhaps combat this alongside of offering education, TTP has on their website an entire page dedicated to explaining what kind of people use Tor in their everyday lives so as to promote its vast utility and overall benefit. The list of types is as follows: journalists, law enforcement, activists and whistleblowers, high and low-profile people, business executives, bloggers, militaries, IT professionals, and "normal people".⁹⁸ The reasons offered for each group are various and quite convincing, ranging from the need of anonymity for the purposes of exposing corruption, organizing sting operations, observing business competitors from a

⁹⁷ Levine, Yasha. "Almost everyone involved in developing Tor was (or is) funded by the US Government." *Pando Daily*. <https://pando.com/2014/07/16/tor-spooks/> 16 Jul 2014

⁹⁸ The Tor Project. "Inception". <https://www.torproject.org/about/torusers.html.en>

clean entry so as to avoid information obscuring systems, and firewall system diagnostics.⁹⁹ The section on “normal people” is the most compelling, though, even beyond its intriguing deployment of the word “normal” in light of the common cultural opinion of what the dark web contains. In summary, its six reasons are a combination of egalitarian principles of free-thought and self-preservation, citing Tor as a shield from “unscrupulous marketers and identity thieves” and “irresponsible corporations”, ways to protect children from inadvertently sharing their IP location to predators¹⁰⁰, and as a significant deterrent for both surveillance and censorship. The final reason, that being a means to freely research sensitive topics within repressive locations via breaching national firewalls, is the most bracing, as it is essentially a call to illegal action amongst a list of “normalizing” quanta, regardless if it is in the spirit of a greater philosophical sense of justice.¹⁰¹ For “normal people”, Tor is a way to escape the ever-growing system of surveillance, a means to resist the quantification of the self and maintain autonomy or integrity. This is of course, unless you are part of law enforcement, in which case one of the listed benefits is *easier online surveillance of internet users*, all by way of leaving few traces of your presence. A muddled message, to be sure, one that calls into question the commonly held conceptions of Tor as principally a tool of resistance, as within its own list of definitions it claims to be a tool of the very establishment it can also impede.

The same page offers a total statement of intent at the bottom, perhaps in a way to resolve this conflict. It reads:

⁹⁹ The Tor Project. “Inception”. <https://www.torproject.org/about/torusers.html.en>

¹⁰⁰ The irony of this particular statement peals loudly.

¹⁰¹ *Ibid.*

Like any technology, from pencils to cellphones, anonymity can be used for both good and bad. You have probably seen some of the vigorous debate (pro, con, and academic¹⁰²) over anonymity. The Tor Project is based on the belief that anonymity is not just a good idea some of the time – it is a requirement for a free and functioning society. The EFF (Electronic Frontier Foundation) maintains a good overview of how anonymity was crucial to the founding of the United States. Anonymity is recognized in US courts as a fundamental and important right.¹⁰³

A few things to note here: firstly, Tor does not claim here that anonymity is solely a right in terms of protecting oneself from surveillance, evading that direct statement entirely. Instead, they shift their gaze to a greater sense of societal function, that anonymity is necessary for “a free and functioning society”, something that is difficult to argue from the perspective of an academic researcher in the United States, but still one that Tor leaves unfortunately unexplored. This does however lead to the second point of note, that Tor almost exclusively justifies its beliefs in terms of the US legal system, fitting for a company funded by the US government but suddenly questionable given that it states breaking through national firewalls as a principle use for “normal people”. Such “national firewalls” almost certainly are thinly veiled references to countries such as China and Russia, and while users in those countries do in fact use Tor for this exact purpose, one can no longer consider Tor as a politically or ideologically neutral system in light of this claim: Tor is, frankly, a weapon of US soft-power.

This is, however, a discussion that is perhaps saved for another time, as it breaches into teleological and ethical questions beyond the scope of this chapter. This is not to say that the ethical dimensions of Tor and the dark web will be passed over entirely, as the ethical

¹⁰³ The Tor Project. “Inception”. <https://www.torproject.org/about/torusers.html.en>

debate regarding the dark web's uses approaches a complete conceptual absorption of its baseline functions, as signaled by even the aforementioned web page on Tor's own website. The crux of this lies within the twofold functionality of Tor, the first aspect of which is its capability as a web proxy. In short, Tor can be used as a means to surf the internet anonymously via the previously explained masking system. After initializing the program, Tor boots its own browser (TorBrowser) and allows for standard access of the surface web with the benefit of leaving behind as little trace possible of activity or search pathways, thus achieving its stated goals of protecting users from "unscrupulous marketers" and so on. The second (and more famous) functionality is Tor's access to "hidden services", websites hosted on hidden servers that are set up as to only be able to receive communication via Tor, all the while never revealing their exact location. The process through which this occurs is relatively baroque and complex, a series of queries and cascading decisions that connect a user to the hidden server through a network of intermediary points. It is best explained in the words of specialists, in this case Lasse Øverlier and Paul Syverson. They explain:

All the displayed message flows are anonymized, i.e., they are routed through several anonymizing nodes on their path towards the other end...Every arrow and connection in the figure represents an anonymous channel consisting of at least two or more intermediate nodes. (Hereafter, we use 'node' to refer exclusively to nodes of the underlying anonymization network, sometimes also called 'server nodes'. Although we are considering the Tor network specifically, the setup would apply as well if some other anonymizing network were used to underlie the hidden service protocol. The only exceptions are C (client) and HS (hidden server), which may be anonymization nodes or they may be merely clients external to the anonymization network.).

First the Hidden Server connects to a node in the Tor network and asks if it is OK for the node to act as an Introduction Point for his service. If the node accepts, we keep the service open and continue; otherwise HS tries another node until successful. These connections are kept open forever, i.e. until one of the nodes restarts or decides to pull it down. Next, the Hidden Server contacts the Directory Server and asks it to publish the contact information of

its hidden service. The hidden service is now ready to receive connection requests from clients.

In order to retrieve data from the service the Client connects to DS and asks for the contact information of the identified service and retrieves it if it exists (including the addresses of Introduction Points). There can be multiple Introduction Points per service. The Client then selects a node in the network to act as a Rendezvous Point, connects to it and asks it to listen for connections from a hidden service on C's behalf. The Client repeats this until a Rendezvous Point has accepted, and then contacts the Introduction Point and asks it to forward the information about the selected RP. The Introduction Point forwards this message to the Hidden Server who determines whether to connect to the Rendezvous Point or not. If OK, the Hidden Server connects to RP and asks to be connected to the waiting rendezvous circuit, and RP then forwards this connection request to the Client. Now RP can start passing data between the two connections and the result is an anonymous data tunnel from C to HS through RP.¹⁰⁴

Essentially, hidden services mimic the rendezvous of two anonymous parties via an intermediary that ensures both of their identities remain private, all on top of the anonymizing systems the Tor uses to log in the user in the first place. It is worth noting that the user (Client) does not make these decisions in real time as this passage would suggest. Like accessing any website, this sequence of events initiates simply by typing in an address to the top bar of TorBrowser. The catch is that these addresses rarely contain any identifying information regarding the content of the site, instead being a complex and seemingly random string of characters followed by “.onion”. In other words, the infamous (and now defunct) Silk Road would likely have an address akin to “xB67dgbxHGDH78D.onion” rather than “silkroad.onion”. Further, given that none of these services can be accessed via search engines, their hidden nature is truly pronounced, often requiring users to learn of their existence either by word of mouth or through “hidden service wikis”, pages dedicated to

¹⁰⁴ Øverlier, Lasse & Paul Syverson. “Locating Hidden Servers”. *Proceedings of the 2006 IEEE Symposium on Security and Privacy*. <https://www.onion-router.net/Publications/locating-hidden-servers.pdf> Oakland, CA: IEEE CS Press. 2006. 4.

listing popular hidden services for easy user access. For all intents and purposes, the common cultural conception of the dark web is reflective of precisely these hidden services, and the content of these services is transposed onto the concept of dark web as a whole despite its material and structural composition being something far broader in scope. This is a critical point, as this very transposition serves as the genesis point for the very kind of cultural understandings of the dark web as seen in the four short examples that started this chapter. As such, for the remainder of this chapter, any use of “dark web” will henceforth refer to Tor hidden services unless otherwise specified. This will likewise serve as the foundation for the narrative analysis that will compose the second half of this chapter, necessitating one final and brief discussion of what these hidden services can contain.

Anonymous sites with anonymous users come with a predictable price. Scores of these services are black markets (selling a seemingly infinite variety of items, but most commonly drugs, weapons, and credit card information), child pornography databases/groups, and (to date unproven) assassination services. While these are the “big three” in terms of illicit hidden service categories, the well runs deep in terms of depraved creativity, as sites such as rape instructional guides, “pozzing”¹⁰⁵ communities, and criminal advice forums exist, despite their comparatively rarer frequency. Scores of these services, however, are *not* illicit or disturbing in scope, and yet these types of services rarely capture popular attention, for reasons that will be discussed in due time. The principle issue in terms of empirical analysis thereof lies precisely in the hidden nature of these sites, as a comprehensive survey of types of services becomes quite difficult in light of the fact that an unknown number of these sites exist out of the reach of even specified wikis. Certainly, there

¹⁰⁵ The intentional transmission of HIV, either to or from a recipient, either with or without consent.

could in fact be a variety of hidden services that were established for private groups, ones that do not want to be found and as such simply are not in terms of the general Tor user base. Despite this difficulty, studies have been attempted, and while the results do in fact confirm that the majority of hidden services are indeed illicit in nature, the actual statistical breakdown is far more intriguing than this seemingly foregone conclusion.

In December of 2014, a study carried out by the University of Portsmouth (in which they set up 40 computers to work as relays for hidden services) found that of 45,000 computers accessing the dark web at any given moment, 83% of these computers accessed child pornography or child abuse websites/forums/databases.¹⁰⁶ A truly disturbing figure, one that with good reason confirms a set of fears towards the dark web. This figure was not without two significant caveats, however, ones that by no means diminish the gravity of Portsmouth's findings, but do significantly complicate the picture. Within the same study, researchers found that despite the massive amount of traffic, within the scope of the sample, child abuse websites only accounted for 2% of the total of hidden services.¹⁰⁷ The dissonance between these two figures is profound, to say the least, and only further mystifies its actual economy of site traffic. The study found equally perplexing results in inverse, noting that black markets made for the largest single block of sites at 24% (despite these markets potentially offering specialized products/services or varieties in equal measure). Traffic to these sites, however, only amounted to 5% of the total.¹⁰⁸ Fascinatingly, even whistleblower websites and data drops such as that of GlobalLeaks and *The New Yorker* eclipsed child

¹⁰⁶ Dredge, Stuart. "Study claims more than 80% of 'dark net' traffic is to child abuse sites". *The Guardian*. <https://www.theguardian.com/technology/2014/dec/31/dark-web-traffic-child-abuse-sites> 31 Dec 2014.

¹⁰⁷ Greenberg, Andy. "Over 80 Percent of Dark-Web Visits Relate to Pedophilia, Study Finds." *Wired*. <https://www.wired.com/2014/12/80-percent-dark-web-visits-relate-pedophilia-study-finds/> 30 Dec 2014.

¹⁰⁸ *Ibid*.

pornography websites by a small (but significant) margin at 5% of all sites, but accounted for a mere tenth of a percent of total traffic.¹⁰⁹ Even more peculiarly, a similar study from two years later found that illicit hidden services of all kinds did in fact outnumber legal (and unknown) hidden services, but only by a margin of 7.1% (29.7% to 22.6%, respectively). Further, when narrowing the same categories to include only currently active sites, the percent difference doubled in favor of illicit sites, but this equates to a margin of 13.6%, hardly a dramatic majority.¹¹⁰ If this margin is this comparatively slim, and Portsmouth's study produced such a dramatic traffic figure, for whose use then are these non-illicit sites? Furthermore, for whom are the rest of the (ostensibly) 27.7% of illegal sites given that only 2% of them are directly child pornography?

Portsmouth's researchers acknowledged a second caveat (and aporia) within their results, noting that the sheer figures alone cannot with total accuracy illuminate the nature of *who* is causing this traffic. There are factors at play that could easily produce volatility in such findings, Portsmouth's team hypothesizing them as such: law -enforcement tracking registering as visits to the sites; DDoS (Direct Denial of Service) attacks, in which hackers flood the server with visits in an attempt to shut down the site via overload; the fact that many hidden services only last for a matter of weeks, potentially indicating that these sites just so happen to be relatively long-lasting by comparison; and finally, that the group of users who search for child pornography may do so more compulsively versus purchases made on black markets or document leaks, thus inflating the visits in contrast to a small user-base.¹¹¹

¹⁰⁹ Greenberg, Andy. "Over 80 Percent of Dark-Web Visits Relate to Pedophilia, Study Finds." *Wired*. <https://www.wired.com/2014/12/80-percent-dark-web-visits-relate-pedophilia-study-finds/> 30 Dec 2014.

¹¹⁰ Moore, Daniel. "Cryptopolitik and the Darknet". *Survival: Global Politics and Strategy*.

¹¹¹ Greenberg, Andy. "Over 80 Percent of Dark-Web Visits Relate to Pedophilia, Study Finds." *Wired*. 30 Dec 2014. <https://www.wired.com/2014/12/80-percent-dark-web-visits-relate-pedophilia-study-finds/>

The point here is that the findings cannot be taken as indexical for the whole, something the researchers themselves acknowledge. That said, the concern of this analysis is the narrative and metaphorical representation within popular culture, and such findings are precisely the kind of catalyst that would result in the dark web being represented as a dangerous zone.

Now, this is not to say that such assumptions are entirely without reason given the data, but Tor themselves challenge this depiction head-on, hosting a page on their home website devoted to discussing and dispelling ideas about the dark web as a zone for abuse. It is an utterly remarkable piece of writing, confident and steadfast in the face of the dark web's increasingly negative cultural cache, and one that does not shy away from invoking ethical edicts and philosophical questions. The first question cuts to the heart of the issue, asking "Doesn't Tor enable criminals to do bad things?". I cite the answer in full:

Criminals can already do bad things. Since they're willing to break laws, they already have lots of options available that provide *better* privacy than Tor provides. They can steal phones, use them, and throw them in a ditch; they can crack into computers in Korea or Brazil and use them to launch abusive activities; they can use spyware, viruses, and other techniques to take control of literally millions of Windows machines around the world.

Tor aims to provide protection for ordinary people who want to follow the law. Only criminals have privacy right now, and we need to fix that.

Some advocates of anonymity explain that it's just a tradeoff – accepting the bad uses for the good ones – but there's more to it than that. Criminals and other bad people have the motivation to learn how to get good anonymity, and many have the motivation to pay well to achieve it. Being able to steal and reuse the identities of innocent victims (identity theft) makes it even easier. Normal people, on the other hand, don't have the time or money to spend figuring out how to get privacy online. This is the worst of all possible worlds.

So yes, criminals can use Tor, but they already have better options, and it seems unlikely that taking Tor away from the world will stop them from doing

their bad things. At the same time, Tor and other privacy measures can *fight* identity theft, physical crimes like stalking, and so on.¹¹²

It is difficult to know where to start with this statement, as it is frustrating in its slipperiness, offering both satisfactory and weak points in support of its functions. Clearly, its primary gambit is the idea that Tor is not a unique phenomenon, that crime can (and does) exist exclusive from its services, an agreeable point in itself. Despite this, Tor seems to ignore the fact that while these crimes may be the same on or offline, there is a certainly a distinction in terms of *access* and *execution*, or more specifically, the image thereof. This is the primary source of fear for a large portion of the populace. Whether or not Tor does offer ease for criminals in this regard falters in the face of the common anxiety that it allows for the execution of crimes within the home, ones that would assumedly face deterrence were they to be carried out via “traditional” means (i.e. buying drugs on the street, finding child pornography offline, etc.). That said, there is no way to easily determine this difference in an empirical manner, because drugs and weaponry *are* sold off of the dark web, and child pornography *is* traded outside of its boundaries (often on the surface web). Despite the massive surge of dark web traffic for child pornography, the fact remains that regular dark web users compose a stark minority of the population at large, and as such the dark web cannot lay claim to the majority of global crime in these forms. The discussion then becomes one that must tackle fear, an affect that seldom responds to such logical claims, hence Tor’s own response seeming disappointing in scope. It does them no favors that they fail to acknowledge child pornography or illicit markets in this response either, focusing almost exclusively on identity theft, something that admittedly does have a presence on the dark web (as Experian uses to great effect in terms of intimidation). Still, Tor’s claim that if more users

¹¹² The Tor Project. “Abuse FAQ”. <https://www.torproject.org/docs/faq-abuse.html.en>

were to use their service then identity theft would become more difficult is in fact sound.

The problem is that this assertion comes in *ouroboros* form, pleading for users to protect themselves with the very service that supposedly harbors identity thieves with relative impunity.

This struggle becomes all the more apparent in the response that bookends the FAQ, in which Tor delivers a sort of statement of purpose regarding abuse in general. They write:

We take abuse seriously. Activists and law enforcement use Tor to investigate abuse and help support survivors. We work with them to help them understand how Tor can help their work. In some cases, technological mistakes are being made and we help to correct them. Because some people in survivors' communities embrace¹¹³ stigma instead of compassion, seeking support from fellow victims requires privacy-preserving technology.

Our refusal to build backdoors and censorship into Tor is not because of a lack of concern. We refuse to weaken Tor because it would harm efforts to combat child abuse and human trafficking in the physical world, while remove g safe spaces for victims online. Meanwhile, criminals would still have access to botnets, stolen phones, hacked hosting accounts, the postal system, couriers, corrupt officials, and whatever technology emerges to trade content. They are early adopters of technology. In the face of this, it is dangerous for policymakers to assume that blocking and filtering is sufficient. We are more interested in helping efforts to halt and prevent child abuse than helping politicians score points with constituents by hiding it. The role of corruption is especially troubling...

Finally, it is important to consider the world that children will encounter as adults when enacting policy in their name. Will they thank us if they are unable to voice their opinions safely as adults? What if they are trying to expose a failure of the state to protect other children?¹¹⁴

This is a more satisfying response, for a variety of reasons. Rather than rely entirely on the argument that if they were not to exist then something else would, Tor offers a clear *raison*

¹¹³ Their wording here is strange. I believe this to mean that certain subsets of victims *face* stigma in their cultures, as embrace would imply that they seek it out.

¹¹⁴ The Tor Project. "Abuse FAQ". <https://www.torproject.org/docs/faq-abuse.html.en>

d'être here, principally that they exist to actually combat child abuse and other crime in more effective ways than before. This is a compelling claim, and it is in fact true that law enforcement does have novel options in terms of halting child pornography/trafficking or attempted murder via sting operations and site hijacking on the dark web¹¹⁵. It also is by no means the entire picture, something revealed by their swift shift to accusing government at large for corruption and suppression. Indeed, Tor reveals its hand here as a political operation, one that offers both protection and voices to a population increasingly crushed under the thumb of surveillance and corrupt politicians. They even go as far as to link to an article implicating corrupt governments in human trafficking, the very thing that they claim to assault with their network. It is the final passage, though, a veritable twist of the dagger, that is the most compelling. Tor meets its negative narrative as a festering hive of crime with one of its own, the bastion for freedom in the face of a dystopian future. Indeed, a utopian streak runs through their claims, and betrays the very same in its lineage through Arpanet, Usenet, etc.: a world of free communication and the sovereignty of thought. If one's children are at risk for predators now, what will these same children say when they look back at how their rights and freedoms were offered to a predatory state system in exchange?

It is utterly unprovable, as all hypothetical and quasi-hyperbolic projections tend to be, and this is not to say that I personally disagree with this danger. Despite my clear criticism of Tor's approach, I attest that their overall motivation is positive, and that their goal of offering a step towards freer discourse is in fact an important, if not outright crucial development in the contemporary moment. The point is that even in this piece, empirical evidence is waylaid for narrative deployment, as the ethical pillorying so often directed at

¹¹⁵ A point that will be put into sharp focus when discussing Ormsby's book.

Tor is met with Tor's counterattack in similar fashion. There is no consistent or total understanding of what Tor *is* outside of its basic material structure, as it takes shape within the space between a total criminal network and a device of freedom: it is both and neither at the same time. What remains, however, is the prominence of the dark web as a terrifying or dangerous conceptual space in popular culture, despite Tor's valiant efforts to counter this with a positive narrative of its own. This begs the simple question: Why? Other than danger's general allure, what about the dark web, in its relative unknowability, fosters such narrative depictions out of frank misunderstandings and exaggerations? If what Tor says is true, and there is nothing inherently unique to Tor in terms of its criminal affordances, why does it fail to shake this reputation and wind up the subject of a horror film? There is a simple and cynical answer to all of these questions: fear is strong, and fear sells. Experian's advertisements and *Unfriended: Dark Web* stand as evidence to this claim.

But this does not consider the other two examples from the introduction to this chapter. If the goal is discursive normalization, why would *The Daily Stormer* celebrate retreating to a network in which 83% of recorded traffic are theoretically pedophiles? To that end, did the "IDW" find solidarity in such company as well? Clearly, the two embraced the idea of the dark web as a fortress for free expression, aligning themselves with Tor's own philosophy, but this stark reality persists nonetheless. It is entirely possible if not probable) that such statistics are not commonly known offhand when making such claims, and this stands to reinforce the central argument of this chapter. The dark web, in its current cultural representation, transcends its infrastructural capacities and serves to symbolize a paradoxically modular and well-defined narrative: the terrifying potential of a deregulated space. Its volatility, its tortuous vacillation between idealized freedom and lurking danger

render it quite difficult to contain in simple parlance: it is a microcosm for the philosophical debate regarding freedom in its long and winding history. In response, it follows Blumenberg's claim that where rational language fails to decisively totalize a phenomenon, metaphor is applied, and I argue that in the case of the dark web, "darkness" serves this exact purpose with more complexity than it may seem to at first glance, fusing with this fundamental metaphor and acting as a conceptual complex. The remainder of this chapter will in part interrogate the narrative history of darkness in terms of its literary deployment, as despite darkness's "absolute" quality, it still possesses a multifaceted history of use. It can import and project certain dimensions of this history at the will of those who use it, and in the case of the dark web, I restate here that it taps into a longstanding literary history of fascination with shadow societies and networks since antiquity, thus allowing it to so easily lapse into its popular depictions as mentioned above. Before this, though, I will examine two non-fiction books that apparently set off in an attempt to dispel this narrative burden, only to find themselves drawn into the sticky grasp of the concept they partially reject.

3. Down the Drain

Jamie Bartlett's *The Dark Web* is a formidable piece of research, something at which has already been hinted by his history of the Arpanet cited prior. As a whole, the book is an investigation into the less savory corners of the internet, utilizing ethnographic and investigative strategies as a means to uncover and humanize otherwise maligned web cultures. He suggests from the start that his goal is to demystify such aspects, illuminating (fittingly) what lies behind anonymous and obscured channels. And yet, even from the start his project is tinted with the very symbolic register it claims to combat, approaching direct contradiction of these aims. For example, Bartlett echoes my prior claims in that he views the dark web conceptually rather than materially, stating "The dark net, for me, describes an idea more than a particular place: internet underworlds set apart yet connected to the internet we inhabit, worlds of freedom and anonymity, where users say and do what they like, often uncensored, unregulated, and outside of society's norms. It is dark because we rarely see these parts of digital life, save the occasional flash of a hysterical news flash or shocking statistic."¹¹⁶ This is a quizzical passage, as he claims the dark web to be an idea but does describe a material infrastructure, essentially. Still, the intent behind this statement shines through, and while his claim that the use of "dark" rests on a superficial level, it is not wrong in its claim. The dark web does in fact rarely break through to the public unless it is in a negative depiction, as exhibited in the past two sections. He closes the same paragraph with a statement of purpose, revealing its anthropologic intent: "This is not a book about Tor, since the net is full of obscure corners, of secret back alleys on parts of the internet you likely already know: social media sites, normal websites, forums, chat rooms. I focus instead on

¹¹⁶ Bartlett, Jamie. *The Dark Net*. Brooklyn: Melville House, 2015. 5.

those digital cultures and communities that appear, to those that aren't part of them, dark, insidious, and beyond society's gaze—wherever I found them.”¹¹⁷ Bartlett is quite clear here: *The Dark Net* is not about the “dark web”, but instead the “dark” web, a metaphorical encapsulation of aspects of the internet at large that he deems to be “dark”. Furthermore, within the span of sentences, he appends “insidious” to his description, shifting the use of “dark” to simply refer to things unseen on the internet to those that appear to carry harmful intent as well. He does not exaggerate here, as only two of the nine chapters in his book concern actual hidden services on Tor, those being child pornography and black markets (specifically the Silk Road), respectively. The rest concern, in order: a history of the internet, trolling across the internet, white nationalism on the surface web, bitcoin, amateur pornographic cam-shows, suicide pact and pro-anorexia websites, and backing up human consciousness into data files. For a book that claims that “for every destructive subculture I examined there are just as many that are positive, helpful, and constructive.”¹¹⁸, one would be forgiven for looking at this list and assuming otherwise. In terms of establishing a narrative line through a book, Bartlett's selection of subjects and ordering of chapters seems to be in direct opposition to his claim that “darkness” only stands for things unseen or obscured. From the start, a book that appears to interrogate the usage of “darkness” when describing certain elements of the internet fortifies (either intentionally or otherwise) the very same narrative framework it intends to challenge. In doing so, it risks hamstringing itself by presupposing a consensus regarding the metaphorical relationship between “darkness” and danger, and he doubles down on this hermeneutic circuit with frank consistency throughout. This is further complicated by a question he poses shortly beforehand on the same page: “By

¹¹⁷ Bartlett, Jamie. *The Dark Net*. Brooklyn: Melville House, 2015. 5.

¹¹⁸ *Ibid.* 7.

exploring and comparing these worlds, I also hoped to answer a difficult questions: do the features of anonymity and connectivity free the darker sides of our nature? And if so, how?”¹¹⁹ Seemingly aligning himself with Tor’s own defense, Bartlett suggests here that there is a universal and irrepressible “darkness” looming within humankind, unleashed at the first opportunity that a neutral system like Tor could allow. Recall as well that by his own admission, Bartlett is not simply referring to Tor or the dark web here, but the *internet in general*. No matter what the structure, as long as a degree of connection and obscurity is afforded, evil finds a foothold, something echoed by Tor’s assertion that crime will find a way whether or not their services exist. Regardless of the truth of this latter claim, adhering his study to such a philosophical claim can do little but prime the question in advance, especially given the way in which Bartlett loads down his book with a selection of some communities that at best exist in ethical grey areas, and others that are beyond the pale. Even in attempting to absolve the internet (a valiant goal), such a claim struggles to wholly separate the “insidious darkness” of human nature from the very system that he posits as potentially enabling its development. In other words, it is unclear how such a question could dispel the myth of the dark web as something dangerous if it suggests that it inherently harbors a unique ability to amplify dangerous impulses and behavior. The comparative dearth of the “positive” examples he claims to have found does little else than augment this narrative in kind.

He answers this question in his epilogue affirmatively, confirming the very presupposition that he sets out as his metric of analysis. This is in and of itself unremarkable

¹¹⁹ Bartlett, Jamie. *The Dark Net*. Brooklyn: Melville House, 2015. 5.

in terms of methodology, but in the scope of questioning the presupposition of the dark web as “evil”, it seems to amount to confirmation bias. He writes:

The dark net is a world of power and freedom: of expression, of creativity, of information, of ideas. Power and freedom endow our creative and our destructive faculties. The dark net magnifies both, making it easier to explore every desire, to act on every dark impulse, to indulge every neurosis. I came to realize that the unspoken truth about the dark net – whether it’s closed groups with password barriers, or Tor Hidden Services with its drugs markets and child pornography – is that everything is close to the surface.

Hidden encrypted websites and mysterious underground drugs markets sound like they exist far below the world of Google and Facebook. But cyberspace doesn’t have depth. If you know where to look, everything is as accessible as everything else. In the dark net, we can simply find more, do more, and see more. And that means we have to be careful, cautious, and responsible.¹²⁰

This passage raises several immediate issues. Given that *The Dark Net* cherry-picks its objects of inquiry so as to construct a parallel “dark” internet amongst both the surface and true dark web, Bartlett’s wording at the start of this passage appears to reveal a problematic transposition. In describing the “dark net” (again, *Bartlett’s* “dark net”) with the positive claim “world of power and freedom: of expression, of creativity, of information, of ideas,” one is left to wonder if this exact phrase could not describe the internet *in general*. It certainly registers in the very utopian dialect used to describe the internet’s potential from its inception as Arpanet, and if this is the case, Bartlett’s assertion risks grafting his narrative assemblage of the “dark net” onto the internet wholesale.

The implications of this are greater than they may seem given what is to follow here. Bartlett makes recourse to the fundamental creative and destructive abilities of humankind once again (lapsing into the metaphysical) and then pathologizes it, claiming that now fuzzily

¹²⁰ Bartlett, Jamie. *The Dark Net*. Brooklyn: Melville House, 2015. 237.

distinct “dark net” allows for the freeing of “dark impulses” and the indulgence of “neuroses”. This is a sharp contrast from his earlier definition, in which he claims the “dark net” is dark simply because it is rarely seen, on top of its liberating power. Once again, Bartlett intentionally dispels the notion of the “dark net” as a single referent to the dark web, as the majority of his studies involve the surface web. Coupled with the aforementioned flux in defining his own terms, his claim appears to collapse into the well-trodden argument that technology’s inherent danger lies in its benefits; its freedom cuts both ways. This argument, while intriguing, has some difficulty in terms of its productivity, as it potentially cyclically confirms the original bias that the darkness of the “dark net” is an inherent quality, and it is now one that simply exists within the internet as a whole. He doubles down on this claim by asserting that the aspects of the internet that seem to be buried deep under hidden channels are in fact “close to the surface” after all. Bartlett is not wrong here, technically speaking, but once again, the majority of his examples hail from the surface web. It is also true that one can access hidden services with relative ease, and his argument that cyberspace lacks depth should be commended in its attempt to adjust the prevalent narrative discourse concerning the deep web. The reasons *why* something that is in fact quite close would be so resolutely compartmentalized and pushed away into a narrative sphere of darkness are left open to interpretation, something I wish to pick up in this chapter. What appears to be a text that desires to answer this question, Bartlett’s inquiry into the construction of a “dark space” as a means to reject it, instead amplifies the existing rhetoric, and this occurs most forcefully in his closing remarks, in which he suggests that we all need to hold greater caution and responsibility. Since Bartlett attempts to collapse the apparently discrete cognitive mapping of the surface and dark web into something less defined in its separation (again, something

with which I do not fundamentally disagree), then what can one take from this other than that some people are bad and will use the internet for bad things? It is probable that this is meant to be his moment of dispelling, a catharsis in which he claims that the “dark net” is not in fact unique but that evil is present in any space or channel. If this is indeed the case, then it is a bit difficult to separate from his assertion that the “dark net” directly amplifies evil’s potential. In neutrally qualifying the argument, Bartlett simply reaffirms it, all while avoiding a hermeneutic approach to the question of “darkness” in favor of ethical prescriptions.

Of all things, *The Dark Net* at times brings to mind the work of Georges Bataille, specifically the conception of wasteful expenditures of energy as a formative impulse. To develop this argument, I turn attention here to a single section of the book as a means to offer a more focused foundation. Bartlett’s fourth chapter “Three Clicks” (once again, only one of two chapters that explicitly concerns the dark web) focuses its sights on child pornography and the relative ease through which one can access it via Tor. The chapter takes its name from an anecdote with which Bartlett begins, wherein he recounts opening his Tor browser, clicking to the Hidden Wiki, and then seeing an advertised link for child pornography.¹²¹ After noting that this process involved two clicks, he states, “If I had clicked again, I would have committed an extremely serious crime. I can’t think of another instance where doing something so bad is so easy.”¹²² Bartlett is not wrong here, and the streamlined ability to access child pornography on the internet is, at best, horrific. He highlights the growing phenomenon of what he calls “browsers” as well, these being offenders who start out

¹²¹ Bartlett, Jamie. *The Dark Net*. Brooklyn: Melville House, 2015. 110-111.

¹²² *Ibid.* 111.

searching for legal pornography, but through a noxious combination of curiosity, desensitization, and compulsion find themselves searching and collecting increasingly obscene material until it reaches child pornography, as if it were a final destination.¹²³ Profiling one such browser named “Michael”¹²⁴, Bartlett paints of a portrait of a man seemingly baffled at his own descent into criminality. Upon being caught with vast amounts of child pornography of all designated levels of obscenity,¹²⁵ Michael expresses disbelief at how he reached that point, unaware of how the process began and how badly it had escalated.¹²⁶ Cases like his are quite common, enough so that an organization dedicated to addressing them (amongst more traditional ones) was created in the United Kingdom. Named the Internet Watch Foundation (IWF), this group looks for websites that host child pornography and upon confirmation reports to the police and gets the site taken down by the relevant hosting ISP.¹²⁷ Having been in operation since 1996, during which time they focused on Usenet groups, the IWF is particularly sensitive to cases such as Michael’s, as they have seemed to grow in numbers proportionate to the increased ease of access endemic to contemporary internet infrastructures.¹²⁸

There is a large caveat to Bartlett’s profile, though, one that once again betrays the focus on the actual dark web with which he commences this chapter. The IWF principally tracks content on the surface web, ignoring Tor altogether. Bartlett explains:

¹²³ Bartlett, Jamie. *The Dark Net*. Brooklyn: Melville House, 2015. 115.

¹²⁴ His real identity ostensibly withheld for obvious reasons

¹²⁵ The US government categorizes child pornography with numeric levels spanning 1 through 5, increasing in obscenity with each greater number

¹²⁶ Bartlett, Jamie. *The Dark Net*. Brooklyn: Melville House, 2015. 117.

¹²⁷ *Ibid.* 117.

¹²⁸ *Ibid.* 119.

The IWF doesn't investigate URLs of Tor Hidden Services. Firstly, because they receive very few reports of material on there, and secondly, because if they did, there isn't very much they could do about it. Tor Hidden Services can be hosted on any computer, anywhere in the world, and the complicated traffic encryption system used by Tor means it's very difficult to work out exactly where it is or who they could contact to take it down. But Tor Hidden Services are vital to understand why the IWF's job is so hard, because they serve as a hub that produces new material and recycles old, making it available to a wide audience to view, save, and share again (often using peer-to-peer file-sharing technology). Content on these sites is uploaded anonymously using Tor and encrypted file sharing and downloaded by other users, decentralizing and widening the distribution base of material. Every time a Hidden Service is taken down—it's hard but not impossible—the community dusts itself off, reorganizes, and starts again.¹²⁹

Tor's infrastructure does indeed make the task of removing such sites exceptionally difficult, and Bartlett is correct that for an organization such as the IWF, the difficulty could seem so insurmountable as to not be worth the effort. And yet, there is a tone of passive acceptance on Bartlett's part here, despite his valid analysis of such difficulty. It is as if he discusses Tor Hidden Services as a kind of liver, taking in toxic material and repurposing it into the wider organism of the dark net to achieve new ends before returning to the cycle anew.

I would note here that Bartlett is in no way responsible or obligated to focus solely on the dark web proper in a book clearly concerned with a far broader picture, but throughout its length there grows a sense of futility regarding the dark web's existence, something magnified greatly by his concluding remarks. Despite returning to Tor on more than a few occasions to highlight its culpability in these "dark" subcultures, Bartlett simply acknowledges its self-replicating abilities and inevitable existence, as if it is the end-stage of a type of incurable malignancy, a destination for criminality to expend itself. It is here that I find resonance with Bataille's thought, wherein he claims that all social organizations

¹²⁹ Bartlett, Jamie. *The Dark Net*. Brooklyn: Melville House, 2015. 129.

inevitably experience a type of pressure from unchecked accumulation.¹³⁰ Bataille is less than direct regarding precisely what kind of material accumulates, but through inference one could argue that it could be human bodies, capital, physical structures, sexual needs: any creation or bodily function necessary for social congruence. Taking the example of human bodies in general, when left to accumulate without regulation mechanisms in place (population control, birth restrictions, etc.), available space and resources deplete to unsustainable levels. When this expansion reaches a functional limit, Bataille affords only two possible outcomes: an expansion of the zone of pressure to afford for more accumulation, or destruction via war or disaster.¹³¹ This latter effect he argues is a universal impulse within humankind: a will to squander the excess. The term squander is loose here, as it is with several of Bataille's terms, for it could refer to spending money on luxuries, sex for pleasure to release accumulated libidinal energy, or (as noted above) the squandering of human life in murder or mass conflict. This drive towards waste is a constant in the world, and it serves as a way to allow for society to continue operating smoothly.

I argue here that Bartlett's resignation to either child pornography on Tor as well as his concluding argument concerning the inevitable presence of illegal activity in general on such channels both suggest a highly similar teleological thrust as Bataille's writings, and consequently risk lapsing into a sort of futility. There is little way to contest Bartlett's concrete claims concerning the improbability of eradicating illegal activity on the dark web, something that I would never contest on its own. But in framing this phenomenon as a sort of self-replicating zone in which "dark impulses" can be freed, it depicts Tor (and the internet at

¹³⁰ Bataille, Georges. *The Accursed Share, Volume 1*. New York: Zone Books, 2013. 31.

¹³¹ *Ibid.* 31.

large) as a kind of burn-off zone for the very kinds of libidinal or violent impulses Bataille sees as given to the human condition, a space that could be begrudgingly tolerated if only such impulses could remain contained therein. It remains, for Bartlett, a space against which the multitude must defend itself, but it is one that he concedes will continue to recycle and reform despite all efforts to stymie its growth. Whether or not this is the case, it nevertheless strengthens the preexisting conception of the dark web rather than dispels it. Bataille, to his credit, offers a general model to positively direct these impulses towards productive squandering (the redistribution of unnecessary wealth of a rich country to an impoverished one, for example¹³²), and yet this is only presented as a preferable alternative to war or violence and not a more effective one: mass death still would do the job. Bartlett, however, leaves his conclusion open, in turn stopping short of offering a praxis towards utilizing the dark web for positive ends. It is The Tor Project who step in to carry out this task instead, and while I expressed reservations towards their argumentative approach earlier on, there is something noble in their attempt to offer justifications for Tor's existence outside of simply offering bad resources for bad people. In light of Bartlett's book, their claim that Tor can allow for greater legal efficacy in shutting down child pornography (via the same anonymity that fosters its existence) works as a dispelling maneuver.

Despite the considerable space given to Bartlett in this section, *The Dark Web* is not the only prominent book concerning Tor, and it takes a remarkably different approach. Eileen Ormsby's *The Darkest Web* serves in part as a corrective antidote to the dark web mythos, and her efforts bear compelling results. This is admittedly quite surprising given her book's title, as its use of the superlative suggests that the contents within would double down

¹³² Bataille, Georges. *The Accursed Share, Volume 1*. New York: Zone Books, 2013. 40.

on both the light/dark and good/evil binaries that emerged within Bartlett's text despite his stated goals suggesting otherwise. Furthermore, given her occupation as an investigative journalist, Ormsby's book swiftly adopts a markedly different style than Bartlett's, frequently reading as a thriller that unfurls its denouements through plot twists and narrative jolts. The greatest twist, though, is that the first two of the book's three chapters (all of which focus on Tor and Tor Hidden Services) reveal themselves as forceful demythologizations of the dark web, often times with a biting sense of humor. Prior to writing *The Darkest Web*, Ormsby wrote a multitude of pieces to this end, and was an active contributor to subreddits dedicated to deflating dark web urban legends in a similar manner. This career of sobered engagement shows throughout her book, something in contrast to Bartlett's admissions of being a novice in the seedier portions of the dark web at the time of his book's creation, something I do not write as a criticism or insult.¹³³ Moreover, Ormsby almost entirely avoids any attempt at offering a philosophical/theoretical framework for her book, instead focusing on crafting revelatory narratives that gain their force through their findings instead (a hallmark her status as a journalist). I find this stylistic divergence to be the most compelling aspect of her text in terms of this analysis, and as such will focus principally on this to start.

Her first two chapters concern the Silk Road and its offshoot dark web black markets (hereafter referred to as "dark markets") and dark web assassination services respectively, but they are narratives of collapse and failure rather than reinforcements of danger. This is not to say that Ormsby does not traffic in suspense and fear. By the end of her introduction she writes the following:

¹³³ For example, Bartlett tests out a drug market and purchases marijuana for the first time, documenting it his intro to *The Dark Net*'s chapter on the Silk Road. 135.

Many people refer to the dark web as the wild west of the internet, where anything goes. In many ways, they are right. There are some depraved minds out there and they have total freedom to buy, sell, share or create anything they want, confident that they cannot be found.

Some people want to buy murderous substances and implements. Some want to sell people and poisons. Others want to share livestreams of torture or create pictures and films of such depravity, seasoned cops who view them need counselling. Most frightening is that the technology – simple to use for those with basic computer skills – has meant that those depraved minds have been able to find each other.¹³⁴

This is effectively a standard model for discussions of the dark web, similar in all respects to the selection of those that commence this chapter. What is remarkable, then, is that so much of her book is dedicated to a bait-and-switch tactic, in that she isolates several of these very frightening realities in order to dull their force or disprove them outright (child pornography notwithstanding). It takes little time for her to reach this point. By the thirtieth page into her book, Ross Ulbricht, creator of the Silk Road and to that point the largest dark market the dark web had ever seen¹³⁵, has already been ignominiously arrested due to his leaving an administrator account open on a computer in a public library, an account that held every possible piece of incriminating evidence against him and his staff.¹³⁶ The most serious of Ulbricht's crimes involved soliciting assassinations on several of his employees, those that had stolen funds or betrayed him in various forms. Unbeknownst to Ulbricht, none of the murders he ordered took place, having been orchestrated and simulated from their inception by the FBI with the help of a Silk Road employee turned informant named Curtis Green, incidentally the first employee on whom Ulbricht ordered a hit.¹³⁷ Astonishingly, photos of

¹³⁴ Ormsby, Eileen. *The Darkest Web*. Sydney: Allen & Unwin, 2018. xxv.

¹³⁵ The Silk Road was truly a juggernaut of a black market, selling seemingly anything imaginable: drugs, weaponry, credit cards, etc. Now permanently shut down, it would reform in two different formats following the arrest of Ulbricht and subsequent FBI shutdown of its operations.

¹³⁶ Ormsby, Eileen. *The Darkest Web*. Sydney: Allen & Unwin, 2018. 30-31.

¹³⁷ *Ibid.* 19.

Green's death were made using Campbell's Chicken and Stars soup to simulate his post-torture vomit, an apparently convincing enough touch so as to trick Ulbricht.¹³⁸ The chapter continues with a step-by-step recounting of the eventual arrest and confession of the Silk Road's staff, humanizing and unveiling its central weaknesses. It results in a peculiar effect, as Ormsby never denies that the Silk Road was an effective black market – on the contrary, she is very clear about its vast empire during its existence. But in highlighting the downfall of its creators over their infamy and efficacy, it is as if she strips away a layer of its “darkness”, revealing the members to be often hapless, ordinary people who swiftly found themselves in over their heads. While the dark web offers the potential to create an illegal empire, potential does not ensure total mastery, and the Silk Road's explosive burn out exposes a severe weakness in the darkness myth: invisibility is often still contingent on a person's surface life, and it is by no means a total guarantee. In comparison, Bartlett's claim that the dark web/internet allows for an unleashing of impulses never specifies that these activities, like any, are subject to failure, in turn portraying the dark web as an impenetrable aegis for criminality. Furthermore, he also discusses the arrest of Ross Ulbricht in his own chapter on the Silk Road, but never mentions these unflattering details due to his aims of discussing dark markets in general. All this serves to do, in the end, is further bolster the looming threat and danger of these markets, a stark contrast once again to his stated claims of humanizing the agents behind such phenomena. This is a task that Ormsby instead achieves with flair.

For the rest of the chapter, she untangles the byzantine web of actors behind the Silk Road debacle, and goes on to chart the rise and fall of several subsequent markets in the

¹³⁸ Ormsby, Eileen. *The Darkest Web*. Sydney: Allen & Unwin, 2018. 21.

wake of its downfall. One major focus is a figure who went by the handles Variety Jones and Plural of Mongoose, later revealed to be a man named Roger Thomas Clarke, residing in Thailand.¹³⁹ Clark served as a kind of advisor to Ulbricht during the Silk Road's prime, offering advice and support to Ulbricht up to and including his assassination orders on several of his employees. Eventually identified and arrested, Clark was revealed to be an online drug-dealer with much experience, leading Ormsby to make the following claim:

The millennial generation likes to believe that they led the way in online black markets, but there were many people involved in online drug sales while they were still in primary school. There were sites on the clear web that skirted legalities by positioning themselves as informational sites, which did not blatantly make drug sales, but brought like-minded folk together.¹⁴⁰

Again, Ormsby never downplays the augmenting effect of anonymity networks on black markets and drug sales, but this statement serves as a compelling corrective to the idea that the dark web brought forth a truly novel paradigm shift. By suggesting dark markets as genealogical descendants of clear web meeting sites, she dispels the notion that such criminality sprang forth from the dark web rather than simply migrating to a new space within. At first glance, this would imply that Ormsby is subject to the same relativism that affects Bartlett's conclusions, that illegal activity and depravity finds its way into the dark web to thrive through some necessary expenditure or flow (something likewise implied in Ormsby's own introduction). However, in couching this claim within a succession of arrests, failures, and shutdowns, she effectively argues that the same deterrents and failures of the surface world followed these groups into the dark web in pursuit. Its thick darkness is made porous and penetrable in certain areas.

¹³⁹ Ormsby, Eileen. *The Darkest Web*. Sydney: Allen & Unwin, 2018. 57.

¹⁴⁰ *Ibid.* 57-58.

She closes this chapter by noting that despite the continued success of drug sales on the dark web in principle, “at the time of writing, the darknet markets are in disarray”.¹⁴¹ Ormsby notes that while there are certain markets that continue to thrive, the environment of the dark web is currently inhospitable to massive centralized markets, despite growing demand. Instead, decentralized markets akin to the very meetup groups that served as precursors to the dark markets are making a resurgence.¹⁴² She does not predict the downfall of internet drug trade, a frank impossibility, but she is neither a doomsayer nor a romantic on the subject, evading the typical signifiers of the dark web as myth and offering a surprisingly uncharitable analysis of the market state. This is a productive form of demythologization, one that does not overzealously deny the presence of illegal activity, but instead mutes its effects and sense of novelty, and this approach affords Ormsby the ability to approach the topic of the dark web with a certain neutrality that does not lapse into ethical relativism.

However, the chapter that follows takes the demythologizing approach to an extreme. Focusing on Hidden Service assassination services, Ormsby structures the chapter as a murder mystery, leading with a flat description of a murder that took place following an exchange with an assassination service named Besa Mafia and the subsequent arrest of a Londoner named Chris Monteiro¹⁴³ She then slowly uncovers the mystery step by step, interspersing each revelation with a series of analyses and statistics concerning hitmen both in the dark web and the surface world. What is critical to take into account is Ormsby’s sleight-of-hand style throughout the chapter, as she lures the reader into a sense of insecurity and fear while subtly hinting at the artificial nature of the hitman mythos at the same time. A

¹⁴¹ Ormsby, Eileen. *The Darkest Web*. Sydney: Allen & Unwin, 2018. 88.

¹⁴² *Ibid.* 88.

¹⁴³ *Ibid.* 95-96.

closer examination of this tactic is revelatory. Immediately following her introduction of the Besa Mafia murder, Ormsby writes a section discussing the tension between the actual nature of hitmen and their depictions in popular media. Arguing that these popular depictions overcode and distort the reality of hitman assassinations, she cites several studies that erode the common conception of hitmen as professionally trained agents or even people with scores of murders on record. Instead, Ormsby claims, the majority of hitmen only ever have one target and lack the surgical precision seen in films and other entertainment media. This is not to say that professional hitmen and spies do not exist at all, but instead that the popular narrative has subsumed the significantly smaller reality of the situation. Furthermore, the fact that hitmen, by the definition of their work, require secrecy makes them understandably difficult to study with any amount of precision, leaving the reality an unknown space.¹⁴⁴ Ormsby writes, “The very fact that there is this unknown gives us an opening to believe in the hitmen presented to us by popular culture. Academics can’t study them because they are too good to get caught. The hitmen who evaded capture may be significantly different to those languishing in prison.”¹⁴⁵

What is immediately odd, then, is Ormsby’s introduction to dark web assassination services only a few sections later, in which she appears to fortify the commonplace narrative that the dark web is a verified source of murder-for-hire. She writes, “Contract killing services were a natural progression for the dark web. All the elements were there: both customer and hitman could remain anonymous from one another, payment could be made in virtually untraceable cryptocurrency, and arrangements could be made away from prying

¹⁴⁴ Ormsby, Eileen. *The Darkest Web*. Sydney: Allen & Unwin, 2018. 97.

¹⁴⁵ *Ibid.* 97.

eyes thanks to encrypted text messages using anonymous email providers.”¹⁴⁶ It is quite true that the dark web contains several assassination sites, with old ones folding and new ones springing into existence per the standard lifecycle of Hidden Service sites in general. Ormsby’s diction here, however, heightens a causal ontological chain that is all too familiar by this point. The dark web offers anonymity, anonymity encourages “dark impulses”, and it is a matter of course that arguably the darkest impulse would find a loving home within its shadowy corners. But looking back to her previous section places this observation into the exact same tension she unpacks earlier on: is this a claim to be taken as given, or a new mutation of the popular hitman mythos that obscures the actual presence thereof? It takes less than the span of five pages for Ormsby to whip her unfolding examination the opposite direction, as she succinctly asserts, “With no deaths that could be attributed to dark web murder-for-hire sites, it seemed clear that hitmen in cyberspace were yet another myth.”¹⁴⁷ Stunningly, this claim follows her effectively deceiving several hitmen sites with assassination inquiries (up to including offering victim information sourced from obituaries), only to receive no response back.

Ormsby plays this game of misdirection for the rest of the chapter, arguing that assassination inquiries and offers are quite verifiable, but only through arrests and stings, given that a large number of assassination sites are run by local police and the FBI. Across this development, however, she continues to dangle the name Besa Mafia as a counterpoint, printing several e-mail correspondences that attest to them being verified killers, describing personal threats she received from the group, and returning to the murder of Amy Allwine,

¹⁴⁶ Ormsby, Eileen. *The Darkest Web*. Sydney: Allen & Unwin, 2018. 103.

¹⁴⁷ *Ibid.* 108.

apparently carried out at the hands of a Besa Mafia agent on the order of her husband Stephen Allwine. The arrest of Chris Monteiro described at the beginning is revealed to be an act of deceptive parallelism, Chris Monteiro in actuality being one of Ormsby's colleagues. The two relentlessly investigated Besa Mafia, only for a Besa Mafia member to tip off the FBI member to Monteiro's alleged hacking activities in retaliation. Following this, Ormsby ratchets up tension by describing Besa Mafia's increasingly aggressive actions towards her, a "leak" (self-created) of one of their murders taking place, and a series of short biographies of the Allwine's leading up to Amy's death.

The final revelation reads as follows: "Besa Mafia was a scam. Nobody had been killed. Nobody had been raped or beaten up. Nobody had ever been refunded his or her money. The only criminal activity carried out on behalf of Besa Mafia was the torching of four cars by someone called ThcJohn."¹⁴⁸ It is a twist the rivals the greatest of mystery novels, one given tremendous impact by Ormsby's narrative development. The reality of the matter is that Besa Mafia is only one man, Yura. He secures assassination orders from prospective clients and proceeds to report several mishaps and errors over the course of the assassination attempt. With each failure, he goads the client into paying more for "upgraded" services until he can get no further cooperation, then turning the client's information over to the authorities. The apparent murder video circulated as proof was staged and fake, and so the most verifiable dark web murder site turned out to be one of its most sophisticated

¹⁴⁸ Ormsby, Eileen. *The Darkest Web*. Sydney: Allen & Unwin, 2018. 161.

ThcJohn was a prospective hitman looking to be hired by Besa Mafia's bizarre crowdsourcing architecture. Besa Mafia gave him tasks to torch cars and place clips of it online to use as marketing, all part of an alleged initiation procedure. Despite being offered money for his services, ThcJohn was paid \$300 one time, and nothing more.

vigilante procedures. Ormsby investigation naturally exposed these exploits, leading Yura to embark on a series of increasingly pathetic and impotent revenge threats. Ormsby chronicles each one in detail, causing grievous harm to the “dangerous dark web” mythos at large. Rather than a murder den, it is revealed to be artifice of the highest order, and the chapter closes with no verified dark web hit discovered to date. Taken in tandem with her withering portrait of the Silk Road’s collapse, Ormsby’s dive into the “darkest web” by this point paints an almost comedic portrait of its denizens, amateur to the extreme and defenseless in the face of exposure.

The chapter does not end so cleanly, though, instead taking a turn for the tragic. Amy Allwine remains dead, and it turns out that in the face of having been scammed, Stephen carried out the murder himself. Through this development, Ormsby’s book touches on an ethical polemic as yet unseen regarding the dark web. Within his anemic threats, Yura frequently accused Ormsby of failing to see the forest for the trees, making accusations such as the following: “it is clear that you are protecting murderers and want to help them be safe from scams...If you expose any other hitmen scam, all the killings of innocent people will be on you...a real market is not hard to do. Don’t push it. If you love murders, you might get a real site as a result.”¹⁴⁹ Following Amy Allwine’s death, Yura reached out to Ormsby again and accused her of facilitating the death in a similar fashion.¹⁵⁰ This is a startling reversal when considered in concert with popular notions of the dark web, most notably Bartlett’s final claim, once again. While it is simple to conceive of the dark web as a release mechanism for criminal behavior, few depictions consider the dark web as a source of

¹⁴⁹ Ormsby, Eileen. *The Darkest Web*. Sydney: Allen & Unwin, 2018. 207.

¹⁵⁰ *Ibid.* 212.

regulatory mechanisms that actively combat said behavior, hence the Tor Project's impassioned arguments to that very end. Yura switches the blame to the surface world, effectively positioning the dark web as a zone of just dissimulation, wherein one can harness this standing narrative and use it to entrap truly "dark" agents, i.e. those entering from the surface world to actuate terrible desires. Granted, Yura also claims that there could be such sites if one truly wanted to facilitate one, but as Ormsby notes, no such thing has been located to date. These two chapters of her book go great lengths to drawing the dark web into a far more complex conceptual space, in which its metaphorical attachment to darkness is scrambled at the core. Taking Yura's accusations into this register, the truly toxic agent was in fact the illumination of Ormsby's investigation, besieging a process with all the best intentions that required a veil to function.

Were *The Darkest Web* to end here, it would remain a remarkably strange and unique work in the small canon of dark web literature, but as the names of these two chapters suggest ("Dark" and "Darker"), there still is one step further to travel. It is this very chapter that draws Ormsby's book back onto the standard line, as the nature of its content forces her hand, with good reason. "Darkest" covers the market for child rape and torture videos on the dark web, and she discovers that these very much so exist, unfortunately. It starts off in a similar fashion, though, with Ormsby putting to rest several mythic aspects of the dark web concerning snuff films and torture livestreams. Like dark web assassinations, a true snuff film has yet to be discovered, as I covered in my own introduction. The dark web analogue to this cultural symbol is the "red room", and its ultimately fictitious nature functions in a similar manner as well. "Red rooms" claim to offer livestreams of the torturing and subsequent murder of a kidnapped victim, sometimes under the guise of an act of retribution

or justice. Ormsby investigates a particular “red room” that claimed to torture members of ISIS, humiliating and injuring them in manners similar to the infamous Abu Ghraib containment facility.¹⁵¹ Ultimately, this room, like all other documented instances, turned out to be a scam not unlike that of Besa Mafia, wherein prospective viewers paid an entry fee only to see an error page the moment that the site’s countdown clock reached zero. A sense of “ethical” exploitation of its patrons cannot be ignored in this case. This leads Ormsby to make one of the most bracing claims of the entire book, flipping the dark web’s reputation on its head once again. She writes:

Hoax or not, how far are we from the real thing? If a red room ever comes to fruition, it is more likely to appear on the clear web than the dark web, perhaps even through our most familiar websites. Facebook Live, the application that allows anybody to broadcast live to their friends or the public at large, has already provided a platform on which people have livestreamed their crimes, including a number of suicides and at least one murder.¹⁵²

Unlike Bartlett’s equivocating stance on the “dark” aspects of the internet at large, Ormsby unabashedly incriminates the surface web as a far more likely platform for this exact kind of behavior. She is not without reason at all: along with her cited instances, several videos of murders have even gone viral on the surface web, such as a recorded instance of two teenage Russian spree killers, scores of filmed murders and beheadings during wartime, and several murders of journalists caught on tape from their camerapersons. All are horrifying and found vast audiences via the surface web and not the dark web, but they all lack the status of being done for profit. As such, Ormsby’s hypothesis must remain speculative here, despite the strong circumstantial evidence lending strength to her supposition.

¹⁵¹ Ormsby, Eileen. *The Darkest Web*. Sydney: Allen & Unwin, 2018. 240-241.

¹⁵² *Ibid.* 246.

This is only the introduction to the chapter's focus, though, instead aiming its sights on the phenomenon of "hurtcore" videos, something that somehow surpasses repugnance of child pornography. It is worth mentioning first that Ormsby continues her unintentional riposte against Bartlett, writing "One of the most common fears of those venturing into the dark web for the first time is that they will accidentally stumble across child pornography. The fears are not without foundation[...] However, the chances of stumbling upon it accidentally are slim. The sites usually require registration and the leave the visitor in no doubt of what lies beyond the login screen."¹⁵³ Bartlett's claim of the ease with which he could have found child pornography gains an element of sensationalism in light of Ormsby's judgment here, as she is correct that such material is more closely guarded than one would be led to believe, rarely appearing on standard Hidden Service wikis that serve as most people's gateway into the dark web proper. But with this added security comes amplification, and "hurtcore" videos take advantage of this. Put succinctly, "hurtcore" is the filming of child abuse (sexual and physical) that is sold for a profit. There exists a vast level of categorization and compartmentalization of acts for any desire, and there does exist an audience for them, to great horror. Much of the chapter focuses on an administrator turned curator named "Lux", a man who set out to run the most perverse and reprehensible site for child pornography and "hurtcore" videos on the dark web, something that he succeeded in doing, for a time. Finally located and caught by a police task force, "Lux" was revealed to be a teenage boy named Matthew Graham, described in court as "... a sad , friendless little boy who was desperate for attention and accolades from his peers."¹⁵⁴ Only at times showing remorse, there is something nihilistic to this situation that proves deeply disturbing, even to Ormsby. That

¹⁵³ Ormsby, Eileen. *The Darkest Web*. Sydney: Allen & Unwin, 2018. 247-248.

¹⁵⁴ *Ibid.* 278.

such gruesome material could be curated and traded for nothing other than a growing sense of respect can do nothing other than give great weight to Bartlett's depiction of the dark web as a nurturing ground for evil, and Ormsby has little to say otherwise, understandably.

This is largely due to the discussion surrounding a particular "hurtcore" video titled *Daisy's Destruction*, a mythical "hurtcore" tape proven real via Graham's site, in which a two-year old infant is brutally tortured and raped by a man and woman over the span of hours. The horrifying nature of the video was powerful enough to fortify in part a sub-mythos of its own. Ormsby explains:

The dark web is home to all manner of rumours and creepy stories, most of which are exaggerations, lies or hoaxes. There were always stories of websites and videos that were gruesome beyond anything anyone had ever seen. Many people believed there was a further, deeper, darker section of the dark web, called Mariana's Web or the Shadow Web, where the select few discovered the key to unlock the greatest horrors. Snuff movies, of course, and worse.¹⁵⁵

This is a truly compelling phenomenon, one that almost single-handedly exposes the narrative and metaphorical operations concerning the dark web. That a culture that exists within and is conversant with the dark web, a conceptual space designated by the outside world as a festering environment of evil, could in turn develop their own tonally identical conceptual space is a testament to the cascading fortitude of the darkness metaphor as a solidified concept. Already situated as an "other", a reflective and "darker" space is nonetheless composed by way of contrast and set as a space to fulfill the most extreme promises such a narrative offers but fails to realize. It is as if the conceptual paradigm at play

¹⁵⁵ Ormsby, Eileen. *The Darkest Web*. Sydney: Allen & Unwin, 2018. 261-262.

retains its trace composition even in the face of dissolution, simply establishing a side path in which it can gather strength and establish itself anew.

Whatever the case here may be, Ormsby discovers that *Daisy's Destruction* is in fact all too real, choosing to avoid watching it for the sake of her own emotional well-being, a decision I myself have made with little difficulty, to say the least. Faced with one of the few cases of inescapable proof in the quest for the darkest regions of the dark web, Ormsby is left to designate the video (and the phenomenon of “hurtcore”) as such. The final lines of the book read as follows: “And for those who want to know just how far the dark web goes, they have an answer. This is the darkest web.”¹⁵⁶ It is hard not to read a tone of resignation or even disappointment in her diction here, not towards her findings but the implied desires of her readers. Faced with the task of defining the undefinable, Ormsby searches to the limits of her tolerance and finally locates the liminal point, one she cannot and will not cross, willing to keep it shrouded in the darkness. In doing so, her book for the first, and yet most significant, instance reverses its course of demythologization and instead doubles down on the mythologizing process. Rather than Bartlett’s comparatively neutral philosophical claims, she designates a single, defined point and designates it as the “darkest” aspect of the dark web, in turn positioning it as a nexus around which the rest of dark web activity (much of which she has previously dispelled) orbits.

It makes for a shift that proves uniquely difficult to analyze or critique in any simple fashion, and while the reason behind this is multifaceted, it is not difficult to understand. When it comes to the nature of the material to which she assigns this designation, I believe

¹⁵⁶ Ormsby, Eileen. *The Darkest Web*. Sydney: Allen & Unwin, 2018. 282.

that she is absolutely correct in her judgment. It is difficult if not outright impossible to even imagine something more horrific than the videos and materials that populate her final chapter. To even *hypothesize* greater depths as such would be an exercise in masochism. In this sense, Ormsby could do nothing other than claim “hurtcore” and its ilk to be the “darkest” aspect of the dark web to date. But looking at the entire book in terms of its narrative development and execution inscribes it into the very ethical debate fought passionately on the part of the Tor Project, once again. Given that each chapter unfolds as a mystery in miniature, each a journalistic progression towards deflation on the case the first two, the entire book then assumes the same progressive structure on a macro level. After an expedition into collapsing the architecture of the dark web myth via a series of twists and revelations, the final twist in the chain is that the “dark” metaphor is aptly deployed, as little else could stand to explain the inexplicable draw of “hurtcore” on the level of basic human decency. In one sense, her book (like Bartlett’s) returns to the starting position, in which it can do nothing other than acknowledge the existence of criminality and in turn serve as a point against which the Tor Project can claim (correctly or not) that it functions as a means to address and erase the very same issues for which it allows.

The subtly bilious wording of Ormsby’s final sentences still cannot be shaken off in light of this. It is as if she is acutely aware of the audience for which she writes, knowing that they arrived at her book in search of a masochistic quenching of thirst, that despite all of her efforts to lay waste to the baggage that the term “dark” imports, once again “darkness” proves too sticky, too conceptually solid to adequately dispel. No matter the efforts, the presence of “hurtcore” (and child pornography at large, for that matter) will always force the content of the dark web to subsume the structure and steal away the “dark” appellation for its

own. Even though such material can be located on the surface web, something that Bartlett likewise proves, the association with the dark web proves too seductive, as if it must exist to justify the metaphorical contiguity of the dark web with its calcified popular conception. Considered through this lens, Ormsby and Tor Project would no longer serve as easy adversaries in the ethical debate concerning the dark web. It is clear that Ormsby appreciates the greater function of the dark web, or at the very least holds a particular fascination for its potential, and as such “hurtcore” appears as a devastating malignancy, one that poisons the whole for both herself and Tor in the same fashion. Despite his conclusions, the same could in part be said for Bartlett, who still finds in certain places positive potential for the dark web’s structure from a historical perspective alone. This does not even take into consideration the verifiable presence of drug sales, identity theft, etc. that still do exist on the dark web proper, but as all three assert, a plentitude of surface world analogues for such activity exists, even to a degree that in some cases eclipses what the dark web can offer. Ormsby’s unfortunate confirmation thus exists as a null point, wherein the question if “darkness” as a metaphor or conceptual paradigm presupposes the dark web’s popular reception is negated. “Hurtcore” exists, and so the dark web is “dark”.

Left at this point, this would be a particularly unsatisfying conclusion, one with several unanswered questions remaining suspended in place. For one, the positive functions of the dark web (such as those enumerated by the Tor Project) still do not receive any significant attention at all within these two texts. Does there exist any satisfactory metric by which such positive applications could ever outweigh the harm of aspects such as child pornography, and would a discussion of these ever rise above the risk of irresponsible relativism? Secondly, if so many mythical aspects of the dark web can be soundly disproven

as the case with Ormsby's investigative work, why is it that these very aspects find themselves so desirable in terms of fictional media based on the network? That an exploitative horror film about child torture would be disgusting at best is somewhat beside the point here, as that would assume that films such as *Unfriended* are created with the next-available subject so as to satisfy a need. If such a need exists, then from where did it arise and why does it remain so trenchant? Returning to a question that I posed earlier: given that child pornography is such an identifiable symbol of the dark web in the popular sphere, through what logic would a group such as the IDW consider it fashionable to associate themselves with it by proximity? One could read Ormsby's final lines as a plea in this context, one for the reader to be acutely aware of what is actually "dark" on the dark web and to avoid being seduced by the legends and myths that serve as a conceptual smoke-screen of sorts.

Ultimately I argue that the work of the Tor Project, Bartlett, and Ormsby betray a clear struggle with an audience, specially an engagement with an audience who arrives at the works with a presupposed narrative to confirm. Confirmatory and contradictory in equal measure, these texts run headlong into a hermeneutic process that extends far beyond the cultural context out of which the dark web came to be. In this regard, despite the dark web's original appellation in terms of its anonymity, it was all but destined (through a complex network of factors) to find itself attached to a greater narrative history of darkness in terms of the ease with which it could lock into darkness's metaphorical and conceptual history. By nurturing the hidden and inexplicable, it courted metaphorical subsumption late in the history of darkness as a means to address the unknown, and it in turn served to confirm this deployment with ease. This is by no means an ontologic claim in terms of the content and

activity within the dark web. In other words, I do not claim here that in calling the dark web “dark” did this action serve as a directly causal force that attracted criminal activity. As all three of my primary sources acknowledge, it is anonymity *in any form* that fosters this behavior in part. Instead, I wish to focus instead on the fascination with the dark web that gives rise to texts from the outlandish *Unfriended* to the Ormsby’s sobered analysis. Instead, it is this continuous redeployment of “dark” as a signpost for unchecked production and evil that stymies any rehabilitative efforts such as that of the Tor Project and results in the perhaps conciliatory conclusion of Ormsby’s text.

In order to adequately approach this difficult problem, the following conclusion will be formed into two discrete parts. For the first, I will explore a small selection of literary texts that I consider progenitors to the popular treatment of the dark web as it stands today. While the dark web is a product of the contemporary moment in many ways, a documented presence of shadow networks (both historical and fictional) exists nonetheless, and it is this that I consider an important genesis point out of which the narrative treatment of the dark web gains force today. If Bartlett and Ormsby both wrote for a considered audience as I argued prior, I further hypothesize that this very audience is preconditioned by this very narrative line, and as such this history fuels current representations of the dark web via its current conceptual hermeneutic. Where applicable, I will connect these literary texts thematically to the examples with which I introduced this chapter, as I believe that the similarities betray conceptual links that extend deeper than coincidence. Secondly, I will offer my own survey of a small selection of Tor Hidden Services that I explored on my own, reading them through the concept of Serres’ parasitism as a means to fortify Tor’s positive claims as best as one can. This is not an attempt at reducing the significance of the negative

presences on the dark web, especially that of “hurtcore” and its ilk. Instead, I wish to simply offer a framework for those presences that find themselves on the fringes of the dark web narrative overshadowed by the immensely disturbing and more attention-grabbing content. Both of these tasks require working with vast source pools: the history of literature on one hand, and the total extent of the dark web on the other. As such, both of these sections hold no illusion of being exhaustive, but are instead intended to broaden the discussion concerning a still remarkably unknowable phenomenon.

4. Conclusion I: The Hidden Ones

Two of the earliest appearances of shadow networks stem from antiquity, the fertile period that gave shape to darkness in its metaphorical register. *Thesmophoriazusae* by Aristophanes and Euripides’ *Bacchae* both feature mysterious secret societies at the heart of their dramatic action. Whereas Aristophanes’ satirical take on Athenian democratic assemblies contrasts fundamentally with the Bacchic religious cult in Euripides’ work, what does unite the two is that they are both composed exclusively of women.¹⁵⁷ One cannot speak of *Thesmophoriazusae* without first acknowledging its parodic nature, though, as the play unfolds through relentlessly bawdy jokes (more often than not focusing on homosexuality, gender roles, and genitalia), frequently sailing far past the limits of taste. Such jokes are central to the plot, as the bulk of the play focuses on a poorly planned scheme to infiltrate the women’s assembly by disguising a man, Mnesilochus, as a woman and using him to sway

¹⁵⁷ Of course, there is a more explicit link in the fact that Aristophanes’ work stars the late Euripides as one of its central characters, but it is his female assembly that invariably draws the most attention, much how the Bacchic cult of *Bacchae* serves as a more intriguing entity than its own tragic protagonist, Pentheus.

their opinion.¹⁵⁸ This is a life or death matter, as the assembly convenes to discuss the judgment and execution of Euripides himself, charged with misrepresenting and mistreating women in his tragedies.¹⁵⁹ By the end, Mnesilochus is exposed (leading to a hostage situation and attempted infanticide on his part), and only through Euripides' own rhetoric before the assembly (in which he promises to write about women more charitably) is he spared.¹⁶⁰ The metatextual nature of *Thesmophoriazusae* extends beyond its commentary on literary reception to a greater gender conflict within Athenian society at the time. The assembly does not convene for the expressly to address Euripides, but is implied to have existed for some time, secretly discussing inequality and enacting punishment on the greatest offenders thereof. This discourse is often explicitly political, most clearly seen in a speech given by the chorus leader, one in which she criticizes the male-dominant senate body and concludes, "Therefore we maintain that men are greatly our inferiors. You see no woman who has/robbed the state of fifty talents rushing about the city in a magnificent chariot; our/greatest peculations are a measure of corn, which we steal from our husbands,/and even then we return it to them the very same day."¹⁶¹ The assembly is portrayed as an insurgent body operating in the shadows, working to equalize the distance between genders (if not outright invert them) through clandestine judiciary procedure.

That this assembly intended to be humorous is likely given the tone of Aristophanes' prior works, but this does not deprive it of a critical force, albeit one conditioned by the

¹⁵⁸ Aristophanes. *Thesmophoriazusae*. *The Complete Greek Drama, Vol 2*. New York: Random House, 1938. <http://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.01.0042%3Acard%3D52>

l. 87-93

¹⁵⁹ *Ibid.* l. 85

¹⁶⁰ *Ibid* l. 1160

¹⁶¹ *Ibid.* l. 810-813

gender norms of the time period. The group of women target the irrationality of men in their society, claiming that for too long have they been associated with such behavior when the governing political bodies exhibit the same level of irrational hypocrisy. Some have argued that this inversion claims that men act as badly as women, a significant shift insofar that it does nothing to elevate women above their common depiction, instead chiding men for descending to their lower rank. Hence wherein the satire lies, that a caste of citizens considered to lack the emotional and intellectual capacity to form a functioning political body must do so as a counterexample to the depths to which current politics have fallen. In this case, the revolutionary timbre of Aristophanes' work finds itself depleted through a contemporary lens, but it is no less significant for this analysis given that it still deploys a secret society as a destabilizing and critical force at its core, whatever that target may be.

Upon closer examination of the assembly's charge, that Euripides has written his female poorly (and by extension, irrationally), what immediately comes to mind is his *Bacchae*, in which he populates his cults for the newly returned Dionysus almost exclusively with women. *Bacchae* at heart is a complex of struggles: between rationality and sensualism, order and chaos, violence and ecstasy, and quite literally, Pentheus and Bacchus. Unable to accept the growing influence of Dionysus's new presence in Thebes, its current king, Pentheus, has Dionysus arrested on the pretext of treachery and falsely representing godhood. Pentheus's frustration is twofold: practically speaking, Dionysus represents a weakening of his power, as throngs of Thebans leave to join his forest cults and worship him. But Dionysus represents something far more toxic for Pentheus, a slippery figure who evades easy definition, something that insults and eludes Pentheus's arrogant rationality. As hubris dictates, Dionysus targets this exact aspect of Pentheus, driving him mad and sending him off

to join his Bacchante (i.e. Dionysian cults). Promptly upon arriving, he is violently dismembered by the group, one of whom is his mother Agave, forced to realize her terrible act once having descended from her fugue state.¹⁶² While the play follows a relatively traditional tragic progression, the Bacchante themselves serve as a mysterious presence both for the audience as well as in a diagetic manner. Pentheus struggles with understanding their nature, first concluding:

Apparently their gatherings involve
huge vats of wine, and one by one, those girls
slink off alone to serve some man with sex.
They say this craziness is for the god,
but they like Aphrodite more than Bacchus.¹⁶³

Assuming the Bacchante to be orgies of libidinal excess, Pentheus is swiftly proven otherwise by one of his messengers, who reports that after catching a group asleep, he watches them awaken and peacefully draw from the earth quantities of milk, honey and wine.¹⁶⁴ It is only after seeing the group of men spying on them that the Bacchante lash out, whipping into a vicious frenzy and assaulting the men as if they were prey on a hunt.¹⁶⁵ Failing to capture the men, the Bacchante lay siege to a town, attacking the residents and

¹⁶² Euripides. *Bacchae. The Greek Plays*. New York: Modern Library, 2017. 781. l. 1276-1297

¹⁶³ *Ibid.* 750 l. 221-225

¹⁶⁴ *Ibid.* 764-765. l. 679-712

¹⁶⁵ *Ibid.* 766-767. l. 729-769

dismembering cattle in a nearly identical fashion to the way in which Pentheus will meet his fate at their hands.¹⁶⁶

The cults resist analysis and definition, attempting to destroy any outsiders who do not assimilate into their customs and practices, let alone their gender. Much like Aristophanes' assembly, the Bacchante operate "off-grid" but maintain no less influence on Theban society for it, as their growing numbers all but grant certainty to Dionysius ascendant power. Their actions end in regicide as well, a direct act of power disruption that sends destabilizing ripples through the political structure. Similarly, the Bacchante likewise operate through setting examples as pseudo-warnings for outsiders. Like the proposed execution of Euripides at the hands of the assembly, the Bacchante signal Pentheus's demise through the slaughter of cattle, something communicated to Pentheus second-hand through apparent exaggeration. Together these representations of secret societies form a sort of symbolic cluster: they are secretive groups who nonetheless maintain great structural influence and deal in fear, ones that are immensely hostile to outsiders and observers, and both herald the ushering in of a new order. While the leap may seem extreme, how different is this from the depiction of The Circle in *Unfriended: Dark Web* at a structural level? Akin to The Circle, these two groups only attack those who summon them with their actions, and while the assembly and the Bacchante lack the apparent nihilism of The Circle, the fact remains that both serve to terrify observers via a sense of uncontrollable influence. Furthermore, like Ormsby's dive into the deep web, Pentheus expects to find awful truths

¹⁶⁶ Perris, Simon. "Perspectives on Violence in Euripides' *Bacchae*". *Mnemosyne*. Fourth Series, Vol. 64, Fasc. 1 (2011). 42.

about the Bacchante, discovers that no such thing exists and instead locates something far worse than he could imagine. My point here is that if one can take the work of Euripides and Aristophanes as an origin point for this narrative construct, then it is difficult *not* to see the same kind of cautionary tale across millennia, all three delivered through the agent of a shadow network that aims for direct destabilization. This is of course not to say that either of these contemporary works cited the former as influences, or even assume that their creators had immediate knowledge thereof. Instead, I attempt to locate here the source of an audience affinity for such narratives, one that preconditions a certain receptiveness towards the shadow network concept.

The secret societies of Aristophanes and Euripides did not emerge from a bubble, of course, as secret societies and mystery cults were very real presences in Ancient Greece outside of the purely fictional realm.¹⁶⁷ From the Eleusinian Mysteries to Orphic cults, to even the mythic secret school of Pythagoras, such organizations amongst many others were relatively well-known and thus bled into fictional narration at the time, further complicating the development of this narrative strand. Leaping forward several centuries, the same lasting impact can be seen in the cultural development of the Illuminati, now posited as an organization that secretly controls all global events with surgical precision. A significant evolution from the group's historical origins, as the Bavarian Illuminati started as a counter-Freemason group desiring to spread Enlightenment ideals.¹⁶⁸ This parallel history of secret societies – their creations and demises, conflict between rival societies, their economic and political functions, etc. – served as fertile ground for aestheticization, a response to the

¹⁶⁷ Burkert, Walter. *Ancient Mystery Cults*. Cambridge: Harvard University Press, 1987.

¹⁶⁸ Stauffer, Vernon. *New England and the Bavarian Illuminati*. New York: Columbia University Press, 1918.

gripping fascination that such organizations could foster in the fictional sphere. The Illuminati themselves were a favorite subject of the Gothic movement, for instance, wherein they began their mutation into the frightening shadow organization they inhabit as a cultural symbol to this day.¹⁶⁹ This trend no doubt influenced the work of Balzac, who devoted a series of novellas to a fictitious Illuminati-esque organization named “The Thirteen” within his vast *Comédie Humaine*. Making the majority of their appearances in *Ferragus*, *The Duchesse de Langeais*, and *The Girl With the Golden Eyes*, Balzac amplifies the particular fear associated with secret societies, portraying them as a sinister and eternally unknowable group of individuals. In a preface to this series, he writes:

In Paris under the Empire thirteen men came together. They were all struck with the same idea and all endowed with sufficient energy to remain faithful to a single purpose. They were all honest enough to be loyal to one another even when their interests were opposed, and sufficiently versed in guile to conceal the inviolable bonds which united them. They were strong enough to put themselves above all law, bold enough to flinch at no undertaking; lucky enough to have almost always succeeded in their designs, having run the greatest hazards, but remaining silent about their defeats; impervious to fear; and never having trembled before public authority, the public hangman, or even innocence itself. They all had accepted one another, such as they were, without regard to social prejudice: they were undoubtedly criminals, but undeniably remarkable for certain qualities which go to the making of great men, and they recruited their members only from among men of outstanding quality.¹⁷⁰

The Thirteen are a study in paradoxes: honest yet deceptive, honorable yet criminal, brave yet hidden. The group stands in for a sort of *Übermensch* in *gestalt* form, possessing the ability to alter the tide of society through their indomitable will and inherent superiority only once brought together. Subject to second-hand rumor and exaggeration, Balzac’s narrator

¹⁶⁹ Hogle, Jerrold E. *The Cambridge Companion to Gothic Fiction*. Cambridge: Cambridge University Press, 2002.

¹⁷⁰ Balzac, Honoré de. *History of the Thirteen*. London: Penguin Books, 1974. 21.

notes that “Dramas dripping with gore, scenes bristling with terror, novels teeming with clandestine decapitations have been confided to [the author’s] ears.”¹⁷¹ It is only due to a conscious decision to choose “less violent adventures” that Balzac’s novellas omit such direct details for the reader, instead waiting to present them to the public at a later time “as a supplement to that of the pirate gangs, those special communities which were so amazingly enterprising, so captivating in spite of the crimes they committed.”¹⁷² Unlike the associated humor or despair associated with Aristophanes’ and Euripides’ groups, Balzac’s Thirteen are written for maximum excitement, evidence to a shift in audience reception. The Thirteen are violent criminals, later described as “living in society but apart from it, accepting none of its principles, recognizing no laws or only submitting to them out of sheer necessity...”¹⁷³ And yet is it not this rogue and rebellious nature that shifts their criminal actions into an appealing form? Operating in the dark, the Thirteen only compound darkness’s association with violence and uncontrolled danger, but it is a welcome shift for Balzac’s audience, one that taps into the very narrative forces that give the anti-hero such repugnant magnetism. Comparing this with the former examples, the Thirteen possess similar structural power in terms of destabilization, but their alluring dimension is something else entirely, the very kind of morbid curiosity that leads one to search for “the darkest web”, perhaps.

I do not bring this connection up flippantly, as I locate the answer to a prior question of mine in this shift. When asking why organizations such as the IDW would appropriate their name from a network associated with truly repugnant content, I located a potential answer here in Balzac’s text. Willfully eschewing the material content of the dark web, the

¹⁷¹ Balzac, Honoré de. *History of the Thirteen*. London: Penguin Books, 1974. 22.

¹⁷² *Ibid.* 23.

¹⁷³ *Ibid.* 24.

IDW instead latches onto the symbol of the dark shadow society as evolved through Balzac's Thirteen, itself a response to growing numbers of secret societies in Paris at the time. The thematic connections between the two are more than apparent, most notably the inverted connection between greatness and socially deemed criminality. Through whatever cost, and to serve only their own agenda above all, the Thirteen resist society and in their wake change it into their vision, and this is precisely the same philosophical focus that engenders the existence of a group like the IDW. In choosing "dark web" as part of their name, the IDW knowingly acknowledge the dark web's inscription into this narrative history, at the same time fortifying its position and obliquely associating it with Balzac's salacious allure. As he suggests, any associated crimes are frequently forgiven in exchange for captivation, no matter the horror of the content attached to the IDW's name.

If one *were* to acknowledge horror in this literary history, one must consider Kafka's *The Trial*, in which the Law inhabits a similar position as Balzac's Thirteen, albeit in a period after which they had seized control of society. The Law operates with inscrutable logic, seemingly making its decisions at random with no binding sense of jurisprudence or due process. Josef K. finds himself subjected to a contorted chain of interrogations, rescheduled trials, and uncomfortable interactions with bizarre personages all before finally being executed without prior warning. Despite K's astute conclusions with regards to the scope of the "extensive organization",¹⁷⁴ the few that acknowledge his claims as true express the futility of any attempts to reason with or overturn the Law's control. The Law is totally unknowable outside of its scope and apparent corruption, resisting easy definition on the part

¹⁷⁴ Kafka, Franz. *The Trial*. New York: Schocken Books, 1998. 50.

of K and offering few answers. It is also portrayed as *total*, leading a painter with whom K speaks to state, “Everything belongs to the court.”¹⁷⁵

Kafka stops short of painting a dystopian control society, however, as K seems to be a prisoner drawn into a parallel universe, one in which the Law tints every aspect of his newly surveilled existence. There is a recurring motif throughout (one signaled in the first chapter) wherein K recognizes his own culpability in the proceedings, but this is not to say that he finds himself to blame for his unknowable offense. Instead, K blames himself for having *acknowledged* the Law’s network in the first instance. After agents of the Law arrive at K’s door to announce his summons, Kafka writes, “Although [K] realized at once that he shouldn’t have spoken aloud, and that by doing so he had, in a sense, acknowledged the stranger’s right to oversee his actions.”¹⁷⁶ This image of acknowledgment develops across the entire narrative, with K given advice at one point to not attract attention in order to prolong his life.¹⁷⁷ While some writers have plumbed this repeated instance for psychological value,¹⁷⁸ and others have focused on the mystical/spiritual reflexive qualities thereof,¹⁷⁹ it is revealing to view it in light of the same thematic lineage established by Euripides in *Bacchae*. Like the Bacchante, the Law operate within their own sphere and resist definition by responding aggressively to any direct acknowledgement. To be sure, the Law seek and find Josef K. first, but nonetheless K continues to ponder what would have happened that day

¹⁷⁵ Kafka, Franz. *The Trial*. New York: Schocken Books, 1998. 150.

¹⁷⁶ *Ibid.* 4.

¹⁷⁷ *Ibid.* 119.

¹⁷⁸ Reis de Oliveira, Irismar. “Kafka’s Trial Dilemma: Proposal of a practical solution to Joseph K’s unknown accusation”. *Medical Hypotheses*. Volume 77, Issue 1 (July 2011). 5-6.

Reis de Oliveira sees this pattern as reflective of self-accusation in certain psychiatric disorders, offering a literary explication of the phenomenon.

¹⁷⁹ Carter, Steven. “Kafka’s The Trial”. *Explicator*, (61-1), 2002. 40.

had he not acknowledged their authority and let them inside, in one instant invariably dooming him. It is also as if the Law preys on the weakest members of society that it can find, those lacking the resources or knowledge to fight back, only wrapping themselves deeper into the Law's traps with each attempt they make. The aforementioned painter further bolsters this claim. He continues, "In the Law, which I've never read, mind you, it says of course on the one hand that an innocent person is to be acquitted; on the other hand it does not say that judges can be influenced. My own experience, however, has been precisely the opposite."¹⁸⁰ Setting aside the issue of judge bribery here, the painter implies that interaction with the Law essentially translates to guilt on the part of its defendants, and once tainted with its touch, the only outcome is a guilty sentence, the only escape an execution.

This is the pronounced horror of *The Trial*, a network that devours its prey and pronounces them guilty by association before they can even understand their crimes, an effect replicated in part in Kafka's "In the Penal Colony". While in the latter story the condemned apparently have a moment of transcendent revelation, the moment in which their crime becomes tactilely legible through the wounds through which it is written, neither K nor the reader are given such a release. It is a predatory secret association rendered more fearsome through its baroque and inscrutable organization, no huge leap from *The Circle* as seen in *Unfriended* once again. As always, there are mitigating historical factors at play, with Kafka exhibiting a pronounced acrimony towards bureaucracy and a tangible anxiety with regards to the organized discrimination festering within European society at the time. What is important is that if these factors did indeed play a part, a matter left to interpretive exercises, then that they manifested through such a shadow network as the precise expression of horror.

¹⁸⁰ Kafka, Franz. *The Trial*. New York: Schocken Books, 1998. 153.

For Euripides, Balzac, and Kafka, to weave fear through an unknowable threat is only half of the operant force at play: it is also the unknowable logic of such groups that make the terror stick.

The final selection I offer is the most obvious connective thread, as much a product of its temporal proximity to the internet proper as well as its postmodern leanings. Pynchon's *The Crying of Lot 49* chooses as one of its central thematic forces a shadow organization named Tristero, a group that quite literally is a secretive and antagonistic communication network. While Tristero might lack the unsettling horror of the Law or even the Baccahante, Pynchon's aims appear to be set in a different direction. Commenting less on the threat of mechanized bureaucracy or destabilizing forces, the world in which Oedipa Maas lives is one already destabilized, a morass of potential connections and discursive signs that resists internal consistency. Left to piece together an increasingly baroque mystery by way of an unexpected inheritance, Oedipa is sent through a hermeneutic hall of mirrors, finding recurrent symbols and parallel histories around every corner, pushed to the fringe of her psychiatric well-being as she attempts to give order to a world whose own ontology resists order as such. Nonetheless, Oedipa stitches together a convincing trail, and this trail seems to gleefully return to the Tristero organization whenever possible. A historical rival to the Thurm and Taxis postal system, Tristero employs brutal tactics, up to and including assassination, to overtake Thurm and Taxis' communicative hegemony. It is not until viewing a play titled *The Courier's Tragedy* that Oedipa (and by extension the reader) witnesses a visual rendering of Tristero first-hand. Pynchon writes, "Suddenly, in lithe and terrible silence, with dancers' grace, three figures, long-limbed, effeminate, dressed in black tights, leotards and gloves, black silk hose pulled over their faces, come capering on stage

and stop, gazing at him. Their faces behind the stockings are shadowy and deformed. They wait. The lights all go out.”¹⁸¹ It is implied that they murder their target following this scene, and already one can see the aesthetic connective tissue to the dark web at large. Tristero are effectively shadows, distorted creatures that move in silence and strike with deadly force those who they have targeted. Rather than a visible challenge to the dominant communication system, they operate through fear and calculated strikes, picking off easy targets and those who wander into their paths.

Tristero cease such activities (if they were ever more than mere legend even within the narrative space of the novel) and transform into a symbol, a simple drawing of a muted trumpet, itself a play on stopping the clarion sound of Thurm and Taxis’ trumpet imagery. This symbol is used to indicate the locations of the W.A.S.T.E. System, an alternative postal system using a variety of receptacles as drop-off points around the nation, if not the world. Using a relatively similar system but on alternate routes, W.A.S.T.E. is an overlay network, one that utilizes the prior built city delivery infrastructure as a means to attach a parallel network to the side. Several characters acknowledge W.A.S.T.E. as an explicitly political project, a descendant of prior rebellions towards government consolidation of the U.S. Postal Service.¹⁸² This has more than chance resemblance to the very same arguments expressed by the early innovators of Usenet, Freenet, and eventually Tor, all of whom expressed concerns with regards to centralized communication platforms in terms of exploitation and control. That Pynchon’s novella presages such developments could be seen as coincidence, but this is highly unlikely given the manner in which his work echoes cultural attitudes of the time.

¹⁸¹ Pynchon, Thomas. *The Crying of Lot 49*. New York: Harper Perennial, 1999. 57.

¹⁸² *Ibid.* 39.

Much like the former examples in this small study, *The Crying of Lot 49* emerges out of a historical moment, one on the precipice of an explosion in communication infrastructures, and its concomitant anxiety expresses itself through its signature shadow network as with the others. In a thematic development that is perhaps more circumstantial but no less fascinating for it, the Tristero symbol finds itself exploded across the narrative in seemingly helter-skelter fashion, serving to represent a wide variety of hidden societies operating off-grid. In the clearest case, Oedipa's investigation leads her to stumble accidentally upon the Inamorati Anonymous, a group of individuals who have forsaken love and appropriated the Tristero symbol as their calling card.¹⁸³ Linking to it in spirit more than direct descentance, the IA considers themselves an overlay network of their own kind, gathering in areas commonly used to meet potential partners and instead turning it into a private zone of rejection. In a novella positively gorged with secret societies and duplicitous agents (even the Cosa Nostra branch of the Italian mafia gets involved¹⁸⁴), Pynchon develops a perhaps inadvertently prophetic diorama of the very kinds of appropriation the dark web faces today. Emerging from political circumstances, the dark web *as a symbol* is appropriated by groups (most explicitly the IDW, but its aesthetic import is widespread) as a means to communicate a constellation of affects: danger, rebellion, fear, etc. By the end of the novella, the reader is left hanging at the moment Oedipa reaches her final epiphany, but even this revelation is by no means guaranteed. Tristero, like the dark web, remains ontologically unknowable in a peculiar way: peculiar insofar that while its historical origins, material infrastructure, and

¹⁸³ Pynchon, Thomas. *The Crying of Lot 49*. New York: Harper Perennial, 1999. 91.

¹⁸⁴ *Ibid.* 45.

mechanisms of action are known, a total image of its content remains acutely difficult to articulate with any ease.

What then to make of this series of examples? Literature holds no quarter as the single domain of objective answers, but it is nigh unimpeachable in its position as a reflective agent of cultural timbres and expressive forms. Could it be that long before the dark web as we know it today came to exist, history shows a close proximity to “dark webs” throughout? Each of these texts portrays secret societies and networks in ways that resonate compellingly with the narrative portraits of the contemporary dark web, each operating as overlay networks in their own right (symbolically or literally), each serving as a mirrored surface that reflects political/cultural anxieties and insurgent thought within their moments. The dark web of the 21st century may lend itself to the very narratization as seen in the introductory examples of this chapter simply due to the fact that “dark webs” have a traceable narrative genealogy in and of themselves. Pinned to the fundamental darkness metaphor of dangerous activity, untraceable development, unchecked production, etc., “dark web” perhaps lives a double life: that of a material network as seen today, and that of a hermeneutic/aesthetic/affective complex, birthed out of an absolute metaphor in the Blumenbergian sense, and reified into a conceptual trope in the Nietzschean. Taken as a trope, the apparent struggle with which Ormsby and Bartlett hedge their illuminating arguments becomes clearer, as they fight not just with contemporary assumptions of the network, but a hermeneutic lineage spanning across centuries. While anonymity certainly breeds criminal activity, and this can be empirically proven as Ormsby and Bartlett both do, one is left to wonder if the cultural predestination of the dark web as a “dark” space serves to throttle attempts to rehabilitate and re-appropriate the space for more noble ends, the very

efforts made on the part of the Tor Project amongst others. If Tor is correct in saying that the criminal activity of the dark web could be more easily accomplished on the surface world (an admittedly wobbly claim in light of Ormsby's observations on "hurtcore"), could it be that the dark web refuses to shed both its hermeneutic space and affective force because, as a historically contingent space, *it just must be so*?

5. Conclusion II – To Shine a Light

I must admit that I do not have an easy answer to these questions, as few people do. Despite my stated goal to interrogate the implications of the word of "dark" in "dark web", I still must admit that this is no less frustrating, as the dark web proves to be an expertly slippery foe in the battle of interpretation. This of course is a matter of method as much as goals, as an engagement with such a phenomenon means approaching its material dimension as well as its symbolic. Partitioning the two for sake of ease proves just as impossible and self-defeating as jamming them together. Despite this difficulty, I see the struggles with which the Tor Project, Bartlett, Ormsby, and I approach this topic to be productive, as it at minimum resists facile crystallizations of the dark web into horror-movie fodder or threatening masks worn by moderately contentious intellectuals. In light of this, I wish to conclude this chapter with a very short, curated sample of Hidden Services that I located while using Tor on my own. This requires several methodological clarifications up front. Firstly, I make no claim that this is a random sample. Indeed, this is a selected sample of Hidden Services that I saw as resisting the cultural conception of the dark web, the kind that is often mentioned as a theoretical counterpoint but rarely examined closely. Secondly, I will not be using screen captures or explicitly identifying information here (except for larger,

more “public” services), so much of this will be an act of faith on the part of the reader, only guided by my assurances. Hence, this exercise makes its appearance in a coda of sorts, rather than within the bulk of the chapter proper.

There are several reasons for this choice: 1. The nature of Hidden Service life cycles basically means that one has only a fleeting chance to study sites, as it is in no way guaranteed that they will be there the next day for further examination. 2. Holding to the spirit of anonymity and secrecy, I feel a certain ethical duty to obscure some of these sites, as I believe that exposure would harm the continued existence of some of them, sites whose aims I support. 3. I also care about my personal safety, and am not as well connected or savvy of a scholar as Bartlett or Ormsby. While these sites remain largely hidden, I, as a public academic, am not, and for the sake of perhaps overzealous caution, I would like to avoid unwarranted risk. Finally, I cannot overstate the miniscule nature of this sample, and would highlight here the explicit impact the nature of the dark web places on any content-based study thereof. Knowing this difficulty from the start, I decided to do an experimental and opposite approach: in the span of only a few days, could I find a series of Hidden Services with ease that lend themselves to a counter-reading of the current cultural and metaphorical position of the dark web? With the aid of Michel Serres, I believe this to be so.

Serres concept of the “parasite” is well-trodden territory by this point, having emerged from its earlier obscurity to become a vanguard theory for political and communication studies. Steeped in allegorical imagery, *The Parasite* comes as close to a solid definition of its central concept in the introduction, in which Serres describes the

parasite as “noise”.¹⁸⁵ Noise is both distorting and productive within this schema, an insurgent force that interrupts relations and injects its own influence into situational dynamics. The larger system onto which this noise attaches is comparable to a host, while the noise itself is a parasite, feeding off of the host’s situational power and growing in turn. Drawing equally from communication theory as much as poststructural philosophy, Serres claims “There is no system without parasites. This constant is a law.”¹⁸⁶ Further, this parasitic relationship creates new power relations and in turn opens itself up for further parasitism, thus position noise as an essentially generative aspect of communicative and organizational relationships. Serres writes, “The parasite invents something new. He obtains energy and pays for it in information.”¹⁸⁷ Where Serres goes great lengths to illustrate his concept via a variety of examples both practical and literary, the easiest illustration of his concept is that of a grassroots revolution. Revolutionary actions and groups emerge from within a larger governmental structure (i.e. the host) and draw from its resources and infrastructure as a way to organize and gain force. Using this “energy” to grow in size, the revolutionary group gains prominence, and if not eradicated, is able to forcefully establish a relationship with its host that positions it as an alternative structure. This draws focus and centrality to the revolutionary body, which if left unchecked, can overturn the host and assume dominance. Now itself a larger focus, what once was simple “noise” has entered into a more dominant position, and thus is susceptible to being “parasited” by a new element of noise.

¹⁸⁵ Serres, Michel. *The Parasite*. Minneapolis: University of Minnesota Press, 2007. 3.

¹⁸⁶ *Ibid.* 12.

¹⁸⁷ *Ibid.* 35.

Serres does not limit himself to macro-scale power relations such as this, instead claiming that *all* systems and relationships have elements of parasitism at their organizational core. Noise engenders change, and it is the most critical cog in the machinery of progress. Even a computer virus or a DDoS attack, malignant in goal but productive for innovation, serve in the same manner. To this end, darknets can be seen as parasitic in similar fashion, an approach taken by Robert Gehl and Fenwick McKelvey in their article on the subject.¹⁸⁸ To summarize, Gehl and Fenwick establish a difference between “infrastructure” and “platform”, claiming that infrastructures hold affinity with public interactions while platforms are privatized spheres.¹⁸⁹ Darknets, such as Tor, act as parasites on the general public internet infrastructure to create alternative, privatized platforms for anonymous browsing and communication.¹⁹⁰ This relationship is further reversed and doubled, as the writers claim that darknets also parasite private platforms such as personal computers as a means to establish their own functionality, i.e. through using chains of personal computers as relay stations in the case of Tor.¹⁹¹ Acting as conceptual relays in this sense, darknets serve as noise that distorts the common binaries between public and private, infrastructure and platform and in turn produce hybrid media spheres that open new productive potentials.

This is a stirring application of Serres thought to the darknet phenomenon, and it is one within which I hold personal affinity. It does not, however, engage with the content of the dark web, likely on account of the difficulties I mentioned prior, coupled with a difference in aims. I would like to consider the dark web through Serres lens on these

¹⁸⁸ Gehl, Robert & Fenwick McKelvey. “Bugging out: darknets as parasites of large-scale media objects.” *Media, Culture & Society*. Volume 41 (2): 17 – Mar 1, 2019

¹⁸⁹ *Ibid.* 220.

¹⁹⁰ *Ibid.* 224.

¹⁹¹ *Ibid.* 225.

grounds, though, and think here of the space as a kind of parasitic nurturing ground, one that resists the exclusively noxious image the dark web has assumed. Aligning with the Tor Project, I see in tandem with criminality productive noise and alternative networks that allow for disruptive potential, the kind of which strikes against centralized power both minor and totalitarian. Ironically, a select few of my examples do fall under the purview of criminal activity, opening up an extended debate that I welcome rather than offer solid answers instead. What is here is a survey and reprise rather than a focused analysis, a coda in the truest sense.

After settling on a Hidden Wiki, I began to explore links, eschewing obviously criminal and pornographic ones in lieu of apparently benign or beguiling links. Many of these were in Russian, putting my linguistic skills to the test prior to direct engagement. I first found a book repository run by a Russian school teacher, one who claimed to love reading and books and who felt that literature should be a free gift to the world. They had posted all of the books that they could from their collection, scanned and available for download to peruse at will. Certainly this would fall under the view of copyright infringement, criminal activity to be sure, but one that finds itself still debated in terms of the Enlightenment ideal of free information. I located an English language site that had on it the translated works of Marx and Engels in total, every word that they had ever published. The site host wrote that they felt these writings were of the highest importance, so much so that there must remain at least one bastion where they cannot be easily found, and thus removed, waiting to be read by future generations. I stumbled upon a Russian language forum that had in its main directory a criminal advice forum set directly below a tech advice forum, one of several technology and media-based forums that I discovered. The latter of which was not

coded language for hacking or seditious activity, but rather was filled with questions for the best graphics cards and processors. The former, while bedecked with questions regarding identity theft contained a single thread on how to get revenge on a bellicose neighbor. The first response involved defecating on his steps.

I once again make no claim or argument towards the objectivity of this select group: I admit absolute bias in terms of for what I was looking. But it is so seldom that one hears about such sites in popular depictions of the dark web, ones that seem to hold the aims of illumination over shrouded criminality. These sites cannot and will never eclipse the damage of the child pornographic trade, for instance, but they still stand out as hopeful beacons, from the renegade teacher trying to get people to read to the “last guardian of Marxism”. In attempts to generate education, these sites serve as quiet bits of noise, drawing into the shadows in an attempt for disruptive enlightenment. Consider *The Torist*, created in part by Robert Gehl himself along with an anonymous co-creator, a dark web only literary journal that was created “to throw a spanner in the works of various attempts to smear anonymity as being only desirable for evil people”, a direct quote from the anonymous founder.¹⁹² Itself a parasite, *The Torist* latches onto a representative system, that of such negative assumptions, and attempts to create a new paradigm through its disruptive faculties. This political undertone is rendered explicit in certain cases, wherein entire nations experienced surges in dark web use following communication platform shut downs on the part of authoritarian governments. China’s reputation for internet control/censorship precedes it, and as such there is little surprise that both VPN and Tor use has been on the rise for Chinese national citizens. Despite holding a smaller presence on the dark web, trade and social forums exist

¹⁹² Smith, Nathan. “The Literary Magazine of the Dark Web”. *The Atlantic*. 5 Apr 2016.

nonetheless, one such forum announcing itself as “a free Chinese internet world, [in which] you can speak whatever is on your mind.”¹⁹³ Four years since its inception, the likelihood of this particular forum still standing is unlikely, but it nonetheless served as a herald for a new discursive universe, one that attempted to establish free dialogue under a system that restricted it at the core. Similarly, the Russian government’s continued assault on the popular messaging platform Telegram has pushed many citizens to using VPN’s (themselves the subject of legal scrutiny) and dark web use as a means to uphold free communication.¹⁹⁴ The dark web does host reprehensible content in part, but as Gehl and his associate argue, evil is by no means the sole possessor of evil. It has just as much to offer to those who seek even having such debates in the first place within the political ecology.

The point here is that for as slim as this sample may be, these sites and phenomena exist nonetheless, something the thick metaphor of darkness as applied to the dark web smothers with ease. While researching, I encountered several claims to the existence of forums for queer youth to talk with each other in countries that have seemed their existence punishable by imprisonment if not worse. I tried to find such forums to the best of my ability, and came up with nothing for my efforts. This led to a mix of feelings, on one hand disappointment for my lack of results, but on the other a sense of hope that they just may be that well-hidden rather than nonexistent. I wonder what could have been had I found the ability to find such places protected in the reaches of the dark web, if even that kind of secured connection could have changed my relationship to the world and myself. I will never know this with certainty, but like Gehl and the Tor Project, that productive potential has left

¹⁹³ Cox, Joseph. “What Firewall? China’s Fledgling Deep Web Community.” *Vice*. 25 Feb 2015.

¹⁹⁴ Pertsev, Andrei. “The Telegram Ban is Forcing Ordinary Russian to Break the Law”. *The Moscow Times*. 24 Apr 2018.

an unshakeable impression on me in terms of my relationship to such anonymity networks. I cannot tolerate the existence of the depravity such as what Ormsby discovered in the final instance of her book, but I nonetheless find myself wishing to “parasite” the dark metaphor in the way that *The Torist* does, amongst other similar sites. If absolute metaphor and its development into conceptual complexes can be seen as a historical system, one that bridges a vast literary history of which my prior sample only scratches the surface, then it becomes the job of those small bits of noise to disrupt the chain and allow for a new space to rise.

Chapter 2: Unseen Spaces: Light Maps and Cartographic Narrativity

As the political conflict between North Korea and the United States waxed and waned across the 2010's, media outlets spent great effort in demystify the country's nature, attempting to find some sort of singular expression of the famously veiled North Korean experience. This approach is another instance of a pattern: the rhetoric of conflict tends to reduce the opponent into reductive components, and this strategy is arguably one of the most potent propaganda techniques for the symbolic construction of an "other". One need only think of grotesque iconography of World War II posters on the part of both the Allied and Axis powers, with enemies reduced to stylized composites of menacing grimaces and phenotypic stereotypes:



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Fig. 1 & 2: Examples of American and German propaganda from the WWII period. The German poster is an advertisement for the film *The Eternal Jew*, a notoriously racist propaganda piece screened in Nazi Germany. The text at the bottom indicates the starting date and time for the film's screening in Vienna, advertised as a "great political showing".

Of course, propaganda posters are by their very nature extreme, frequently relying on targeted blasts of racism so as to trigger deep-seated resentment within the viewer.

Commonly emblazoned with ethical edicts, such as commands to buy war bonds or raise

¹⁹⁵ "General Motors Poster". "World War II Propaganda", Wells.

<http://www.ericrettberg.com/wells/omeka/items/show/97>

¹⁹⁶ "Der Ewige Jude Poster". Holocaust Education & Archive Research Team.

<http://www.holocaustresearchproject.org/holoprelude/derewigejude.html>

one's children to love their homeland, these images act as pedagogical or conditioning tools as much as they work to inspire fear and loathing in the populace. Frederic Jameson wrote, "...all ethics lives by exclusion and predicates certain types of Otherness or evil..."¹⁹⁷.

These stereotypical images served as referents against which their target audience could model their behavior in contrast, conditioning themselves to fight the enemy in spirit if they could not be present on the frontlines. And while the history and continued impact of propaganda is an endlessly rich field of inquiry, I principally introduce these to lead up to the following final point on the matter: when examining drawn or painted propaganda, one must always be aware of their design, how each exaggerated feature and word is planned and created for maximum impact.

Of course, graphic propaganda need not always depict the evil other in their content. Far from it, the medium is bedecked with positive nationalist imagery, equally as exaggerated in tone but instead in the service of an untouchable ideal. Considering the following examples from North Korea itself:

¹⁹⁷ Jameson, Frederic. *The Political Unconscious*. Ithaca, New York: Cornell University Press, 1981. 60.



Fig. 3 & 4: North Korean propaganda posters. The poster on the left reads: “Repel the American invader!” On the right: “Let us achieve the party’s agriculture revolution policy thoroughly and brighten the year with increased grain production.”

Rather than the enemy, the perfected citizen takes center stage in these posters: they are a study in extremes, welcoming and fearsome, assured and resolved. The left-hand poster points to a utopian vision of economic bounty, once again with an ethical invitation to work for a better future. The right-hand does contain a reference to the enemy, but it is in an abstracted form, rendered as a flag torn to shreds in the hands of an average North Korean citizen. Like enemy focused posters, these ones likewise express a conditioned political consciousness, and they also function a mimetic engine through which citizens can model themselves. Instead of standing against a menacing “other”, these idealized citizens work for the unity of the nation and the fulfillment of its goals. I wish to draw attention, though, to the left-hand image in particular, as it serves as a forceful example of a propagandist paradigm: the idealized space. This particular representation of national space appears with relative ubiquity across the breadth of propaganda styles. Whether it is the *Heimat* of Nazi wartime

¹⁹⁸ Artist Unknown. “Propaganda Poster”. <https://www.theguardian.com/world/gallery/2017/aug/20/north-koreas-propaganda-art-in-pictures>.

¹⁹⁹ Artist Unknown. “Agriculture Poster”. The University of Hong Kong. <https://www.cnn.com/style/article/north-korea-propaganda-posters-design/index.html>.

posters, the fertile farmlands depicted on Soviet posters (similar to the North Korean example above), or even the American Heartland serving as the backdrop for a Chevrolet truck advertisement, the ideal spaces of propaganda not only frame the political content but condition it in the first instance. In representing the idealized homeland or nation, such images project not only a cultural consciousness, but also serve as productive configurations, in the sense that they actively transform and produce hermeneutic relationships between a physical space and conceptual representations thereof. Thus, the ideal space projects not only a future goal or ideal realization, but also potentially has a transformative effect on the relationship between viewers and the space in which they stand, inhabit, move, or observe from distance. In the aforementioned North Korean example, the poster depicts a utopian possibility of a bountiful farmland while reflecting it as something of the present, a reconfigured lens through which one can view the land's potential as an extant reality.

The pressing question, then, is whether or not this productive capacity of spatial representations is unique to ideologically charged illustrations such as these, or if *any* graphical representation of space is in and of itself an ideological engine. A plentitude of scholarship from spatial studies, geography, and cultural studies, amongst others, asserts that the latter is inarguably true. While this chapter will unpack a selection of these claims with more detail in due time, I raise this point here to frame the following image, one that will serve as a gateway for this chapter at large:



200 Fig. 5: Nighttime satellite photograph of East Asia, taken by the Nasa Johnson Space Center in 2014

This is a satellite image of the Korean peninsula taken from space by the Nasa Johnson Space Center, originally published in a *National Geographic* article,²⁰¹ and it was taken in time lapse as a means to highlight the amount of light-pollution emitted from the East Asian territories. Visible in this picture are North Korea, South Korea, and China. Justified in the lower right-hand corner of the image is South Korea, with the city of Seoul easily identifiable near the top most border due to its blinding illumination in contrast with the rest of the country. In the upper-left of the image is China, itself similarly awash in lights, distributed relatively evenly across the country like a nervous system, save the slightly darker portions

²⁰⁰ Byford, Sam. "North Korea defends blackout satellite photos: 'the essence of society is not on flashy lights'". *The Verge*. <https://www.theverge.com/2015/2/9/8003637/north-korea-satellite-photos-night> 9 Feb. 2015.

²⁰¹ Stone, Daniel. "New Space Station Photos Show North Korea at Night, Cloaked in Darkness." *National Geographic*. <https://news.nationalgeographic.com/news/2014/02/140226-north-korea-satellite-photos-darkness-energy/> 27 Feb. 2014.

near the North Korean border. North Korea is in turn easily identifiable via negation, the jet-black space lying between the two aforementioned countries, with only a small point of light representing Pyongyang, along with a few tiny glimmers surrounding it. Nearly indistinguishable from the surrounding bodies of water, namely the Sea of Japan and the Yellow Sea, North Korea's phantom representation in this picture sparked fascination and discussion on the global stage, taken to stand as an undeniably potent metaphor for the vast economic gulf between North and South Korea. In 2017, Stephanie Pappas of Live Science claimed that "if any image can tell the story of North and South Korea in one frame..."²⁰² that it was this picture, only for this statement to reach even greater audiences after being reposted by CBS News²⁰³. However, three years earlier in 2014, the Guardian saw progress in the photo, noting that there was a noticeable increases in small clusters of lights, indicating economic growth²⁰⁴. In the article of its original publication, Daniel Stone writes:

The North Korean government has refused offers of food and energy aid in exchange for a commitment to curtailing its nuclear energy ambitions. International inspectors have been denied entry, which has resulted in increasingly harsh sanctions led in large part by the United States and South Korea. China remains the staunchest of the north's few allies. In her 2009 book *Nothing to Envy: Ordinary Lives in North Korea*, Barbara Demick described the effect darkness has on culture. Streets become too dark for people to walk, limiting social interactions outside of daytime work hours. No one can watch TV or consume the limited amounts of media allowed by the government.²⁰⁵

²⁰² Pappas, Stephanie. "North Korea: A Hermit Country From Above." *Live Science*. <https://www.livescience.com/59037-photos-north-korea-from-above.html>. 10 May 2017.

²⁰³ "North Korea: Hermit Country Seen From Space". CBS News. <https://www.cbsnews.com/pictures/north-korea-hermit-country-space-photos/>.

²⁰⁴ Haggard, Stephen. "North Korea by night: satellite images shed new light on the secretive state." *The Guardian*. <https://www.theguardian.com/world/2014/apr/23/north-korea-by-night-satellite-images-shed-new-light-on-the-secretive-state>. 23 Apr 2014.

²⁰⁵ Stone, Daniel. "New Space Station Photos Show North Korea at Night, Cloaked in Darkness." *National Geographic*. <https://news.nationalgeographic.com/news/2014/02/140226-north-korea-satellite-photos-darkness-energy/> 27 Feb. 2014.

Stone's observations are indeed historically accurate in terms of assigning the causal chain that led to North Korea's habitual darkness, and Demick's analytic link between darkness and stymied cultural development is compelling in and of itself, especially given the philosophical aims of this project as a whole. These I set aside for the time being, if only to retain focus on the manner in which this photo is used as an explanatory punctuation mark on the discussion, either as inarguable evidence of North Korea's great loss in the struggle for cultural development or, more rarely, a sign of hope. The major takeaway here is that this single photo is used generatively to continue the development of the "North Korean Narrative", and it is used metonymically. I am less interested in the verifiability of such claims than the indexical and narrative force of the satellite image, as I see in it the very kind of representational function found in propaganda images. Consider it an *unideal* space, a spatial representation that captures all too exactly the unflattering reality of the territory, challenging and eroding the exaggerated representations of propaganda and promotional imagery. Against the radiant images of fertile farmland, beatific mountain ranges, and glowing citizens stands *this* photographic image of the country, as if it has torn down the curtain hiding the background machinery. Further, as a photograph, it possesses an assumed "truth quality" that lends it a tone of objectivity comparatively absent in propaganda illustrations, depending on one's flexibility of the term "truth", of course.

But is this entirely the case? Does this photograph of North Korea simply lay the facts on the table and speak for itself, bypassing any need for interpretive work beyond what it so obviously shows? I intend to make no naïve claims here as to the economic and social perils of North Korean society here. To be sure, the country's dictatorship has led to real and

terrible consequences on the country's citizens. Instead, I consider this satellite image as something more than a purely neutral piece of photographic evidence, as if it had no inherent narrative power. Rather, this image, amongst others of its kind, are deployed with potent narrative force with regard to the constitution of national identities, and this applies just as much to those looking into said nations from the outside. Whether or not the image is designed in the sense of a propaganda poster, or designed via the detached placement of a camera, such images still play a role in the cognitive production of space via narrative representations. One need not look far at all from this example to find this process in action. Consider an article by Zack Beauchamp written for *Vox*, titled "40 maps that explain North Korea". One could frankly stop right there and the point would make itself, but in good faith I cite the following:

What follows is an attempt, using a lot of maps (and, yes, a few charts), to provide some clarity and context to help better understand both [North Korea] and the conflict. We'll explore where the North Korean regime came from, how much of a threat it really poses to the United States and its allies, and what life is like in the most totalitarian regime on earth [sic].²⁰⁶

Beauchamp's article deploys forty charts and maps total, each followed by a small explanatory caption as a means to provide context and extrapolate the image's significance for the reader. Historical territory maps, satellite imagery of prison camps, United States troop deployment, and refugee paths of escape, amongst several others, are lined up in sequence as a means to offer a visual tableau of representational spaces, all coalescing into a patchwork narrative portrait of the country across a variety of social, political, and spatial strata. And since no such list would be complete without it, a satellite photograph of the

²⁰⁶ Beauchamp, Zack. "40 maps that explain North Korea". *Vox*.
<https://www.vox.com/world/2017/8/29/16079076/north-korea-maps> 24 May, 2018.

country's lack of illumination appears tenth in the list, assuming a relatively high priority regardless of intended arrangement.

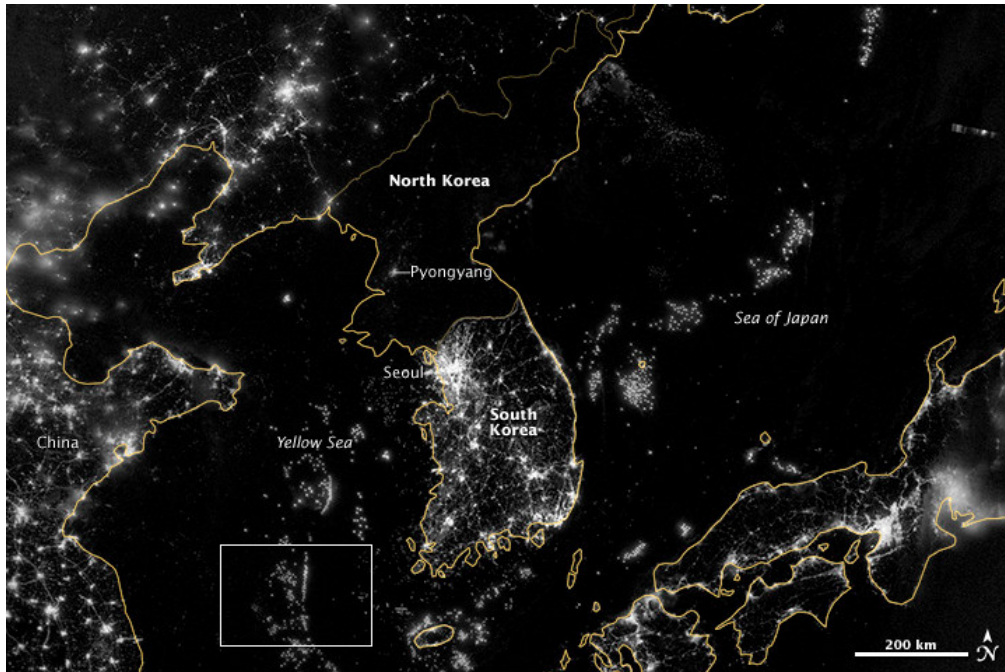


Fig. 6: Satellite photo of East Asia with an overlay of country borders. This picture offers greater context for distribution of light sources in the region.

acquired September 24, 2012 207

Titled “The North cannot keep the lights on – literally”, I quote the following explanatory note in full:

There's no more dramatic demonstration of North Korea's deprivation than this map of light emission at night, based on satellite photos NASA captured in 2012. *Light emission can be used as proxy for wealth* [emphasis added], as wealthier countries have access to better lighting technology and electrical grids. South Korea, as you can see, is lit up – as are Japan and China. North Korea is almost entirely black, except for a small dot of light on the capital city of Pyongyang. It's an astonishing demonstration of just how poor North Korea is relative to its neighbors.²⁰⁸

Again, I do not explicitly deny any of Beauchamp's claims here regarding the material import of this picture. More specifically, I do not challenge the claim that the relative

²⁰⁷ Beauchamp, Zack. “40 maps that explain North Korea”. Vox. <https://www.vox.com/world/2017/8/29/16079076/north-korea-maps> 24 May, 2018.

²⁰⁸ *Ibid.*

darkness of North Korea in this photograph is in fact an accurate indicator of its economic status, as there is absolute, empirical merit here. North Korea does face particularly grave obstacles in terms of resource availability and economic inequality.

However, any empirical and material reality aside, such maps and images convey the ideological image of an unideal space *nonetheless*, and it is this point that must be remembered when considering these photographs within the overarching cultural history of discussing “dark territories”, from the netherworld spaces of Antiquity, to the “dark continents” of the colonial period, and even a satellite image of a darkened country. What remains to be said is that at a structural level, maps themselves capture the power relations of a given cultural context that not only extend *beyond* the material reality that they attempt to capture, but also directly condition the manner through which such reality is constructed. This is a point argued by Bernard Siegert in his article “The map *is* the territory”, itself inspired by William Boelhower’s work on the correlation between mapmaking and the formation of meaning, a process to which he refers as “cartographic semiotics”²⁰⁹. Siegert develops his argument as a critical response to Alfred Korzybski’s assertion that maps simply serve as secondary referent for “an objective ‘reality’ that is prior to all mental representations or written marks...”²¹⁰ It is through this narrative function that one can make the conceptual pass from a selection of maps that *show* North Korea (or any territory for that matter), to a selection that *explains* it. As Siegert develops his argument, he refers to his method of analyzing maps as one of “cultural technologies” rather than cultural studies, stating that “it considers maps not as representations of space but as spaces of

²⁰⁹ Boelhower, William. “Inventing America: The Culture of the Map”. *Revue française d’études américaines*. Apr 1988: No. 36. 216.

²¹⁰ Siegert, Bernhard. “The map *is* the territory”. *Radical Philosophy*. 169: Sep/Oct 2011. 13.

representation.”²¹¹ A slightly opaque claim, but no less powerful for it, Siegert’s idea of a map as a space of representation acutely identifies the narrative agency of maps insofar that they both capture the given power relations of a historical context and further engender them at the same time. In other words, maps have a direct and creative effect on the manner through which one understands and conceptualizes given spaces. As he elaborates, “The marks and signs on a map do not refer to an authorial subject but to epistemic orders and their struggles for dominance over other epistemic orders.”²¹² Beauchamp’s analyses are less important in this light than the epistemic order through which his analyses are conditioned, as the latter represents the narrative byline he uses to construct his spatial portrait.

Consider, for instance, Beauchamp’s claim in emphasis, that light emission is a direct correlate to wealth and, in turn, national health and wellness. It is hard to argue against his point having been born into and raised within the epistemic order of a capitalist country, a culture in which resource accrual and maintenance correlates to overall well-being. In fact, it is difficult to think of any economic configuration in which this were not to be the case, wherein resources are *not* in fact associated with the ability to maintain the overall well-being of the nation, the state, and its citizens. I bring this up in light of the fact that North Korea, in particular, is certainly not a capitalist state by its own design, instead practicing a particularly hardline form of communism, and it patently refuses to budge from the mid-20th century boom of communist/socialist practices on the world stage. Even within the epistemic framework of communism, resource distribution is paramount to national health, perhaps even more dramatically given the importance of government regulation to the configuration.

²¹¹ Siegert, Bernhard. “The map *is* the territory”. *Radical Philosophy*. 169: Sep/Oct 2011. 13.

²¹² *Ibid.* 13.

Nevertheless, when the NASA photo of North Korea used by *National Geographic* reached the attention of the North Korean political body, the response was voluminous and excoriating, as often tends to be the case. Of particular interest, however, are two comments regarding the symbolic function of illumination, ones that Alistair Gale likewise isolated in his *Wall Street Journal* article titled “North Korea Downplays Lack of ‘Flashy Lights’”. Gale quotes Pyongyang’s response as the following: “They [North Korea’s detractors] clap their hands and get loud over a satellite picture of our city with not much light, but *the essence of society is not on flashy lights*. [my emphasis added]”²¹³ While this claim certainly falls in line with the propagandist language so heavily associated with the North Korean government, and while it could seem naïve given that Kim Jong Un promised his country that he would work to restore electricity around the same time (something Gale likewise notes), it would seem as if Siegert’s idea of clashing epistemic orders is abundantly clear in this moment. Health versus essence: what role does light play in the game of visual and narrative representation here?

It is frankly a philosophical question far beyond the limits of what this chapter could afford, but it is a crucial point nonetheless. On one hand, NASA’s image does serve to passively represent the space of North Korea from afar, but when interpretation naturally enters the playing field, it transfers into a space of representation as a matter of course. My interest lies here, wherein maps serve as the space for narrative construction, and the manner in which this act of construction gives way to spatial narratives. The selection of these

²¹³ Gale, Alistair. “North Korea Downplays Lack of ‘Flashy Lights’”. *Wall Street Journal*. <https://blogs.wsj.com/korearealtime/2015/02/09/north-korea-says-famous-satellite-photo-shows-u-s-s-fate/> 9 Feb. 2015.

particular photos within the scope of this project as a whole is also not arbitrary. Consider in this case the second line of note in Gale's article, in which Kim Jong Un writes, "An old superpower that is meeting its sunset may put up a face of arrogance but it can't avoid its dark fate."²¹⁴ Ignoring Un's paradoxical notion, that on one hand light does not indicate a failing society while on the other a failing society is characterized by darkness, it is the familiar deployment of darkness as a narrative trope that captures my attention here. Darkness once again extends beyond the empirical, moving from an indication of failing infrastructure to something metaphorical: it is decay or destruction *in general*. Ethical and even potentially moral in scope, this consideration of darkness is likewise no stranger to the history of cartography, having been used to damning effect in the colonial illustrations of Africa as a "dark continent", something that certainly conditioned and engendered Western conceptualizations of African reality to this very moment.

For the remainder of this chapter, I will explore a selection of theoretical positions concerning spatial narratives that all work in tandem with Siegert's concept of maps as epistemic representation, and through this will consider the manner in which darkness has been wielded as a means to characterize territories (namely the darkened North Korea and Africa's history as being a "dark continent") as zones of unknowable danger or social deficiency. There are of course considerations to be made with regards to the colonial and political processes that led directly to the creation of the North Korean state prior to the humanitarian disaster its citizens face under the control of its current government and the

²¹⁴ Gale, Alistair. "North Korea Downplays Lack of 'Flashy Lights'". *Wall Street Journal*. <https://blogs.wsj.com/korearealtime/2015/02/09/north-korea-says-famous-satellite-photo-shows-u-s-s-fate/> 9 Feb. 2015.

conceptual configuration of “Dark Africa” is of a markedly different material order than the sparse electrical grid of North Korea, or any “dark spot” on the global map for that matter. But the reception of and narrative response to such areas holds shape across these material conditions, and as such finds a home in this project as a whole. Boelhower sums this point up elegantly when he writes the following about maps: “But there will always be blank spaces, the virtual space of the menacing image, lurking in the map’s interstices.”²¹⁵

The work of Immanuel Wallerstein, who together with Fernand Braudel helped develop world-systems theory with regard to the concept of core and peripheral territories, may serve as a foundation here. In short, Wallerstein and Braudel argued that global core regions benefit the most from global capitalism and industrialization, operating as centers for development and technologies that lead to empires and self-sufficiency. On the opposite end of the spectrum, peripheral regions rely on core regions for resources and their own development, leading the former to colloquially seen as trailing behind core regions and existing quite literally on the periphery. Hand in hand with this reliance is an exploitation of peripheral regions by core regions, the latter of whom establish unequal labor and trade relationships as a means to bolster their own dominant economies. In between, peripheral regions in a state of transition to industrial self-sufficiency or core regions in decline represent the amorphous semi-periphery, characterized by either growing or lessening instability and a difficulty in pinpointing their position in terms of global impact.²¹⁶ Under Wallerstein’s definition, a country like contemporary North Korea poses certain challenges in

²¹⁵ Boelhower, William. “Inventing America: The Culture of the Map”. *Revue française d’études américaines*. Apr 1988: No. 36. 219.

²¹⁶ Wallerstein, Immanuel. *The Modern World System: Capitalist Agriculture and the Origins of the European World Economy in the Sixteenth Century*. University of California Press, 2011.

its definition: while its self-sufficiency and aims superficially bespeak a semi-peripheral region, its failed infrastructure and reliance on imports almost certainly indicate it as a peripheral territory.

But while this system remains useful in terms of such diagnostic work, it stops short of considering the impact of such visual materials as cartography and satellite imagery in terms of the cultural reception and development of said images, namely in the way that they reinforce or engender colloquial assumptions about the status of their subjects. In other words, the narrative aspect of such applications remains a blind spot for Wallerstein's early world-systems theory, and it is something directly picked up by the work of Étienne Balibar in his dialogic work with Wallerstein himself. In his essay "The Nation Form: History and Ideology", Balibar considers the development of national status to be a narrative function, one "always already presented to us in the form of a narrative which attributes to [nations] the continuity of a subject."²¹⁷ As the subject of a narrative, Balibar argues that nations fall prey to the false myth of continuous national progression, wherein nations as subjects are grafted into the concept of an inherent destiny that obscures the multifarious historical processes at play in the development of the term "nation" itself. Refusing to accept that "nation" can be extrapolated from mere capitalist relations alone, Balibar aligns with Wallerstein and Braudel in their claim that the division of core and periphery predates even capitalism, having been set in place through earlier economic configurations and productive of not only national formations but competing organizational structures.²¹⁸ Where Balibar stands apart, and in turn presents him as instrumental to this analysis, is his argument

²¹⁷ Balibar, Étienne. "The Nation Form: History and Ideology." *Race, Nation, and Class: Ambiguous Identities*. London: Verso Books, 1991. 86.

²¹⁸ *Ibid.* 89.

concerning what he calls the “nationalization of society”, namely the process through which said competing structured eventually relented in their resistance and formed into comparable national structures. He argues that the dominant cultural narrative of a national “destiny” lends itself to the assumption that certain areas undergo “delayed nationalization”, meaning that they simply form into comparable structures at a later historical moment than prior regions, more often than not those in the core.²¹⁹ The idea of a competing structure lagging behind in the cultural consciousness not only takes into account the reception of North Korea’s emissive darkness, but also older narrative tropes such as Africa existing as a “dark continent” prior to colonialization and detailed cartographic efforts.

Balibar offers his most stirring claim shortly thereafter, stating:

*Every social community reproduced by the functioning of institutions is imaginary, that is to say, it is based on the projection of individual existence into the web of a collective narrative, on the recognition of a common name and on traditions lived as the trace of an immemorial past (even when they have been fabricated and inculcated in the recent past.). But this comes down to accepting that, under certain conditions, *only* imaginary communities are real.*²²⁰

If Balibar’s claim is so, all nations find themselves woven into the collective narrative of national development, and as such their entire existence is predicated on narrative artifice. He is apt to note that, similar to Siegert’s definition of maps, this virtual origin *does not preclude* real existence, insofar that these narratives have a direct and tactile impact on the manner through which such nations are received and experienced in the collective consciousness. Balibar argues that the focal subject of this cultural imaginary is that of the “people” that constitute a nation, and while this may be so, I argue that the introduction of

²¹⁹ Balibar, Étienne. “The Nation Form: History and Ideology.” *Race, Nation, and Class: Ambiguous Identities*. London: Verso Books, 1991. 92.

²²⁰ *Ibid.* 93.

the cartographic narrative imaginary into this schema reveals a sense of spatial characteristic that, while working hand in hand with the image of the “people”, maintains a pseudo-autonomy of its own. In other words, while the narrative associated with spaces works synergistically with the image of their inhabitants, this does not mean that they necessarily evolve or change in tandem. As a direct example of this, the spatial narrative of Africa as a “Dark Continent” can draw force from different circumstances: what once was an association with violent danger is now in part one of resource depletion. Furthermore, if the development of national narratives is a matter of being woven into an already existing collective narrative, then the application of and reception to the tangible darkness of North Korea and figurative darkness of pre-colonial Africa draw force from the very same conceptual framework as discussed prior.

To develop this idea more precisely, I turn to the critical spatial work of Edward Soja, who serves as a bridge between the narrative-based theory of Balibar and the more concrete spatial dimensions at play when considering cartography proper. To his great credit, Soja spares little time in announcing his critical aims in his book *Postmodern Geographies: The Reassertion of Space in Critical Social Theory*. He remarks, “We must be insistently aware of how space can be made to hide consequences from us, how relations of power and discipline are inscribed into the apparently innocent spatiality of social life, how human geographies become filled with politics and ideology.”²²¹ As Balibar posits in terms of existing national narratives, space and spatiality is charged with historical ideology while at one and the same time possesses the ability to obscure this very ideological stratum. As with

²²¹ Soja, Edward. *Postmodern Geographies: The Reassertion of Space in Critical Social-Theory*. London: Verso Books, 1989. 6.

the collective narrative of national development, the distribution of bodies, buildings, borders, etc. in space reflect configurations of power and (more often than not) capitalist arrangements that serve to administrate the efficiency of the state. Soja himself would likely immediately target my earlier acknowledgement that I too consider the darkness of North Korea to be an indication of poor infrastructural health, as this very cultural assumption is a conditioned one, brought forth by the normative spatiality in which I have been raised. At the very least, such a claim would be slightly ignorant of the power relations through which such spatial arrangements have been wrought.

Nevertheless, Soja offers a history of the transition from standard geography, to critical/Marxist geography, and finally critical spatial studies. It is within this development that one can see a budding acknowledgement of the impact of cartography in the very development of not only spatial understandings, but also the very national narratives Balibar finds amongst the collective. Soja, for his part, approaches with a similar concept as Balibar's "delayed nationalization" in that he subscribes to the idea of unequal modernization, claiming, "Modernization is, like all social processes, unevenly developed across time and space and thus inscribes quite different social geographies across different regional social formations."²²² This temporal incongruity of modernization would seemingly play a strong hand in the development of delayed national narratives, and these could easily be reinforced through applications of new visual and graphic technologies, for instance. I make the conceptual jump to cartography here, as it is not long before Soja targets the culpability of older geographic disciplines in the calcification of such narratives in the

²²² Soja, Edward. *Postmodern Geographies: The Reassertion of Space in Critical Social-Theory*. London: Verso Books, 1989. 27.

collective consciousness. When discussing Modern Geography (meaning that of the early 20th century), he argues the following:

...Modern Geography was reduced primarily to the accumulation, classification, and theoretically innocent representation of factual material describing the areal differentiation of the Earth's surface – to the study of outcomes, the end products of dynamic processes best understood by others. Geography thus also treated space as the domain of the dead, the fixed, the undialectical, the immobile – a world of passivity and measurement rather than action or meaning. Accurate packages of such geographic information continued to be of use to the state, in the East and West, for military intelligence, economic planning, and imperial administration.²²³

It is a withering description of early 20th century geography to be sure, but apt as well, as Soja notes that in its purported neutrality, Modern Geography lent itself wholly to the administration of power and territorial rearrangement. As he puts it, in defining itself as concerning only the after-effects of action, Modern Geography blinded itself to its own direct effects in the actualization of such actions, akin to Siegart's maps directly shaping the perception of spatial reality. And while Balibar's insight into the multifarious sources of collective national narratives is rich in insight, it is cartography that approaches the center stage here, as the map holds force as the central tool of geographic utility and a locus for such power relations in the first instance. Soja even notes that during the development of Marxist Geography, the first of several critical developments along the route to his own discipline, the idea of "cognitive or 'mental maps'"²²⁴ became an object of inquiry, as these were taken to offer direct insight into the manner through which subjects understood space in accordance with the social and power relations in which they operate.

²²³ Soja, Edward. *Postmodern Geographies: The Reassertion of Space in Critical Social-Theory*. London: Verso Books, 1989. 37.

²²⁴ *Ibid.* 52.

I will stop here in recounting Soja's thought save one more instance, as this chapter focuses on an object far narrower in scope than his broader theoretical stakes. Instead, I simply want to demonstrate the way in which the relationship between nation, narrative, maps, and metaphor is approached in an admittedly small selection of largely prominent voices on the matter. But before departing to the discussion of cartography and narrative proper, I return once again to Soja's discussion of modernization as a means to draw all together with a demonstrative example. He notes that one of the major forces that leads to uneven modernization are periods wherein it intensifies greatly for certain regions and not others, for a variety of social, economic, and serendipitous circumstances. Citing Marshall Berman, Soja notes that one of the most critical factors leading to such a phenomenon is the proliferation of mass communication systems on both a national and global scale. This development is nearly matched in importance by social upheaval, furious expansion of urban growth, and massive upticks in the tempo of modern life by way of technology, amongst others. He sees Berman's catalogue as evidence of the "destructive creativity so closely associated with both the modernization and survival of capitalism over the past two centuries,"²²⁵ and while this provokes a discussion that the space of this chapter can little afford, I wish to focus on the mentioning of global communication expansion. What follows are three maps, one a global light emission photograph akin to the former of North Korea, one a distribution of global industrial control systems, and one a graphical representation of global flight connections. The light emission map comes from the Helmholtz Association of German Research Centers, using it to advertise a light-pollution visualization map created by the GFZ German Research Centre for Geosciences in Potsdam. The industrial control image

²²⁵ Soja, Edward. *Postmodern Geographies: The Reassertion of Space in Critical Social-Theory*. London: Verso Books, 1989. pp 28-29

comes courtesy of Shodan, a search engine that specializes in search the Internet of Things, or any internet connected device outside of a computer that cannot be traditionally searched via Google. The flight connection map is a tech demo for the data visualization program AirFlow Pro by Esri, and it updates in real time to display every known flight path at that given moment.

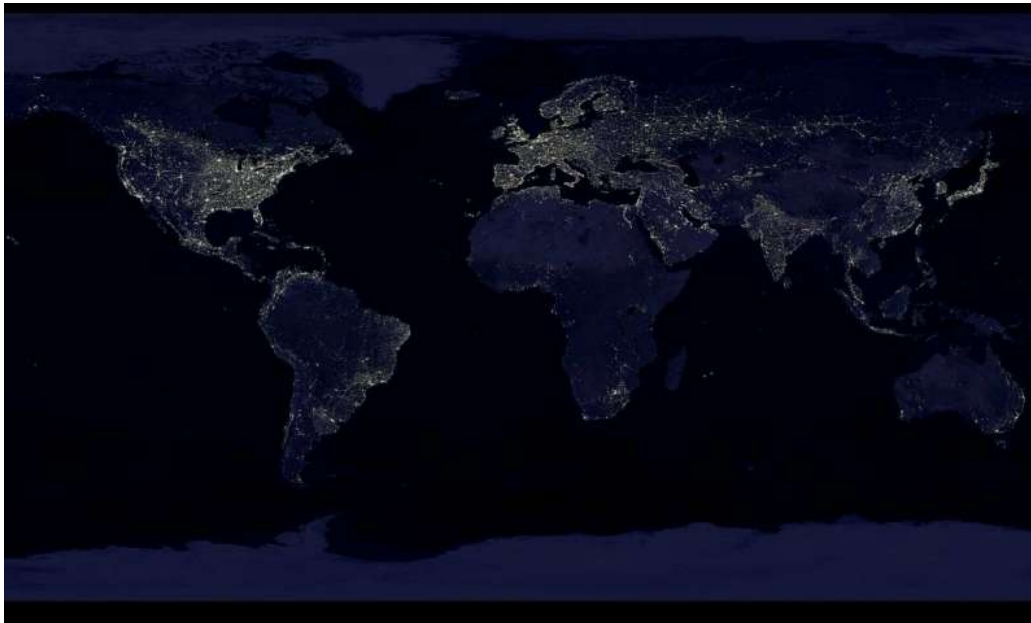
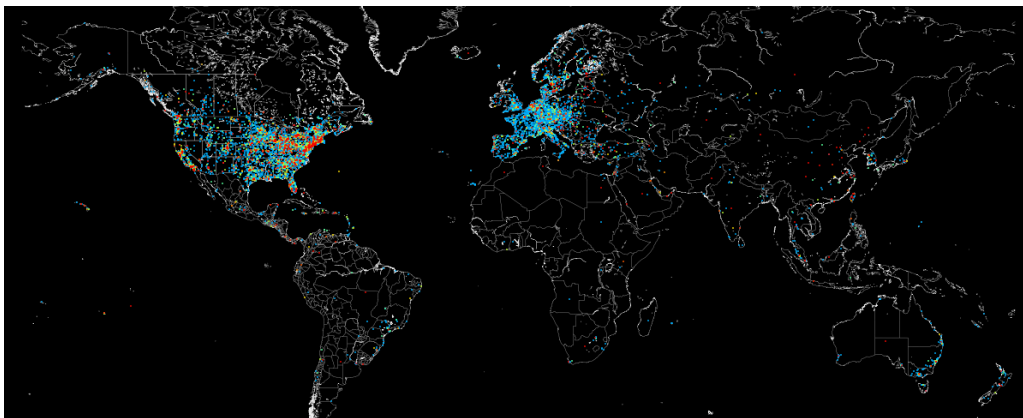


Fig. 7: Composite satellite photo of the entire globe, adjusted to highlight global light emissions. Photo composed by the Helmholtz Association of German Research Centers.

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Fig. 8: Graphic representation of the distribution of internet accessible industrial control systems across the globe, courtesy of Shodan. Industrial control systems are a variety of technologies that operate larger industrial processes and objectives.

²²⁶ Helmholtz Association of German Research Centers. "Radiance Light Trends' shows changes in Earth's light emissions". *Phys.org*. <https://phys.org/news/2019-03-radiance-trends-earth-emissions.html>. 7 Mar 2019.

²²⁷ "Map of Industrial Control Systems on the Internet". *Shodan*. <https://icsmap.shodan.io> 23 Aug 2016.



Fig. 9:
Procedural
graphic of
global flight
paths updated
in real time,
courtesy of
Esri. Notably,
the lines
represent open
and currently
used flight
paths, higher
density
indicating a
greater number
of direct or
connecting
flights.

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All three of these maps represent the distribution of functionally related technological development, that being of light, communication, and transportation. And if one were to ever question Soja and Berman's ideas of delayed modernization as accurate, these three maps stand as forceful evidence to their claim. With few variations, these three maps illuminate roughly the exact same regions with nearly the exact same intensity of each other, and as such can be taken as maps of modernization itself, to a certain degree. There are, of course, several mitigating factors to consider when considering the dark areas on these maps. For one, certain areas lack development due to the relative impossibility of development. It should be taken as a positive sign that the Amazon rainforest region and Australian Outback remain relatively free of industrial urbanization, and the lack of light across the Siberian region speaks for itself.

²²⁸ "Airflow Pro". Esri. <https://www.esri.com/en-us/maps-we-love/gallery/global-air-traffic>. 20 Sep 2019

But it is perhaps the spaces that do not surprise, the blinding radiance of Europe hovering over the comparative paucity of light across the entire African continent that draw Wallerstein, Siegert, Balibar, and Soja together into conversation. If these are maps of effects, namely the effects of urban modernization, is it possible that on an almost sub-cognitive level that maps such as these reinforce the very collective cultural narratives that led to their existence? In other words, can one locate within cartography the subterranean histories that ensured that such maps remain functionally identical across three strata of social development? Put as an obvious question, what story do certain dark zones on these maps have to tell about the history of power relations and domination that lead to their relative darkness? A less obvious question: do these cartographic dark zones aid in producing these continued relations?

The latter is not an easy question to answer, but it is an important question nonetheless, broached first by Siegert and developed in accordance with the narrower aims of my analysis, namely examining the metaphorical force of darkness in technological narratives. For example, while it follows that the comparatively dark zone of continental Africa on a light pollution map would roughly correspond to a social-media connectivity map, if for no other reason than as a demonstration of reduced electrical infrastructures, the correlating flight map qualifies this correspondence in a bracing fashion. While this could (and certainly to a degree *does*) also indicate a smaller network of commercial airports, the lack of development immediately brings to mind the complex web of factors, both contemporary and historical, that result in the lack of tourist traffic to the region. Depleted of its resources during the colonial period, thrown into political instability following decolonization through the financial and political influence of past colonizing powers, victim

to a sequence of genocides (some still ongoing): the “dark zone” of Africa betrays a historical process of making it so on the part of colonization, and what remains are maps such as the ones above, potent in their affective power and capacity to influence aversion to the region. The complex work is identifying the line wherein these historical causes are reflected in this map and the point where such maps reinforce and perpetuate such historical processes on the level of collective perception. The latter is extremely difficult to quantify with anything less than a vast map of factors. Furthermore, isolating the narrative component of this phenomenon, following the path of this particular project, would be a monolithic task of synthesis. But it is a task whose brickwork may have already been laid in large part by literary criticism in concert than the social sciences. With the ascent of digital humanities methodologies rose a concomitant interest in apply spatial practices to literary narratives themselves, mapping out plots, motifs, recurrent phrases, etc. as a means to reshape the approach towards the act of reading. With this in mind, there is a compelling link between the manner in which a space may develop its narrative, and in turn how a narrative may give shape and tone to a space. On top of this, there are many direct instances of the deployment of spatial narratives within literary texts themselves, prior to any act of secondary interpretation. Such texts have immense impact on the cultural development of spatial narratives, as they offer space and narrative tropes in a readymade package. The process is recursive as well, wherein works of literature are informed by existing spatial narratives and in turn augment and reshape the very narratives out of which they emerged. I will first briefly turn to the work of recent literary research that considers cartography as a form of narrative text in its own right, all as a means to demonstrate this vert link between the narrative functions of such maps and the literary history that served to produce them, at least in the

case of the African continent: colonial literature. The “dark continent” mythos concerning Africa is a potent and pernicious one, not only promoting harmful views of the continent on a global scale, but also serving as an archetype for similar cultural narratives, such as that of North Korea.

In any case, the inherent connection between cartography and narrative is well-trodden ground by this point as well, albeit of a comparatively more recent discourse than the spatial turn in critical theory. The obvious departure point here would be the work of Franco Moretti, who in his book *Graphs, Maps, Trees* set a new standard for the manner in which mapping and cartography could be deployed in the humanist fields. It is a procedure that one can trace into his work in digital humanities to this day, and while the act of mapping does not speak for this discipline as a whole, far from it, nevertheless the process of spatializing and visualizing literary data functions paradigmatically for the field in part. While *Graphs, Maps, Trees* certainly offers several explicit references to the development of this research modality, Moretti’s sights capture a far broader scope in terms of the cartographic process as a narrative process in general. In a pithy turn of phrase, he states near the beginning of his “Maps” chapter the following: “A map of ideology emerging from a map of *mentalité*, emerging from the material substratum of the physical territory. Granted, things are not always so neat. But when they are, it’s interesting.”²²⁹ It is indeed quite interesting, and with a bit of unpacking of Moretti’s terminology, the three maps of Africa above may take on a new level of significance. The task of unpacking, however, is a bit complex. Moretti makes this comment not with regard to a map of the globe, a country, city, etc., but one offered within a village story by British author Mary Mitford. Mitford’s novel discusses life in a

²²⁹ Moretti, Franco. *Graphs, Maps, Trees*. London: Verso, 2005. 42.

village as if it were a set of points on a linear street, with the reader stopping by each one as they pass through, but she then offers her map of the village in heavily abstracted form: two rings surrounding a central parish, each ring representing certain relationships and sets of activities. Moretti argues that such a map rests on the level of ideology, insofar that it compels the reader to understand a space through the mental framework of those who have inhabited it and developed their own *mentalité*.²³⁰ *Mentalité*, then, is a system of subjective experiences of a space, often shared by the endemic collective, routinely given shape by daily routines and manual labor. He references two maps composed by John Barrel that look like relatively traditional maps save the labeling of streets and spaces in terms of where they lead and for what they are used. Moretti argues that the standardized cartographic layout of these maps represents this *mentalité* insofar that they catalogue these routines digestibly for an outsider. In contrast, Mitford's abstract circles draw the reader into an ideological space as they step directly into the experience of this *mentalité*.²³¹

It is an opaquely argued passage, but it holds practical applicability nonetheless. Consider the three maps above, once again: photographed or computer generated, these maps meet the viewer firstly as a representation of material physical space, and yet they are interested in mapping a series of relations *on top* of such space. The maps capturing industrial control systems and flight connections could easily be viewed through the lens of *mentalité* as Moretti defines it, for what are they if not cartographic representations of a set of daily habits and relations that reconfigure the experience of these particular spaces. In his introduction an anthology titled *Literature and Cartography*, Anders Engberg-Pedersen notes

²³⁰ Moretti, Franco. *Graphs, Maps, Trees*. London: Verso, 2005. 39.

²³¹ *Ibid.* 41-42.

that, “often unknowingly we also generate maps and even become maps, as the data of our travels, our purchases, our work habits is conglomerated, processed and visualized with the aid of GIS.”²³² In a sense, these maps are as much visualizations of those who experience such spaces as a much as the manner in which they are experienced. To that end, some of the dark zones on these maps stand as *illusions of unexperienced spaces*, ones for which no sort of *mentalité* emerges within the narrative confines of their objects of inquiry. This is *not* to say that the spaces have no one within them nor foster relationships of residents to their space, but instead that these maps convey a lack of such relations through their dearth of visual data. Where these maps stop short is the conversion into ideology as Moretti frames it, an ideology that conditions the experience of such space from the view of those who reside within. Instead, these dark spaces are merely dark, communicating little in terms of what enters or emerges, quite literally in terms of flight connection map. But is it so that there is no ideological component to this end? Moretti’s definition of ideology is narrow, and this is neither a critique nor criticism of his usage, but merely an acknowledgement of the specific framework to which he applies it in terms of novelistic mapping. In a broader sense, spatial ideology can obviously extend far beyond the known space of one’s residence, as stereotypes and assumptions of global regions are direct products of the ideological conditioning of one’s place of birth, residence, etc. This falls in line with the work of the spatial theorists discussed earlier, and it stands that such maps could reflect or reinforce these ideologically conditioned perceptions through a *lack* of information about a space. Even this is a terminological error in itself: the lack of data in these dark spaces *is* data.

²³² Engberg-Pedersen, Anders. “Introduction – Estranging the Map: On Literature and Cartography”. *Literature and Cartography*. Cambridge, Massachusetts: MIT Press, 2017. 3.

This reading extends to the light-pollution maps in kind, and to supplement this I turn to Moretti once again and his approach to diagramming versus geography. Discussing another cartographic rendering, he puts forth his distinction in far simpler terms than his descriptions of *mentalité* and ideology, stating, “The epiphany, in other words, was *Paris as diagram*: a matrix of relations, not a cluster of individual locations.”²³³ Moretti cites Claudio Ceretti when developing this distinction, noting that diagrams are superimposed on top of maps and rendered in geometric form, revealing agency in terms of the composer.²³⁴ He adds, “it is because for me *geometry ‘signifies’ more than geography*. More, in the sense that a geometrical pattern is too orderly a shape to be the product of chance. It is a sign that something is at work here – that something has *made* the pattern the way it is.”²³⁵ Diagrams reveal on top of their analytic visualizations relevant information about the context from which such diagrams emerge. In other words, they are produced through a set of codes and visualizing strategies that reflect the bias or cultural conditioning of their creators. Consider the flight path image once again: while it displays interesting and thorough data concerning transit paths, it is essentially an advertisement for the visualization program that produced it. Its aesthetic value is placed on equal grounds as its informational value, and one could argue that the former even supersedes the latter. The diagrammed information was precisely selected and constructed, and it points to a series of historical processes that have led to their diagrammatic representations *as well as* the conditions through which such diagrams could be made in the present. The work of history and commerce is diagrammed alongside of where flights take off and arrive.

²³³ Moretti, Franco. *Graphs, Maps, Trees*. London: Verso, 2005. 54.

²³⁴ *Ibid.* 54.

²³⁵ *Ibid.* 56.

I bring the light-pollution maps into the conversation here to complicate Moretti's clean distinction a bit. I will not argue that photographic maps such as these signify more or even as much as their comparable diagrams within the scope of Moretti's argument. However, I *do* argue that these images signify more than one may think despite the element of chance inherent to photography. Space station and satellite photos are dictated largely by chance to be sure, but in this specific circumstance are nonetheless charged with a "diagrammatic force". Chance or not, the fact remains that the pattern of lights on these maps almost mirror those of the diagrams, and in turn perhaps reinforce the very historical narratives that inform the diagrammed connection maps. Furthermore, that these maps are photographs and not drawn drags them into a longstanding debate of the truth-element of photography on its own. From the work of Susan Sontag and Roland Barthes, from Walter Benjamin to Peter Geimer, the status of photographs has never settled into a consistent form precisely due to this element of chance, instead roughly congealing into the acknowledgement that such chance reflects both a capturing of the "now" in parallel to the artificial influence of the photographer's efforts. The most pressing aspect of this dialogue is the assumption of objectivity that photographs lend, despite the fact that all photographs, much like maps, are charged with subjectivity and contextual framing (by whom they were taken, from where, when, etc.) Consider that the first image of North Korea in this chapter was taken from the International Space Station, for instance, a platform on which North Korea has no presence, let alone a space program of their own.

My point here is that the chance element of geography, and especially photographic geography, may be less "artificial" or constructed than diagrams, but in specific cases there are "plain maps" that have an unexpectedly potent amount of signifying power. To return to

the point with which I began this chapter, light-pollution maps can feed into an array of both historically and politically engendered narratives: outcomes of war, “unideal spaces”, colonial activity, contemporary geopolitical relations, etc. While a diagram may be more readily “readable” for a cartographic and literary analyst, the sense of photographic chance that signifies *more* for the common eye, as photographic chance lends an illusion of objectivity. This then can easily reinforce certain perceptions of the globe as naturalistic and “true”. This cartographic naturalism is nevertheless itself a falsehood in this particular instance, as what these maps above (both diagrammatic and photographic) reveal is a narrative history that precedes their construction. It is the darkness narrative in one of its myriad forms, importing its ancient metaphorical lineage into a conceptual framework. Further, cartography’s truth-content, as contentious as it may be, elevates these metaphorical narratives into this sense of illusory objectivity, and photography reinforces this all the more. Photographic and data maps can even carry with them cartographic narrative histories that precede the invention of photography or data visualization itself, a process illustrated by the transfer of the “dark continent” myth by way of colonial maps into the contemporary cultural consciousness.

The narrative history of Africa as a “dark continent” was the product of a knotted combination of cultural factors. Felix Driver writes, “The peculiar power of this myth of the “Dark Continent” lay in its fusion of a complex of images of race, science, and religion; the iconography of light and darkness thus represented European penetration of Africa as *simultaneously* a process of domination, enlightenment and emancipation,”²³⁶ an analysis

²³⁶ Driver, Felix. “Henry Morton Stanley and His Critics: Geography, Exploration and Empire”. *Past and Present*. Oxford University Press. No. 133, Nov., 1991. 140.

drawn from Patrick Brantlinger's enduring work concerning the Victorian influence on this mythos. In the introduction to his essay on the subject, Brantlinger states, "Africa grew "dark" as Victorian explorers, missionaries, and scientists flooded it with light, because the light was refracted through an imperialist ideology that urged the abolition of "savage customs in the name of civilization."²³⁷ The attitude of Europeans towards Africa was charged from the start with the metaphorical baggage affixed to "light" and "darkness", and the colonialization of Africa became more than just an imperial project: it was a metaphysical battle. Brantlinger further notes that this attitude can be traced to a particularly narrow shifting point in the cultural consciousness, as Romantic literature frequently eschewed rhetoric that portrayed Africa as being enslaved to savagery.²³⁸ This shift was likely catalyzed by late 19th century writing of Sir Henry Morton Stanley, specifically his books *Through the Dark Continent* and *In Darkest Africa* which serve as a touchstone for this particular cultural image. Lucy Jarosz notes that "the earliest written reference to Africa (particularly East Africa) as the Dark Continent was penned by Henry M. Stanley... The identification of Africa as Dark and impenetrable was subsequently taken up by missionaries, travelers, and literary authors."²³⁹ If, as Driver and Brantlinger claim, the concept of Africa as the "dark continent" existed as a kind of conceptual timbre in Victorian times, Stanley concretized into a replicable trope. His two travelogues are both exhaustive and exhausting in their lengths, each divided into two volumes so as to contain the breadth of Stanley's

²³⁷ Brantlinger, Patrick. "Victorians and Africans: The Genealogy of the Myth of Dark Continent". *Critical Inquiry*. Vol. 12, No. 1. 1985. 160.

²³⁸ *Ibid.* 170.

²³⁹ Jarosz, Lucy. "Constructing the Dark Continent: Metaphor as Geographic Representation of Africa". *Geografiska Annaler. Series B, Human Geography*. Taylor and Francis Ltd: Vol. 74, No. 2. 1992. 106.

meticulous descriptions of events, topography, wildlife, and peoples, amongst others. However, this is not to say that his accounts remain on the level of sterile chronicling. On the contrary, Stanley liberally applies a literary flair to his writings, inscribing his expeditions into the odysseys of the canon much like many of his contemporaries. While he does not belabor the symbol of darkness as other writings (one such example I will discuss shortly hereafter), darkness hangs overhead across the breadth of both texts, framing the expeditions with a sense of palpable dread. The moments in which Stanley addresses Africa in such terms are thus made doubly potent, such as the way in which he describes his approach in *Through the Dark Continent*. He writes, “The sun sinks fast to the western horizon, and gloomy is the twilight that now deepens and darkens. Thick shadows fall upon the distant land and over the silent sea, and oppress out throbbing, regretful hearts, as we glide away through the dying light towards The Dark Continent.”²⁴⁰ Stanley places thick layers of symbolic textures within this simple passage, establishing a parallel between the fading light of day and the expedition’s steady approach towards Africa, here referred to with its titular nomenclature. He offers little wiggle room in terms of the passages tone as well: the expedition is a regretful one, poised to deliver countless deaths and terrors upon the explorers, and the bulk of the narrative falls directly in line. While this is not to directly argue that Stanley’s company did not in fact experience such events, Stanley takes special care in relating each tragedy with as diligent detail as his topographic descriptions. It is in this regard, though, that Stanley falls in line with the bulk of colonial travel literature of this kind, and my interest instead turns to the way in which he uses another common convention of the genre in tandem with his deployment of his dark metaphor.

²⁴⁰ Stanley, Henry M. *Through the Dark Continent*, Vol. 1. New York: Harper & Brothers, 1878. 69.

In both *Through the Dark Continent* and *In Darkest Africa*, Stanley offers ample illustrations and maps to supplement his written observations, and they are relatively sterile when viewed in concert with his more theatrical moments. At times, these illustrations even seem to be at odds with what he actually writes, tonally speaking. For example, Stanley pairs the above cited passage from *Through the Dark Continent* with a demonstrative illustration²⁴¹, which I provide here:

²⁴¹ It is worth noting that Stanley himself did not draw these illustrations, or more specifically, create the woodblocks for the prints. He directly references a “Mr. E. Weller and Mr. E. Stanford” for their artistic work in the introduction of *Through the Dark Continent*, Vol. 1., but such acknowledgement is absent in *In Darkest Africa*.

While Stanley’s books propelled him to the forefront of fame in his lifetime, discussion and criticism has focused principally on his writing rather than the effect of these particular illustrations. That said, the illustrations in Stanley’s books fall into a long history of “illustrating Africa” that played a major hand in the development of racist attitudes towards the continent on the part of Europeans. Deborah L. Silverman discusses one of Stanley’s illustrations in these terms (albeit from another book of his, *The Congo and the Founding of its Free State: A Story of Work and Exploration*). Patrick Brantlinger’s “Victorians and Africans: The Genealogy of the Myth of Dark Continent” also explores a variety of similar illustrations, but Stanley’s are unfortunately absent. Notably, illustrations such as these were seen in large part as copy sellers at the time, something that Michael Winship explains in his essay on Stanley’s publication history.

Brantlinger, Patrick. “Victorians and Africans: The Genealogy of the Myth of Dark Continent”. *Critical Inquiry*. Vol. 12, No. 1. 1985. 166-203.

Silverman, Deborah L. “Art Nouveau, Art of Darkness: African Lineages of Belgian Modernism, Part II”. *West 86th: A Journal of Decorative Arts, Design History, and Material Culture*. Vol. 19, No. 2. 2012. 178.

Winship, Michael. “Charles Scribner’s Sons as Subscription Publishers: The Canvass for Stanley’s *In Darkest Africa* in the Pacific Coast Agency”. *The Princeton University Library Chronicle*. Vol. 71, No. 2. Winter 2010. 126.

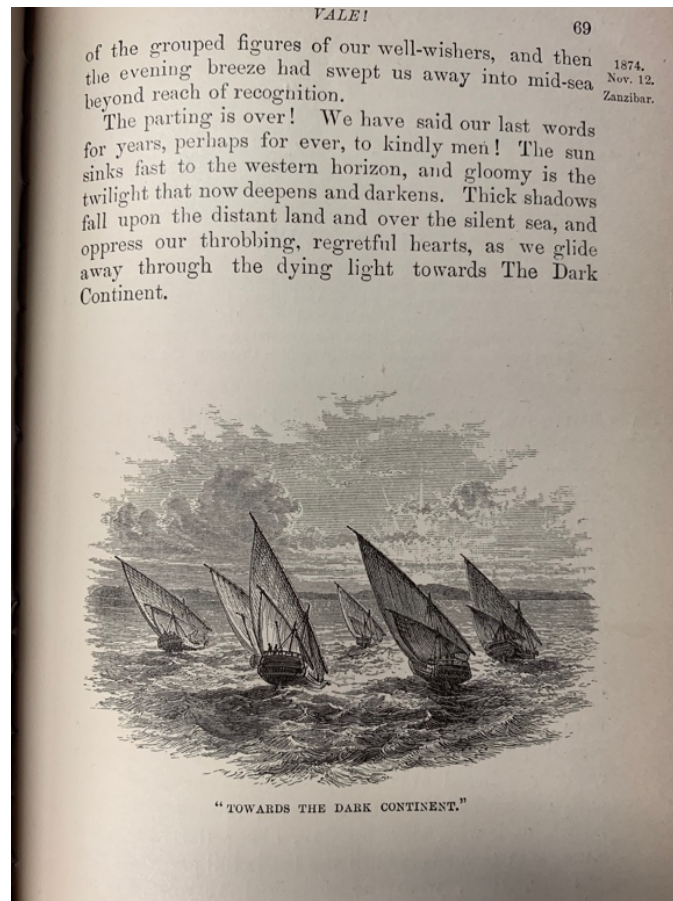


Fig. 10:
Illustration depicting Henry Morton Stanley's approach to the African continent. His two major works are peppered with such illustrations, often eclipsed by Stanley's meticulously detailed use of language.

Whatever sense of foreboding and dread that Stanley described clashes with even the most basic visual signifiers in this image. The image depicts a setting sun, its position behind what is ostensibly Africa casts a beatific frame around it, similar to a halo sitting above the region. While the physics of this situation would certainly cast Africa into shadow, thus reinforcing the dark imagery at play, this is not reinforced by the manner in which this illustration depicts the actual moment itself. Instead, an insidious act of narrative association arises in this pairing, attaching Stanley's feelings of dread to what is otherwise a benign, if not outright beautiful image. This superimposition, the inherent danger and dread of darkness onto natural beauty, is a recurring trope amongst colonial literature of this type, an inversion of untapped splendor into a deceptive hovel for death and corruption, not entirely unlike classical descriptions of darkness as both baneful and resplendent in twinned aspect.

Where Stanley's development of his dark metaphor does in fact appear is within his illustrations of events and people, the expression of which is at times so explicit that he has little need to reinforce this metaphoric conceit. Take for instance the following, chosen almost arbitrarily from a selection of remarkably similar depictions across all four volumes:



Fig. 11: A particularly violent and chaotic illustration from Stanley's *Through the Dark Continent, Vol. I*, whose images tend to err on the side of natural depictions and more tempered scenes.

Titled, "Reception at Bumbireh Island, Victoria Nyanza", the illustration takes on an unfortunately, if not intentionally, ironic tone in light of this. The "reception" is clearly hostile, with native Africans brandishing weapons at the explorers as they are framed within an ocean of human bodies, dissolving into abstraction as they fill the frame to the mountain line, the tips of spears and bows serving as indexical markers for African people. It captures

²⁴² Stanley, Henry M. *Through the Dark Continent, Vol 1*. New York: Harper & Brothers, 1878. 228.

a moment in which the group suddenly turns on Stanley's company, leading him to refer to the people as "two hundred screaming black demons"²⁴³ who are only pacified through the gentle approach of his colleague, a contrast to his plan to shoot them with his revolvers.²⁴⁴ It is clear at this point what is the "dark continent": the native people of Africa themselves.

Stanley offers an explicit bridge between this narrative history and maps proper, a bridge between the benign topography and a fundamentally racist deployment of darkness that conditions their function. Indeed, in a manner wholly opposite to Mitford's abstract map of a village, both of Stanley's works offer maps upon maps of frankly breathtaking detail and sophistication. These are not always restricted to the dimensional limitations of the page: both books come with large fold out maps as supplementary components, the largest depicting the entire region in question, and the smaller demonstrating the specific paths that the company took in greater detail. I offer the two larger maps below:

²⁴³ Stanley, Henry M. *Through the Dark Continent, Vol 1*. New York: Harper & Brothers, 1878. 229.

²⁴⁴ *Ibid.* 229.



Fig. 12: A map of Stanley's voyage tucked into the front cover of *Through the Dark Continent, Vol. 1*.

²⁴⁵ Stanley, Henry M. *Through the Dark Continent, Vol 1*. New York: Harper & Brothers, 1878. Insert.



Fig. 13: Another journey map, this one included in the front cover of Stanley's *In Darkest Africa, Vol. 2*.

These maps are neither stylized nor do they shade in certain areas as “dark” or “darker”, and on their own would seem to be didactic, geographic representations of their respective regions. This they are, but they possess diagrammatic aspects as well, with both possessing a winding line in order to depict the paths of Stanley’s expeditions, cutting through vast swaths of comparatively blank space in the center. Stanley becomes the only reference point across this line, and as viewers, we are forced into his *mentalité*, in a loose sense, traversing with him his mental mapping of the expedition as it penetrates the unknown. But in drawing the viewer in, an ideological aspect appears in tandem, especially given the types of written descriptions seen prior. Furthermore, as Driver notes, Stanley’s “mission, as it was described

²⁴⁶ Stanley, Henry M. *In Darkest Africa, Vol. 2*. London: Sampson, Low, Marston, Searle, and Rivington, 1890. Insert.

in 1884, was to strike *A White Line Across the Dark Continent*.²⁴⁷ Stanley fills in the blank spaces with darkness: dark events, dark portents, and dark bodies. And it is these bodies which transmit Stanley's horror to the colonial era reader remaining in Europe, wherein the stark white of Africa is rendered dark by association. There is little surprise when Stanley marks the end of his voyage in *Through the Dark Continent* with a celebration of his whiteness, at first feeling startled at the sight of new white people, only to then deliver the following dose of racist rhetoric: "I looked from them to [the Africans with me], and then I fear I felt almost like being grateful to the Creator that I was not as black as they, and that these finely dressed, well-spoken whites claimed me as friend and kin. Yet I did not dare to place myself upon an equality with them as yet..."²⁴⁸ Stanley describes himself as some missing link between African and European culture, but in doing so places himself as beneath the Europeans he encounters, somehow tainted by the darkness of Africa having found a home within him. This darkness is viscous and sticks to his body, one more tacit reference to darkness and its metaphoric history and now wielded to gravely damaging effect.

In his essay "African Cartographies in Motion", Dominic Thomas aims his sights at colonial board games, which he claims to have been used as indoctrinating tools for European children in terms of conditioning their attitude towards colonization. He writes, "Maps provided people with information about the colonies, including representations of colonized peoples (many of which have survived into contemporary French society and are reflected in current mindsets), while stimulating the imagination and appeal for remote

²⁴⁷ Driver, Felix. "Henry Morton Stanley and His Critics: Geography, Exploration and Empire". *Past and Present*. Oxford University Press. No. 133, Nov., 1991. 140.

²⁴⁸ Stanley, Henry M. *Through the Dark Continent*, Vol 2. New York: Harper & Brothers, 1878. 463.

spaces...”²⁴⁹ While neither games nor even children’s reading, Stanley’s maps and illustrations function in lockstep, depicting Africa as both untamed and untamable, the latter serving as a challenge for those who would follow in his steps. He fills his geography with darkness in such a way that it swallows the continent whole, establishing an affective and narrative portrait of death and dread.²⁵⁰ Midway through *In Darkest Africa*, Stanley actually offers a short history of African cartography, offering tracings of maps of the region ranging from the time of Homer to his contemporary moment.²⁵¹ With the early maps expectedly lacking significant information, Stanley implicitly positions his versions as the final word on the matter at that time, and in doing so in tandem with his invention of the “Dark Continent”, he set in motion a narrative lineage that to this day has never truly died out, reified in spite of the growing topographic knowledge of the continent itself.

But it is certainly not as if he birthed this concept into the world with little further interference or influence. Far from it, the “dark continent” metaphor repeated itself time and time again throughout geographic, literary, and cultural history, perhaps raised to its zenith in a novel that dramatized the colonial project wholesale.²⁵² I speak here of Joseph Conrad’s *Heart of Darkness*, the title of which leaves little to the imagination within the scope of this chapter. Conrad’s uses of darkness as a metaphor for primitivity, death, disease, and chaos are myriad, and I offer a short selection of them here. Beyond the title, the first instance is of

²⁴⁹ Thomas, Dominic. “African Cartographies in Motion.” *Literature and Cartography*. Cambridge, Massachusetts: MIT Press, 2017. 303.

²⁵⁰ Made almost too clear by his decision to end *Through the Dark Continent* with a section titled “The Martyrs to Geography”. Iey, Henry M. *Through the Dark Continent*, Vol 2. New York: Harper & Brothers, 1878. 481.

²⁵¹ Stanley, Henry M. *In Darkest Africa*, Vol. 1. London: Sampson, Low, Marston, Searle, and Rivington, 1890. 269-277.

²⁵² Whether this novel reinforced or lambasted the racism of colonialism (if not both) remains a highly contentious debate. Chinua Achebe’s and Carol Phillips’ critical work on *Heart of Darkness*’s implicit and explicit racism remain forceful retorts to those who view the novel as overt criticism of the African colonial period.

Marlow looking at the various lights around him at port, claiming that it “also[...]has been one of the dark places of the earth.”²⁵³ Taking illumination to be a process or even a destiny, Marlow describes the eventually “enlightening” of the globe as some sort of positive change, echoing the very Enlightenment ideals that led to colonialism in the first place. But it is where he applies this processual language to Africa shortly after that the direct connection to projects such as Stanley’s jumps forth. Discussing his childhood fascination with maps, Marlow describes the map of Africa as follows: “It had ceased to be a blank space of delightful mystery – a white patch for a boy to dream gloriously over. *It had become a place of darkness.*”²⁵⁴²⁵⁵ As Stanley fills his cartographic Africa with the “dark” horrors within, so does Conrad describe the paradoxical nature of the region, wherein the more it is uncovered, the less one can penetrate its dark aspects. It is an area where illumination fails, or even more, augments and expands the darkness as if it were a void, swallowing up all light that approaches it. As Marlow recounts “[penetrating] deeper and deeper into the heart of darkness,”²⁵⁶ he views the land and its inhabitants as “unearthly,”²⁵⁷ defying human logic. He echoes Stanley’s description of himself as “darkened” in discussing the manner in which the darkness “claims” Kurtz,²⁵⁸ referring to him as a shadow upon meeting,²⁵⁹ consumed by an “impenetrable darkness.”²⁶⁰ In short, Conrad assaults the reader with darkness metaphors, drawing upon the canon of its associations, from corrupting force, to concealing danger, to

²⁵³ Conrad, Joseph. *Heart of Darkness*. New York: Barnes and Noble Books, 2008. 39.

²⁵⁴ My emphasis.

²⁵⁵ *Ibid.* 43.

²⁵⁶ *Ibid.* 75.

²⁵⁷ *Ibid.* 76.

²⁵⁸ *Ibid.* 91.

²⁵⁹ *Ibid.* 111.

²⁶⁰ *Ibid.* 115.

unchecked production and inherent evil. Festooned onto Africa, the continent is darkened *through* Marlow's illuminations, akin to his cartographic allusion.

Of course, while Conrad leaves this darkness ambiguous in terms of Kurtz, whether he is tainted by Africa or his own obsessive desire to claim it, Marlow's description of a call for African genocide as a brilliant flash of lightning²⁶¹ does little to resist the accusations of racist imagery in his text. One of the strongest of these comes courtesy of Chinua Achebe, who saw little differentiation or critical distance between Conrad and Marlow's views. He states, with finality:

The point of my observations should be quite clear by now, namely that Joseph Conrad was a thoroughgoing racist. That this simple truth is glossed over in criticisms of his work is due to the fact that white racism against Africa is such a normal way of thinking that its manifestations go completely unremarked...A Conrad student informed me in Scotland that Africa is merely a setting for the disintegration of the mind of Mr. Kurtz. Which is partly the point. Africa as a setting and backdrop which eliminates the African as a human factor. Africa as a metaphysical battlefield devoid of all recognizable humanity, into which the wandering European enters at his peril. Can nobody see the preposterous and perverse arrogance in thus reducing Africa to the role of props for the break-up of one petty European mind? But that is not even the point. The real question is the dehumanization of Africa and Africans which this age-long attitude has fostered and continues to foster in the world. And the question is whether a novel which celebrates this dehumanization, which depersonalizes a portion of the human race, can be called a great work of art. My answer is: no, it cannot.²⁶²

As with Stanley's cartography, Africa is reduced to a blank spot upon which a European drama can play out. Where Conrad depicts the collapse of a European mind, Stanley enacts the "enlightenment" of Africa; but both reconstitute Africa as a menacing, monstrous space with the capacity to swallow those who fail to combat its penetrating forces. In draining the

²⁶¹ Conrad, Joseph. *Heart of Darkness*. New York: Barnes and Noble Books, 2008. 92.

²⁶² Achebe, Chinua. "An Image of Africa: Racism in Conrad's 'Heart of Darkness'". *Massachusetts Review*. Vol: 18. 1977. 6.

African continent of its own history and significance, it is forced into the spatial narrative of a dark zone, along with the bulk of its nyctophobic history. Cedric Watts rejected Achebe's stance, claiming the following:

Far from being a 'purveyor of comforting myths', Conrad most deliberately and incisively debunks such myths. The myth of inevitable progress, for example; the myth that white civilization is necessarily morally superior to 'savagery'; the myth that imperialism is the altruistic matter of 'weaning those ignorant millions from their horrid ways': all these are mocked by the tale"²⁶³

It is true that Conrad's novel portrays the colonial project in an exceptionally unflattering tone, and as such Achebe and Watts represent the extreme ends of the continued debate on the text. Patrick Brantlinger also commented on this subject, taking a mediating position between the two and referring to Conrad's writing as a type of "impressionism". He writes, "Whatever the answers, *Heart of Darkness*, I believe, offers a powerful critique of at least certain manifestations of imperialism and racism, at the same time that it presents that critique in ways which can only be characterized as both imperialist and racist."²⁶⁴

This almost platonically moderate position returns us to the point at hand: whether or not Conrad takes a subversive or critical stance here is almost beside the point. In drawing so blatantly from this metaphorical network of darkness, one that stems from the already long-since established system of metaphor and concept, *Heart of Darkness* perpetuates this constellation of metaphor, cartography, narrative, affect, and racism quite robustly. His characters may deflate the image of the noble and virtuous colonizer, but in some senses the damage is difficult to undo, largely as it taps into such trenchant conceptual tropes. Critique

²⁶³ Watts, Cedric. "'A Bloody Racist': About Achebe's View of Conrad". *The Yearbook of English Studies*. Modern Humanities Research Association: Vol. 13. 1983. 197-198.

²⁶⁴ Brantlinger, Patrick. "Heart of Darkness": "Anti-Imperialism, Racism, or Impressionism?". *Criticism*. Wayne State University Press: Vol. 27, No. 4. Fall, 1985. 364-365.

or not, Conrad becomes one more instance wherein the “monstrous darkness” narrative of Africa is spoken into existence. Following Achebe’s line of reasoning, the affective force of this narrative vaults over its critical aims and risks cancelling them out through the imbrication of image and cultural perception. It is an image with terrible resilience, extending from the Victorian era into the contemporary moment by way of a type of transposition. Lucy Jarosz’s article goes on to examine this exact phenomenon, and she focuses on the Biblical dimensions of the “dark continent” narrative in terms of fighting an ultimate evil. She proposes that this early configuration demarcated the African people as intractably “Other”, and in turn this identity affixed itself to the region throughout the course of its economic development.²⁶⁵ She even draws connections between this narrative and the incipient AIDS crisis in Africa at the time, noting how previously held stereotypes and beliefs regarding the “savagery” of Africa informed opinions and strategies to combat the disease. She writes, “The tenacity of these beliefs of Africans as ‘primitives’ in thrall to an unfettered sexuality that is feared, envied, desired, and censured as Other by journalists and academic writers attests to the power of the nineteenth century metaphor of darkness associated with Africa and Africans.”²⁶⁶ These beliefs, or at least the symbolic vestiges thereof, continue to appear rather unexpectedly. Consider a well-intentioned 2007 article by *The Economist* which discusses the need for more power-stations in Africa as well as the necessary humanitarian aid to achieve this. It refers to a similar image of Africa to the North Korean satellite photos,

²⁶⁵ Jarosz, Lucy. “Constructing the Dark Continent: Metaphor as Geographic Representation of Africa”. *Geografiska Annaler. Series B, Human Geography*. Taylor and Francis Ltd: Vol. 74, No. 2. 1992. 108.

²⁶⁶ *Ibid.* 112.

demonstrating the gulfs of darkness covering the majority of the continent. It is titled “The dark continent”.²⁶⁷

The fact is that many discussions of such light maps and pictures follow this same path, drawing subconsciously or consciously from this metaphoric and cartographic history and affix regions like Africa to their colonial histories. While I am not arguing here that any person who sees such maps thinks of the geographic contributions of Henry Stanley, I do claim that this history informs the affective reaction to such images at an almost pre-conscious level. Whatever the intention may be, whatever the element of chance, light-pollution and connection maps always hearken to this colonial lineage and as such are charged with its ideological component, one easily traceable through such cartographic and literary histories as my examples prior. The spots where these images reveal little are the spots in which narrative fills in the gaps with this set historically engendered tools. In support of this claim, Tim Edensor’s work on illumination goes great lengths towards explaining this rhetorical and conceptual phenomenon, examining the manners in which illumination has expressly been associated with power throughout history. He writes, “Illumination always materializes power. As is evident in the grand displays organized by monarchs to bedazzle subjects, the medieval mobilization of a night watch to survey those out after dark, and the unequal distribution of premodern candles, illumination has always been entangled with power in numerous ways.”²⁶⁸ After noting that this process only amplified in the 19th and 20th century era of industrialization, he remarks that “light is never deployed in passive spaces

²⁶⁷ “The dark continent”. *The Economist*. <https://www.economist.com/middle-east-and-africa/2007/08/16/the-dark-continent> 16 Aug. 2007.

²⁶⁸ Edensor, Tim. *From Light to Dark: Daylight, Illumination, and Gloom*. Minneapolis: University of Minnesota Press, 2017. 81.

that await sudden transformation but reproduces power relations, is resisted, or used in alternative ways.”²⁶⁹ These power relations can be reproduced through an inequality of light distribution, as he notes, as this inherently demarcates spaces wherein industrialization and power, in turn, do not yet have a presence. He sources this pattern from a broad history, including the unequal distribution of electric illumination in 19th century Paris, the dimly lit spaces of American urban centers that routinely house the impoverished, and colonial Africa itself, wherein colonizers set up “dual cities” in which the European sections were brightly lit while the native sections remained dark.²⁷⁰ The association of darkness with undesirability finds a presence even from the outset of spatial construction, wherein darkened spaces take on a reliable narrative pattern: these are the spaces for those left behind. Repeating over the course of history, Edensor suggests that this configuration of power relations is an identifiable pattern, one ready for destabilization. So too do I argue that the light pollution maps of North Korea and Africa, and even the entire globe, fall prey into this preconditioned reception. And if, as Edensor suggests, this narrative reinforces itself over time, then the frequent deployment of such images risks stunting any escape from the cultural assumptions inherent to the dark spaces within.

I conclude this chapter with some brief examples of this effect that hail from sources both academic and quotidian, one of which is admittedly relatively obscure. But obscurity does not preclude relevance in this case, as these three articles reflect the continued deployment of this metaphoric constellation within the framework of progress narratives. I start with a NASA-hosted image repository of light maps titled “Earth’s City Lights”, unique

²⁶⁹ Edensor, Tim. *From Light to Dark: Daylight, Illumination, and Gloom*. Minneapolis: University of Minnesota Press, 2017. 81.

²⁷⁰ *Ibid.* 88-92.

in its tonal neutrality, comparatively speaking. The set's introduction gives a short explanation for city growth patterns, noting that certain areas remain unlit due to topographic concerns, areas like Antarctica, the Amazon rainforest, and global deserts. Interestingly, among these locations they list Africa, stating that "The interior jungles of Africa...are mostly dark, but lights are beginning to appear there."²⁷¹ The set is admittedly quite old by this point, nearly twenty years, but their point stands that the dearth of illumination in Africa at that time could simply result from a lack of inhabitable space, reflective of a pattern that follows several other similar areas on the planet. But this runs headlong into a compelling study carried out by Stanford University in 2016, in which a team of researchers entered daytime and nighttime satellite photos of the Earth into a sophisticated machine-learning platform programmed to make predictive hypotheses as to which areas are most impoverished.²⁷² The program compares the nighttime light maps with daytime photos of visible urbanization, ostensibly calculating proportions of urbanization to electrification as a metric for poverty. The results were promising for the team, gauged by them as being "exceptionally accurate"²⁷³ in their acuity. In what should come as little surprise by this point, the header image for the article is this:

²⁷¹ NASA. "Earth's City Lights". 23 Oct. 2000. <https://visibleearth.nasa.gov/view.php?id=55167>

²⁷² Martin, Glen. "Stanford researchers use dark of night and machine learning to shed light on global poverty." *Stanford News*. <https://news.stanford.edu/news/2016/february/satellite-map-poverty-022416.html> 24 Feb. 2016.

²⁷³ *Ibid.*

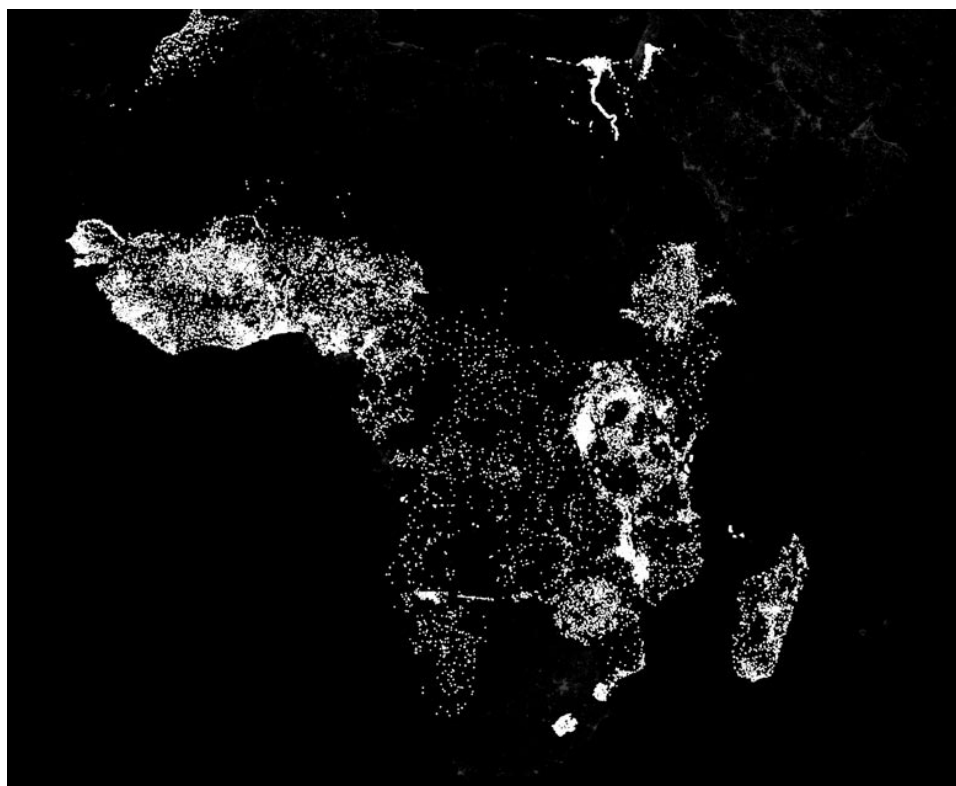


Fig. 14: NASA image capturing light sources across the African continent. Notably, the large swath of darkness in the northern region is, of course, desert area.

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Given NASA's judgment from sixteen years prior, it stands to reason that the very areas in which they saw lights appearing have followed their course, and yet Stanford's research marks this as signs of continued poverty that over-code the elements of progress. To be sure, the study acts in the spirit of progress, attempting to identify critical areas in need of intervention, but the object of the study nevertheless remains to seek out poverty above all. Given the likelihood that the system's findings were correlated with existing economic information, one is left to wonder to what extent the project was designed to test the machine-learning platform's capabilities in sniffing out poverty. In this case, the research serves to officially pin light maps to the narrative of destitution that once again finds its traces in past centuries. Even the most seemingly neutral of studies are haunted by this

²⁷⁴ Martin, Glen. "Stanford researchers use dark of night and machine learning to shed light on global poverty." *Stanford News*. <https://news.stanford.edu/news/2016/february/satellite-map-poverty-022416.html> 24 Feb. 2016.

aspect, and while this of course stands to confirm a well-known series of historical events, I am left thinking of Siegert's point once again, namely the extent to which such maps condition and perpetuate this image at a level beyond that of mere history or progression.

To this end, I look to what seems to be a minor source at face value, but one that betrays several of the threads running through this chapter. It is an entry from a personal blog called *White African*, run by a man named Erik Hersman, a multi-talented tech professional who runs several projects with the goal of expanding Africa's digital and network infrastructures. One can only imagine that his blog's name stems from the fact that he himself is white, the immediate space for cultural analysis of this point something I must forgo to stay on task. Retaining focus on his work, his aims are to provide the same kind of open-access technology the developed world takes for granted, and one can easily detect his noble aims in even the smallest excerpt of his writings. This is brought immediately to the foreground of his entry titled "The Dark Continent: It's Still Dark". Written in 2010, Hersman also focuses once again on a satellite image of Africa at night, but rather than simply marking the photo as a sign of stunted development alone, he offers his own set of causes for the image based on his own personal experiences. Starting with a direct reference to the colonial history of the "dark continent", Hersman compares the light map with what he states is a "news attention map", with color coded global regions indicating the amount of mentions in global news media. He neither cites nor attributes this image, making it difficult to verify, but he nevertheless uses it to establish a correlation between electrically underdeveloped areas and a lack of global attention.²⁷⁵ Taking this conclusion in tandem with

²⁷⁵ Hersman, Erik. "The Dark Continent: It's Still Dark". whiteafrican.com. <http://whiteafrican.com/2006/03/02/the-dark-continent-its-still-dark/> 2 Mar. 2006.

what he sees as a blockade of government corruption, Hersman argues that Africa has the potential to experience a technological revolution, but is held back by historical structures that stymie its growth.

The latter of his claims is more or less in line with the common consensus on the still-noxious effects of colonialism, but I find his acknowledgement of a lack of global attention to be the most compelling aspect. Hersman's individual extrapolation is exactly that: one opinion, and one opinion cannot stand in for a systematic or conclusive whole. But if the prior maps of social-media shares and connecting flights display anything, it is a lack of attention given to the area, quite literally. If Hersman's insight holds merit, in an almost inverse of the North Korean pictures, the dark spaces on such maps appear to create a cyclical loop of inattention, wherein such maps produce and condition a sense of emptiness that directs interest elsewhere, be it on the level of personal attention of global aid. In the end, however, this conclusion can only remain on the level of speculation if based entirely on this particular blog from an obscure corner of the internet. In terms of the broader scope, though, looking at the narrative history of darkness in line with the path outlined throughout this chapter, one cannot help but see this all as supporting evidence to Siegert's claim, circumstantial or not. If these dark spaces indicate a lack of progress, if they ward off travel or interest in the areas through the conditioning effects of maps as cultural technologies, then it stands to reason that they would perpetuate their own effects, crystalizing the darkness and preserving its metaphorical absoluteness. Even still, should the integrity of Hersman's claims fall short, I must remind that the foci of this project as a whole are the *conditions through which such claims can even be made*. If there exists a universal absolute metaphor of darkness; if it is a narrative that can be traced through literary and cultural history at large; if

it is a narrative that can be and often is affixed to media-technological advancements and phenomena, then the wily and sprawling network of affects produced through these maps function as testament to the subterranean reaches of this enduring metaphor itself. From the propaganda aspects of the North Korean pictures, to the traces of colonial exploitation on those of Africa, the darkness in these maps show the limits of Enlightenment as a project of conquest, monuments to conflict and abandonment in negative.

Chapter 3: Turned On, Tuned In, Locked Out: Numbers Stations and Ominous Rejection

1. Radio Interference

At some point in the early 1970's, a strange transmission found its way into the shortwave sets of amateur HAM enthusiasts around the world. It would come to be known colloquially as "The Lincolnshire Poacher"²⁷⁶ due to the fact that each broadcast starts and ends with a short sample of a song by the same name.²⁷⁷ Between this musical bracket, a human voice synthesis program reads a string of numbers for forty-five minutes at a time. While early transmissions utilized a male voice (inflected with a British accent), the broadcasts shifted to that of a woman's in 1988 and used the same one over the course of its existence for roughly thirty-five years.²⁷⁸ After this point, "The Lincolnshire Poacher" began to exhibit quantifiable patterns and qualities. The transmissions started to occur daily with precise temporal regularity, transmitting exactly eleven times each day across three simultaneous frequencies, and they would also shift between apparently pre-selected clusters of frequencies throughout each day as well, perhaps as a means to evade easy tracking.²⁷⁹ This would then mean that a listener could in theory receive seventy-seven messages per week, and yet "The Lincolnshire Poacher" only ever transmitted eighteen unique number patterns across the course of its existence. Furthermore, these number patterns transmitted in a homogenous pattern, rotating in specific ways so that each month repeated the exact same sequence of patterns in the same order, even after considering the differing lengths of each

²⁷⁶ The station also is referenced as "E03" from time to time, generally speaking within enthusiast websites and organizations.

²⁷⁷ "E03-The Lincolnshire Poacher". <http://www.numbers-stations.com/E03/>.

²⁷⁸ *Ibid*.

²⁷⁹ "E03". <http://priyom.org/number-stations/english/e03>.

month.²⁸⁰ This pattern would continue just so for over three decades until transmissions ceased sometime in 2008. Finally, and perhaps most significantly, there is evidence to suggest that these transmissions were not benign test patterns or the work of another amateur user. For one, the signals were repeatedly the subject of calculated jamming, with some sources claiming that the interference came directly from Iran. And secondly, tracing attempts undertaken in 2000 apparently pinpointed the origin of the frequencies to a British Royal Air Force base.²⁸¹

This transmission does not stand alone in the history of shortwave radio. To date, amateur shortwave users have intercepted hundreds, if not thousands, of such broadcasts, all with remarkably similar patterns. The majority of these transmissions begin with a short clip of music or repeating tones which then precede a string of vocalized numbers. Once the numbers cease, the same music or tone then plays, and the frequency goes silent shortly thereafter.²⁸² Hence, in utilitarian fashion, followers of these transmissions refer to them as “numbers stations.” Fascination in this phenomenon has experienced steady growth, and numbers stations enthusiast groups,²⁸³ now composed of both shortwave users and internet-

²⁸⁰ “E03”. <http://priyom.org/number-stations/english/e03>.

²⁸¹ *Ibid*

²⁸² There are, as with most things, exceptions to this pattern. Of particular note is the transmission referred to as “UVB-76”. This station sends out strings of messages at unpredictable intervals with Russian words appearing throughout. Its largest difference, however, is that it ceaselessly transmits a harsh, buzzing tone between messages, perhaps as a signal to those who wish to find it.

²⁸³ I would like to note here why I have chosen to use the relatively inelegant term “enthusiast/aficionado group” rather than the simpler shorthand of “fandom” or “fans”. Considering Henry Jenkins’ work on fandom and participatory culture, I cannot with full satisfaction consider numbers stations enthusiasts to be fans, as they are not necessarily participating in a dialogue or economic exchange with their object of interest. This is as much to do with the strange and contradictory nature of numbers stations themselves, and admittedly serves as one of the main foci of my argument. I will offer it in short here with the caveat that it will be expanded later on: While numbers stations are certainly accessible by the public, they are still not truly made for the public, so to speak, not only holding no obligation to their desires, but also actively rejecting them. This, to my eyes, complicates the nature of the relationship between enthusiasts and the numbers stations themselves to the point that while I can concede that such forums and websites are participatory culture by Jenkin’s description, I will with direct intent avoid using the term “fans” throughout the course of this chapter.

based analysts/archivists in relatively equal measure, have exhibited a steadfast persistence in cataloguing as many incidences of such transmissions as possible. This is in no small part due to contemporary advancements in recording technology, which have allowed for these transmissions to be carefully traced and archived. While databases and forums concerning numbers stations are not prolific in quantity, they make up for their relative scarcity with depth of research. Indeed, websites such as Priyom.org exist as a means of cataloging and analyzing these stations with as acute of detail as possible. In its statement of purpose, Priyom explains its origin:

Priyom.org is an international group of radio enthusiasts who came together during 2010 when activity from the station known as "UVB-76" increased. The mystery of this station inspired us to seek out other, similarly mysterious stations, and thus into the bizarre world of shortwave radio's infamous number stations. Greatly inspired by the work of other online groups, Priyom has been developed to easily bring both the current and historical information about number stations into one comprehensive site, and to make the recording, listening and analysis of shortwave radio, number stations, and all related on-air enigmas accessible to all who are interested.²⁸⁴

Websites like Priyom function as archival indices insofar that they directly link to numbers station samples when available. But there is something lacking in referring to such sites as simple data collections, however deep they may be. There is an archaeological thrust to such collectives as well, for these sites and forums have just as much of an investment in deciphering the content or origin of these transmissions. While it is an accepted given that numbers stations are in all likelihood connected to espionage and military operations, there is a startling lack of hard evidence for this claim. To clarify, "hard evidence" in this case essentially refers to decoded messages. Most numbers station enthusiasts take as a foregone conclusion that the number patterns within the transmissions are code, specially a Vernon

²⁸⁴ "About". <http://priyom.org/about>

Cipher, and the assumption is that these are sent over shortwave broadcasts to undercover field agents in distant locations. And yet, to date almost none have been convincingly decoded, a product of the Vernam Cipher's notoriously uncrackable nature, leaving a noticeable dark spot at the center of their research.

In a way, numbers stations possess an intrigue similar to that of the dark web, a sense of fascination fueled by an inherent unintelligibility that evades a firm grasp. However, whereas the dark web holds an unsettling force due to its seemingly infinite span of nefarious potentiality, numbers stations appear to be singularly focused in their purpose, an effect amplified by their uniform pattern of transmission. It is this purpose that functions as their “dark zone”, since the total lack of official acknowledgement, save one high profile legal incident to be discussed later, makes discussion of numbers remain in a speculative register. On top of this, recordings of numbers stations are often described as eerie or disturbing, finding themselves placed in articles or lists concerning frightening audio phenomena alongside of purported ghost recordings and the like. Given the shift to sound and audio formats, this chapter marks a relatively large departure from the two that follow it in this project, as it is a slippery set of relations that lead to one referring to a sound object and its constituent processes as “dark”. Nevertheless, such nomenclature has a rich and unmistakable history of its own, particularly in the musical world in which entire genres and even tonal timbres have the word “dark” appended to their names.²⁸⁵ Dark sounds can refer to notably rich or deep tones in contrast to reedier or tinnier bright sounds, but the term also frequently points to sounds or recordings that are frightening in nature. This frightful aspect

²⁸⁵ Consider darkwave and darkcore, both synthesizer based musical genres that are typified by their stark, minor-key arrangements and forboding atmospheres.

is also quite particular, as the visceral shock and fear spurned from a large explosion, for instance, rarely colors the sound of the blast itself as “dark”. Rather, dark sounds tend to possess an otherworldly or macabre aspect, or in other words, they often operate on an affective register of dread.

It is from this complex set of factors that I will explore numbers stations as a “dark zone” in line with the conceptual abridgment to darkness experienced by the dark web. Ultimately, I argue that they provoke similar experiences of both fascination and repulsion on account of their “dark” status, and this once again is engendered by a synergy between material form and informational content. That said, I am less concerned with the precise texts of numbers stations, which is to say the messages contained within, should they even exist. As the vast majority of such transmissions have evaded decoding, to claim that their translated content provokes unsettled fear is a fallacy. Rather, it is their very unknowability and their *assumed* content by way of a general taxonomy that plays a large hand in their reception, both on the part of their obsessive aficionado culture and public reception as a whole. To clarify, even if it is all but certain that numbers stations are spy transmissions, the lack of knowledge as to from whom, from where, and for what specific end such transmissions are sent provokes a specifically coded response, a response that falls in line with the others in this project. Principally, it is my contention that numbers stations are so unsettling because of a sense of profound rejection that they inspire within those who stumble upon them. As if they are transmissions from a spirit world, the transmissions pierce the veil of common experience, signaling a network of activity that immediately registers as dangerous or ominous. In order to illustrate this claim, I will discuss numbers stations by way of Eugene Thacker’s concept of the “World-Without-Us”, a conceptual exercise in imagining

a plane of existence that operates with little care for the experiences or safety of human kind. Given that numbers stations are in fact created by and sent for other humans, Thacker's concept is not a perfect fit by any means. It should be noted that he developed this paradigm as a means of discussing metaphysical frameworks, sourcing it from horror film and occult history in such a way that it could be applied to a wide variety of paths in the realm of speculative realism. Oftentimes, for instance, it is invoked as a way to discuss relationships between human beings and the natural world as a means of approaching environmental concerns.²⁸⁶ Nevertheless, there is a concrete and identifiable history that links communication technology, signal, and the spirit world, a history that I believe directly informs the affective response to numbers stations. I will examine only one small thread of this history, namely the 19th century Modern Spiritualist movement in the United States, discussed by way of Jeffrey Sconce's fascinating work on the subject. Ultimately, my stance is that much like the dark web, numbers stations serve as one of the latest bridges between mediatechnology and longstanding narrative deployments of darkness, despite the transmissions existing outside of the visual spectrum wholesale. As a way of working to this point, I will first take the time to briefly outline the position of radio within the cultural consciousness today in terms of its narrative deployment as a gateway to the supernatural in fictional horror. Following this, I will return to the specific history of amateur shortwave radio users, dubbed DXer's, and how the search for numbers stations situates itself into this framework by way of an established history of supernatural hunting by means of communication media.

²⁸⁶ It is a strategy most clearly realized in the work of Timothy Morton, namely his work concerning "hyperobjects" and their potent potential to open a wide gulf between humans and the natural world for which they incorrectly view themselves as stewards, in his eyes.

2. Dangerous Portals

Despite the advent of podcasts and other internet-based audio programming such as Apple Music and Spotify, it would be premature to argue that the radio has lost all significance in the contemporary moment. While the image of a family gathering around the radio every evening may no longer speak precisely to the current streaming market, this is not to argue that the radio itself has disappeared. In 2014, The Nielsen Company compiled a set of statistics regarding radio listenership, noting that “90.3% of all millennials [are] reached weekly by radio.”²⁸⁷ This statistic is surprising at first glance given the mP3’s continued dominance of the music sharing market, vinyl LP resurgence notwithstanding. But this would perhaps be a slight error in judgment, albeit an understandable one, as Nielsen’s summary might be a bit too concise. First and foremost, Nielsen does not distinguish in their research between standard shortwave (AM/FM) radio and online radio programming, instead combining them into one concept. This of course could inflate such a figure quite considerably, as news and talk organizations such as NPR maintain particularly strong online presences. However, this does not entirely seem to be the case either, as the Pew Research Center found that in 2015, “91% of Am surveyed...”²⁸⁸ It is worth noting that Pew sourced this very statistic from an alternative study held by Nielsen²⁸⁹, giving much more credence to their earlier claim of 90.3%.²⁹⁰

²⁸⁷ The Nielsen Company. “State of the Media: Audio Today 2014”. <http://www.mcvaymedia.com/downloads-2014/Nielsen-state-of-the-media-audio-today-feb-2014.pdf> 2014.

²⁸⁸ Vogt, Nancy. “Audio: Fact Sheet”. Pew Research Center. <http://www.journalism.org/2016/06/15/audio-fact-sheet/>

²⁸⁹ The Nielsen Company. “RADAR Study”. <http://www.nielsen.com/content/dam/nielsen-global/us/docs/solutions/audio/radar-faq.pdf> 2016.

²⁹⁰ This also says nothing of the large global significance of shortwave radio outside of the United States. The UN has noted that in Africa and other developing regions, shortwave radio has proven crucial to connecting smaller communities in a way that lends itself to development.

There is one aspect that both Nielsen's and Pew's studies fail to address, and that is intention. I use intention here in the sense of listeners directly choosing to listen to AM/FM radio over any other format. Within these studies, large groups of listeners noted that they listened to radio while at work, and this example alone carries major significance with regards to the position of AM/FM radio in a general sense. Oftentimes, radio is the default option in public or communal spaces such as office workplaces or small businesses, for example. Thus, Nielsen's choice of the words "reached by radio" is telling. Whether or not a person is "reached" by radio is independent of their choice to listen to it in certain cases, as there are many spaces in which radio is integrated by default. My claim here is not in order to argue that no one prefers or chooses the radio, as it is neither possible to demonstrate with sufficient evidence nor entirely pertinent to the task at hand. I would, however, still argue that AM/FM radio's ubiquity is at least partially fueled by its capacity to blend into the background with relative ease. In other words, the intelligibility of radio's infrastructure has diminished as it has melded into the noise of contemporary life.²⁹¹ It often is reduced to mere incidental soundtracking of mundane daily activities. As a symbol, however, the radio maintains great force, serving to communicate myriad tropes and culturally coded narratives, some of which I will offer as examples and can stem anywhere from fiction to cultural

Madamombe, Itai. "Community Radio: A Voice for the Poor" Africa Renewal. United Nations. <http://www.un.org/africarenewal/magazine/july-2005/community-radio-voice-poor>

²⁹¹ Lisa Parks' essay "Stuff You Can Kick: Toward a Theory of Media Infrastructures" explores the concept of infrastructural intelligibility far more deeply than I can afford within the scope of this chapter. Essentially put, she argues that media studies should make a concerted effort to imagining or depicting the material realities of media infrastructures that have become partially invisible. She focuses on power lines, for example, and traces a construction history of objects that have for many people simply existed in perpetuity since their births. While I will not trace the origin of the radio with such detail here, I do argue that the presence of AM/FM radio in daily life has become subject to this same process of erasure.

Parks, Lisa. "Stuff You Can Kick: Toward a Theory of Media Infrastructures". *Between Humanities and the Digital*. Edited by Patrik Svensson and David Theo Goldberg. Cambridge: MIT Press, 2015. 355–373.

memes. From pirate revolutionary radio to hopeful transmissions following an apocalypse, radio adopts the image of a unifier of the human spirit, drawing together disparate parties as a means to establish a collective resistance to daunting trials. As a locus of nostalgia, radio serves as a reprieve from the information overload of the streaming era, returning to curated lists of music and the autonomous authority of the DJ. In both of these cases, radio as a narrative symbol possesses a restorative function, and it serves as a rectifying medium to close the gap between humans separated across distances and spread throughout wires. But on the opposite pole, there lies the malfunctioning radio, its connection cutting out or receiving signals that it otherwise should not. While this instance is deployed in an equally wide variety of instances, my interest lies in how this serves as an ominous symbol within the horror genre, as this lays bare the historical path between such communication technology and occult metaphysics.

Indeed, horror (in terms of novels, films, video games, etc.) has found fertile inspiration in the image of malfunctioning media as a whole. Oftentimes, broken radios, televisions, etc. function both as tangible or symbolic gateways to otherworldly or paranormal contact. For instance, the critically lauded video game series *Silent Hill* frequently gives the player character a small AM/FM radio at the start of each playthrough. Unlike many of the other items acquired in the game which take active roles in combat and solving puzzles, the radio is a passive item in the players inventory insofar that it can merely be turned on or off. While activated, the radio emits a baseline level of quiet static that increases in volume as the various dangerous creatures populating the game world get closer to the player character. Sound is used here as an index, but a stunted one, as it fails to

articulate the complete nature of the approaching threat, simply its relative proximity. In his book *Silent Hill: The Terror Engine*, Bernard Perron describes the experience as follows:

...the pocket radio of Silent Hill signifies a threat, but does not reveal anything regarding what is about to occur. There still remains an uneasiness over the uncertainty of the outcome. Thus, not only fright, but anxiety too is intensified. Because you feel as if you are in the game world and the threat is directed at you, event-induced emotions are felt with even more intensity.²⁹²

The ludic dimension of this choice is doubled over by an aesthetic decision for which the series is well-known, namely that it is characterized by its use of fog as a means to obscure the player's vision. As Perron notes, the radio can only do so much to highlight a threat, as its static has a relatively limited expressive axis: it can be either quiet or loud, essentially. In other words, the radio serves its function as a sort of sonar but does so in intentionally limited fashion, and as Perron argues, this in turn heightens the anxiety of the player. It establishes connections between the player character and the beings around them, but a menacing and faulty manner, serving as much to obscure the being to which the player character is connected as much as revealing it. Nevertheless, the radio, in this sense, serves as a gateway for the virtual threat to enter into a cognitive and affective register of the player. It offers information and connection, but its failures engender dread at a deeper level. I would add here that I believe Perron is remiss in eschewing the actual static of the radio itself. The radio in *Silent Hill* functions at its best precisely when it "breaks", so to speak. For its contextual purpose, the radio would in theory be malfunctioning if it were to play music or talk radio. It must fail in order to offer the most aid, and this play with expectation amplifies the disorientation of the player.

²⁹² Perron, Bernard. *Silent Hill: The Terror Engine*. Ann Arbor: University of Michigan Press, 2012. 117-118.

In other cases, radio signal itself serves as the threatening agent. The 2007 anthology film *The Signal* explores over the course of three vignettes the idea of a malicious signal as a supernatural weapon. The titular signal in amplifies angry and violent tendencies on the part of the recipient, causing them to lash out in a violent rage. They transmit via the television, telephones, and the radio, capitalizing on the cultural ubiquity of such technologies. In turn, the signal bypasses human cognition, entering into and augmenting affect, all as a means to convert it into a dangerous and weaponized force. One could argue that the film appears to present commentary on the deleterious effects of media saturation on the global scale, but I wish to focus on the narrative deployment of said malfunctioning media itself.²⁹³ It is not a unique narrative either, seen deployed in highly similar fashion in the 2015 video game *Everybody's Gone to The Rapture*. In this particular instance, the player character is tasked with uncovering clues within a desolate, post-apocalyptic world, eventually discovering that the eradication of humanity came via a supernatural signal that upon hearing causes

²⁹³ This falls in line with a prominent trend in 21st century media theory, that being the post-digital. Hito Steyerl in particular harnesses an anxiety towards oversaturation in her essay "The Spam of the Earth: Withdrawal from Representation". Her stance is best articulated through her own words:

Dense clusters of radio waves leave our planet every second. Our letters and snapshots, intimate and official communications, TV broadcasts and text messages drift away from earth in rings, a tectonic architecture of the desires and fears of our times. In a few hundred thousand years, extraterrestrial forms of intelligence may incredulously sift through our wireless communications. But imagine the perplexity of those creatures when they actually look at the material. Because a huge percentage of the pictures inadvertently sent off into deep space is actually spam. (161)

I reference Steyerl here not to argue that she makes the same exact point as *The Signal*. She offers no discussion of violence within her essay. But the theoretical thrust is indeed similar, insofar that Steyerl fears the usurpation of authentic human existence by increasingly artificial and distorted graphic or written representations. While this is a parallel discussion to the idea of media-influenced violence, the threat of media's possibly pernicious influence rings clearly between her article and the film. Both are charged with a fear of a loss of humanity, be it through its reality principle or its emotive/affective capacities.

Steyerl, Hito. "The Spam of the Earth: Withdrawal From Representation". *The Wretched of the Screen*. Sternberg Press, 2013. 160.

unstoppable and fatal hemorrhaging. The point here is that in such narratives typically passive media objects— which is to say, appliances such as television and radio that are there to *be watched* or to *be listened to* – take on the status of aggressors or active dangers. Even though their function remains the same (transmitting information), the deadly nature of the signal charges these physical objects with a threatening and very “present” quality. In other words, what once would fade so easily into the background is now made quite prominent through its malfunction.

In terms of film history, David Cronenberg’s *Videodrome* addressed the concept of malicious signals long before *The Signal* would, and the similarities between the two in terms of plot are quite noticeable. *Videodrome*’s major threat, and the source of its horror, comes from a weaponized signal transmitted through televisions which induces frightening and violent hallucinations in its viewers/listeners. It is specifically transmitted over a television show titled *Videodrome*, a staged snuff program in which a victim is tortured and murdered on live air during each episode. The hallucinations brought on by the signal are revealed to in fact be the symptoms of a tumor which the signal creates in the viewer’s brain. While the tumor allows for hypnotic suggestion (something used to murderous effect in the film’s denouement), its ultimate goal is to kill, wiping out swaths of television viewers who would ostensibly find a show like *Videodrome* entertaining in the first place. It is revealed by the end of the film that the organization responsible for the signal is a reactionary group intent on wiping out moral decay within North America. Cronenberg’s film is a double-sided critique: on one hand it criticizes the degenerative effects of television’s cultural saturation, but on the other critiques those who would turn their apprehension towards explicit media content into oppressive ideology. What connects the two is a focus on an amplified presence of and

anxiety towards media that defies its set design. Indeed, while the physical radio plays little part in the film, its theoretical implications do fall in line with the prior examples. The television in *Videodrome* always pushes against the boundaries of its set purpose and nature, gaining hallucinatory organic appendages or speaking directly to its viewers as if in conversation with them. It asserts its presence through its faulty behavior, and like *The Signal* and *Silent Hill*, the malfunctioning device becomes a portal for paranormal phenomena or threatening forces.²⁹⁴ There is a pattern at hand with such narratives, and it is one that will lay the path towards addressing numbers stations in terms of a metaphorical “darkness”.²⁹⁵

This very pattern, i.e. the broken/malfunctioning media device as connected to the paranormal, forms the basis of a large section of Eugene Thacker’s writings. He argues in

²⁹⁴ I would like to avoid seeming here as if I am reducing all of *Videodrome*’s horror down to the image of the broken television. Scholarship on the film has rightfully placed much focus on body, as *Videodrome*’s characters frequently morph into grotesques of human/technological fusion. In her article “Visual Aesthetics and Ways of Seeing: Comparing “Ringu” and “The Ring””, Valerie Wee brings *Videodrome* into her discussion as a means of situating the unique nature of *Ringu*, an otherwise aesthetically similar film. She states:

Despite the visual echoes, however, the notions of horror expressed in *Ringu* and *Videodrome* diverge in distinct ways. Interestingly, where Cronenberg’s vision explores a paranoid reality of altered states, and situates terror in the collapse of bodily integrity and wholeness and in the loss of previously existing boundaries between the self and what lies outside the self, *Ringu*’s moment of body horror is predicated less on Sadako’s uncanny ability to cross the highly permeable boundary between the natural and supernatural world than on her destructive and malevolent quest for vengeance. Where *Videodrome* explores a terror founded on the collapse of culturally established boundaries between self and other, between biology and technology, the horror in *Ringu* is differently situated within a worldview in which supernatural manifestations of anger and vengeance can invade the natural world to wreak destruction.

While I do think Wee is correct in her readings of *Videodrome* and *Ringu*, I am hesitant to accept her claim that the ability of *Ringu*’s ghost to enter the natural world through media devices is of lesser importance. Like *Videodrome*, *Ringu* places much focus on the uncanny horror of malfunctioning devices. In fact, both films exhibit several close-up shots on television screens and video footage during their tensest moments. Hence, I am left wondering if Wee’s claim is perhaps a reach. Nevertheless, the comparison is merited, and *Ringu* stands as a complementary example for the argument at hand here.

Wee, Valerie. “Visual Aesthetics and Ways of Seeing: Comparing “Ringu” and “The Ring”. *Cinema Journal*. Vol. 50, No. 2 (Winter 2011). 52.

²⁹⁵ For the purposes of concision, I will from here on refer to this style as *media-horror*.

his essay “Dark Media” that the narrative trope of media serving as paranormal gateways is quite well established. While this particular essay forfeits the historical/archeological thrust of his other works on horror, it is nonetheless fascinating, particularly because the way that he discusses this trope suggests the presence of a deeper form of media-centric anxiety. Before engaging with this particular idea, it is worth outlining his general hypothesis. He offers an overview of the relationship between humans and media as follows:

While we may use media today in an everyday context, it seems that we also like to imagine media having the exceptional ability to mediate between a world here-and-now and a world that remains mysteriously inaccessible to us without the use of media. In the horror genre, what we witness is an evocative concept of the supernatural as itself mediated, often through objects that are at once overly familiar and highly technical, objects that are everyday and opaque at the same time.²⁹⁶

It would seem as if Thacker’s assertion is in part inspired here by the media phenomenon referred to as “black-boxing”. This term has been used semi-critically within the scope of media theory to discuss invisible algorithms that guide search-engine results, financial transactions, etc.^{297 298} However, its general use dates back to the writings of early cyberneticists such as Nobert Wiener,²⁹⁹ and it refers to hardware or software that obscures its technical processes, algorithms, and physical workings beneath a simplified user interface. Because of this relative obscurity, users frequently have little concept of *how* media works outside of its simple input and output functions (i.e. Press the power button, the television

²⁹⁶ Thacker, Eugene. “Dark Media”. *Exocommunication: Three Inquiries in Media and Mediation*. Chicago: University of Chicago Press, 2013. 102.

²⁹⁷ Goffey, Andrew & Matthew Fuller. *Evil Media*. Cambridge: MIT Press, 2012.

²⁹⁸ Pasquale, Frank. *The Black Box Society: The Secret Algorithms That Control Money and Information*. Cambridge: Harvard University Press, 2015

²⁹⁹ Katherine Hayles has engaged several times with the Macy Conferences of Cybernetics and the history of cybernetics in general, offering insight into these early experiments that would lead to what would become known as “black-boxing” in science and engineering. For more see her seminal book *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*.

shows images). The mediating processes are obscured, and this sometimes spreads to what they mediate as well. For example, as access to the internet becomes more accessible and, in effect, “black-boxed” to a larger degree, the internet assumes a distant or abstract quality as it can neither be accessed nor conceived without a computer or smartphone.³⁰⁰

Thacker thus argues that media-horror is particularly sensitive to this concept. In a certain sense, when abstracted from their technical origins of production, concepts such as “the internet” or “radio” take on a supernatural tone. He states:

...it appears that the supernatural has returned--not in the guise of answered prayers or holy wars, but via the panoply of media objects that satellite us and that are embedded into the very material fabric of our bodies, cities, and lives. No longer is there a great beyond, be it in the topographies of the afterlife or the mythical journey of reincarnation. Instead, the supernatural is embedded in the world here and now, manifest via a paradoxical immediacy that constantly withdraws and cloaks itself. The supernatural seems to be as immanent as its media are--distributed, ubiquitous, in the “cloud” and enveloping is in its invisible, ethereal bath of information and noise. The function of media is no longer to render the inaccessible accessible, or to connect what is separated. Instead, media reveal inaccessibility in and of itself--they make accessible the inaccessible--in its inaccessibility.³⁰¹

³⁰⁰ This phenomenon is not restricted to everyday users of technology. As the humanities has continued to turn to data and informatics as legitimate fields of inquiry, the issue of visually conceiving or representing informational structures (such as the internet at large) has proven to be quite difficult. Alexander Galloway's essay “Are Some Things Unrepresentable?” addresses this issue:

Amid all the talk recently of ‘data’ and ‘information’ it becomes more and more difficult to know what these terms mean, or indeed to tell them apart in the first place. Are the nodes meant to represent data, while the links represent information? Is data meant to be textual and static, while information is elastically structured via flows and arrangements?

It may go without saying, but if academic discourse aimed precisely at representing such concepts struggles with the task, then the appeal of black-boxing is understandable on the part of the everyday user.

Galloway, Alexander. “Are Some Things Unrepresentable?”. *Theory, Culture, and Society*. 28. 7-8 (2011). 87

³⁰¹ Thacker, Eugene. “Dark Media”. *Exocommunication: Three Inquiries in Media and Mediation*. Chicago: University of Chicago Press, 2013. 95-96.

Such information and networks are in themselves intangible, and they are only given representation via the physical devices used to access them, corporate or academic graphic visualizations notwithstanding. And like certain metaphysical conceptions of the afterlife or spiritual realms, these networks are commonly conceived as omnipresent yet somehow undetectable to human senses. It is on this basis that Thacker states, “To reveal the manifestation of that which does not exist--this is not simply a matter of data visualization or the construction of augmented realities. *This is a religious impulse.*”³⁰² This is a characteristically dramatic statement on his part, but no less insightful for it. Smartphones, computers, televisions, radios: these devices all require a certain amount of faith, insofar that they are expected to follow certain functional patterns, and they perhaps align with a human tendency of trying to represent the un-representable.³⁰³ As Thacker notes, what results is media simply representing inaccessibility in itself. To offer a practical example, if an iPhone user were to access a note or document stored in iCloud, the document would serve as an index for the cloud as a whole. This is to say that it verifies the presence of the cloud and its continuing function. But at the same time this does nothing towards altering the unintelligibility of the cloud in itself.³⁰⁴ Thus, media devices as envisioned by Thacker

³⁰² Thacker, Eugene. “Dark Media”. *Exocommunication: Three Inquiries in Media and Mediation*. Chicago: University of Chicago Press, 2013. 96.

³⁰³ Thacker has devoted an entire book to the often-tangled history of philosophy’s relationship to both life and death, titled *After Life*. Since his approach there is strictly exegetic of older philosophical texts, I will devote no space to it in the body of this chapter. That said, it is well-worth reading as a means to further unpack his opaque claims of such “religious impulses”.

³⁰⁴ This claim is pointed towards a hypothetical public of casual users rather than academics or designers. With regards to the former, Tung-Hui Hu has written a detailed genealogical survey of the material and repurposed infrastructures that led to the establishment of today’s cloud networks, fittingly titled *A Prehistory of the Cloud* (2015). His critical aims diverge from Thacker’s in the sense that he is more interested in how the cloud has effectively overlaid past infrastructures of control and surveillance, in turn infusing it with similar methods and aims. That noted, his methodology stands to prove Thacker’s claim here. Even with his commendable concision, Tung-Hui’s analysis spans several decades and material strata, so much so that it stands to further complicate the nature of cloud networks themselves. As Thacker argues, the closer one moves to the network, the more it expands beyond simple boundaries and delineations.

contain within them elements similar to the supernatural experience and the perception thereof, and as such are metaphorically suited for horror narratives involving paranormal activity. The logical extension of this claim is that the image of a spirit or entity passing through a television or radio resonates with the fundamental nature of contemporary media.³⁰⁵ Hence, Thacker offers a potential reason for the continued popularity of such a metaphor within horror fiction.

To recapitulate, Thacker argues that media-based societies are in some ways conditioned to accept the inaccessibility of information networks, and so the introduction of a supernatural threat via media directly interacts with this naivety. These invasions are also frequently framed as malfunctions or breakdowns, as evidenced by *Silent Hill*, *Videodrome*, etc., and this brings into sharp focus the normally invisible “black-box” of the device itself. This results in a coupling of defamiliarization and the aforementioned sense of rejection. In media-horror, the failure of the device brings not only the device into clearer view, but also the user/victim’s fundamental lack of understanding of said object. Further, its failure is a direct rejection of the user/victim’s desires or expectations, and this serves to alienate them even more. Here, like the dark web, Thacker looks at technology *in general* as inhabiting a dark space of intelligibility, and through this is fosters a similar sense of anxiety or dread.

The supernatural exchange (the metaphorically supernatural network for the traditionally supernatural spirit, entity, etc.) adds a second layer. In his book *The Dust of This Planet*, Thacker develops one of his major philosophical principles, the World-Without-Us, an idea that finds partial resonance with the phenomenon of numbers stations. Essentially,

³⁰⁵ While Thacker focuses on the contemporary moment for this particular passage, his further work on horror philosophy branches into earlier forms such as magic circles and tomes, for example. For more, see his book *In the Dust of This Planet* (2011), a work I will return to in due time.

horror films find general force in their use of a realm, creature, or spirit that fundamentally rejects human cognition or representation. In other words, these entities serve as a limit of human understanding, and their dangerous aspects are sourced as much from this function as their physical capabilities. Thacker frequently refers to Lovecraft's "Old Ones" to articulate his claim, noting that Lovecraft's uncanny horror is largely found in his characters' *inability* to describe what they have seen.³⁰⁶ He describes this process as the unveiling of a "World-Without-Us", which is to say a space or realm that holds no quarter for human thought or the sanctity of human life. In addition to this, it not only functions wholly without human beings but also opposes (violently, in the case of many horror narratives) any attempt to harness or understand it. Indeed, the more one tries to interact with or describe beings from this space, the more these entities recoil into obscurity.

As a whole, Thacker posits the "World-Without-Us" by way of sources that involve quantifiable objects of fear. Creatures that enter through television sets, ghosts detected through radios or other media objects, etc.: these form the conceptual thoroughfare for his philosophy. But it is important to note that in almost every instance, his examples form a media-supernatural dyad of sorts, wherein the summoned or invading being reformats the specified use of the media portal. Once these objects reveal themselves as paranormal gateways, they are reconfigured and attached to the "World-Without-Us" and must be globally reconsidered. Now removed from its previously benign existence, the television or radio is permanently affixed to an emergent narrative of dangerous otherness, and this narrative is made doubly frightening due to the sense of our rejection from cognitively grasping what lies beyond. I note here once again that while this type of narrative has

³⁰⁶ Thacker, Eugene. *In the Dust of This Planet*. Zero Books, 2011.

crystallized into a trope within fictional horror, it finds direct corollaries in real-life cultural phenomena as well, a subject that I will cover later on. There are, for that matter, inflections of Thacker's World-Without-Us paradigm within his previously articulated discussion of "dark media". In similar fashion, an increased dependence on distributed networks and black-box based technology has created a quasi-"World-Without-Us" in the form of cloud computing, algorithms, and networks. Certainly, these systems and networks are by no means supernatural, having taken shape from human ingenuity and labor. Nevertheless, Thacker posits these phenomena *as if* they were supernatural in a phenomenological sense, which is to say on the part of everyday human interaction with these systems and perception thereof. If such technology is perceived as operating invisibly in metaphysical terms, as Thacker argues, then it stands to reason that such human-made systems can import an affective portion of the World-Without-Us, and as such induce similar fearful, anxious, or dreadful reactions. This conclusion need not remain aloft on a theoretical plateau, to be sure, for what is the culturally inscribed narrative of the AI takeover if not concrete evidence of this claim? A human made system eclipsing its boundaries and fundamentally redefining the human relationship to the world, now placed in relief against a world that offers neither primacy of nor concern for human existence: we construct a world that rejects us. While this is an extreme example, to be sure, the main takeaway here is that Thacker develops his concepts of "dark media" and the "World-Without-Us" as a means to illustrate a particular sense of human fear in the face of the unknown, one augmented by the increasingly opaque boundaries of communication media. It is this particular brand of fear and fascination that I argue informs the cultural response to numbers stations, and one can locate its genesis in the first years of shortwave radio use, and even to one of its progenitors: the telegraph.

3. Ghostland

In the advent of commercially available shortwave radio kits, amateur users were enamored by its far-reaching communicative potential. Amateur shortwave use increased in the United States from the 1920's onward, largely from the use of early crystal radios, a phenomenon covered by Susan Douglas in her expansive book, *Listening In: Radio and the American Imagination*.³⁰⁷ During this incipient moment for regulated mass-broadcasting, amateur users—or DXer's—experimented with shortwave radio as a means to contact foreign countries across the sea. This activity, while increasingly popular, was by no means the dominant form of listening at the time. But, for those who indulged in DXing, there was a certain sense of revelation that appeared with each transmission. Douglas argues:

Certainly there were many radio fans who simply found a local station they could tune in and reliably stuck with that. But discursively and imaginatively, DXing was the practice that infused radio with its sense of romance, magic, and potential for nation building.³⁰⁸

As she notes, for a large majority of listeners, the radio largely was approached as a passive experience. Families would gather around the unit and listen to what was being broadcasted at the time, and input was generally restricted to changing the dial and finding another show. This is not quite the same experience as that of DXer's, as one of their principle early goals was to establish contact with shortwave users in other parts of the globe. Douglas's remark about a “potential for nation building” is a grand statement, but rightfully so. In a sense, amateur shortwave use upheaved prior-held notions of distances and borders. It was not an

³⁰⁷ Douglas offers a bracingly deep historiography of American radio between this text and her book *Inventing American Broadcasting, 1899-1922*. While my analysis will focus more directly on Douglas's theoretical and categorical points, I have gleaned my historical remarks from her research as well.

Douglas, Susan. *Inventing American Broadcasting, 1899-1922*. Baltimore: Johns Hopkins Press, 1988.

³⁰⁸ Douglas, Susan. *Listening In: Radio and the American Imagination*. Minneapolis: University of Minnesota Press, 1999. 74.

act of simply listening, but rather one of building community, fueled by an imaginative drive. Shortwave could be used to reach out, rather than solely receive, and a type of sonic cartographic imaginary swiftly took hold.

Douglas argues that this particular induction to the imaginary manifests itself in a form unique to radio listening in general. Since the content of radio has no visual component in the way that a novel, television, or computer would, it necessitates a certain adaptation with regards to listening. Douglas refers to this as “dimensional listening”, defining it as follows:

Dimensional listening is another matter and is activated by a range of genres. Here, whether we were listening to Fibber McGee and Molly, Edward R. Murrow on a London rooftop during the blitz, Jean Shepherd, or the Chicago Cubs, we created in our mind’s eye three-dimensional locales; saw living rooms, cityscapes, battlefields, ballparks; watched the cascading contents of a closet, or distant flares, or a bat cracking a ball. This listening is work—you have to keep track of people and locations—but it is also highly gratifying because it is your own invention.³⁰⁹

In other words, the radio listener is invited to imagine a space in which the auditory content is set. Douglas uses “dimensional” with specific intent: this cognitive process gives dimension and depth to what is heard, and this allows radio to play on the entire sensorium rather than just hearing alone. While she discusses the process in terms of radio shows and sports matches above, there is little reason why this could not apply to DXing wholesale. In contacting other DXer’s from around the globe, these users created a new dimensional space via sound and communication, a reconfiguration of boundaries and the outlining of a new

³⁰⁹ Douglas, Susan. *Listening In: Radio and the American Imagination*. Minneapolis: University of Minnesota Press, 1999. 33.

radio-nation. In other words, DXer's create a cognitive map through these connections, and this imaginary space coalesces into a world. It could be built from a variety of constituent parts: successful communiques with foreign citizens, fragments of voices or music floating through the ether, a multitude of languages and incidental sound. Douglas' example of a baseball game is so evocative and rich due to its focused nature, but this does not preclude the more amorphous sonic components of DXing from holding such creative potential.

The "active" aspect of this cognitive effect is clear, insofar that the DXer actively builds a nation, or world, or realm out of the fragments of sound that they receive. But the term "active" invites further unpacking though, and this hones in on the active/passive dichotomy Douglas' invokes as a means to distinguish DXing from listening to the radio as a source of entertainment. If it could be taken to mean using the radio to seek out or contact outer realms, "active" listening would then incorporate not only the process through which numbers stations enthusiasts have built their subculture, but at least one compelling historical precedent set before their time. In his book *Haunted Media*, a compelling study of the historically contingent conceptual connection between communication media and the spiritual "other", Jeffrey Sconce devotes the second chapter to discussing a fringe religious group called Modern Spiritualism that developed into a peculiar sect in mid-19th century. Spiritualism, in a broad sense, believed in the ability for mediums to contact the spirit realm in order to communicate with departed loved ones, evidence for an afterlife and confirmation of religious testaments to that fact. Modern American Spiritualism in particular incorporated the telegraph into this practice, drawing on a constellation of contemporary beliefs concerning the electric composition of the human soul and its ability to wander the ether. As Sconce notes, this came about simply as a natural development of widely held beliefs

concerning communication media at the time, both religious and secular in nature. He writes:

In the age of telegraphy and wireless, in other words, many believed telegraphs and crystal sets could be used to contact incredible and unseen yet equally “real” worlds, be they extrasensory or extraterrestrial. The ethereal “presence” of communications without bodies suggested the possibility of other similar preternatural interlocutors, invisible entities who, like distant telegraph and wireless operators, could be reached through a most utilitarian application of the technology.³¹⁰

Unlike the passive interception or invasion by otherworldly beings, the type of interaction characterized by the paranormal malfunctioning of a device, the active dimension of this impulse set about the creation of an exploratory “telegraphic imagination”, as Sconce dubs it. He cites an account from 1874 in which a medium accessed a spirit through a telegraph, and upon its contact announced that Morse’s invention of the device was entirely contingent on help from the spirit realm in its creation.³¹¹ It is a fascinating and watershed moment, one that Sconce argues acts as a sort of ground zero (along with Modern Spiritualism as a whole) for the loosely connected group of paranormal electronic media narratives such as the selection I cited, a group that persists in largely similar fashion to the contemporary moment.³¹² This is a bold claim with certain challenges in its maintenance. For instance, one can locate the first instance of a “spiritually” powered machine in the form of Hephaestus’s automata in Homer’s *Odyssey*, a small army of machines he employs in the creation of Achilles’ shield. But an automaton is of a different conceptual format than the telegraph or radio, and there is

³¹⁰ Sconce, Jeffrey. *Haunted Media: Electronic Presence from Telegraphy to Television*. Durham, NC: Duke University Press, 2000. 10.

³¹¹ *Ibid.* 25.

³¹² *Ibid.* 25.

weight to Sconce's argument, certainly insofar that the Modern Spiritualist narrative can in fact be seen in so many traces in contemporary horror fiction at minimum.

Whatever the case may be, this telegraphic approach to contacting the spirit realm opened up a realm of possibilities for those so inclined in the 19th century. Sconce clarifies that the question of whether or not an individual *believed* in the telegraph's power is less significant than the discursive and narrative forces that its possibility opened up in the first place. He notes that Spiritualist mediums were almost exclusively women, as the ability to tap into the spirit realm wholesale was viewed as a feminized or "hysterical" attunement to otherworldly energies.³¹³ An unforeseen result of this gendered partitioning was the endowment of full discursive authority onto the part of the medium, if only for the moment of the séance itself. It is of little surprise then, as Sconce notes, that several mediums claimed that the spirits who they contacted would frequently demand advances in women's rights and protection against violence, these appeals charged with the authority of a higher existence.³¹⁴ What this reveals is that, in part, the "spiritual telegraph" was still viewed as a way to manipulate the spirit realm (or the idea thereof) in the service of human kind and its particular needs. Despite accessing the irrational, the telegraphic approach shackled the paranormal to rational ends, and this is the effect of the prevailing scientific environment of the time as a whole. Sconce notes, "More than an arbitrary, fanciful, and wholly bizarre response to the innovation of a technological marvel, the spiritual telegraph's contact with the dead represented, at least initially, a strangely "logical" application of telegraphy

³¹³ Sconce, Jeffrey. *Haunted Media: Electronic Presence from Telegraphy to Television*. Durham, NC: Duke University Press, 2000. 50-51.

³¹⁴ *Ibid.* 49-50.

consistent with period knowledges of electromagnetic science...”³¹⁵ In other words, the spiritual telegraph and Modern American Spiritualism harness the concept of a World-Without-Us (this being the spirit realm as a whole) and affixed it to a World-For-Us, created by “us” as humans. It aligned snugly with scientific ideas of the time and was used in part to either reinforce or alter cultural and political mores, but never truly negate them. But even though this would not align entirely with Thacker’s idea, it nevertheless serves as a foundation for the evolution of this paranormal connection with media and the World-Without-Us at large.

It is a foundation that would take little time to fall apart, though, with Spiritualism as a whole considered defunct and losing much of its public stock by the end of the 19th century.³¹⁶ The next innovation in line, that being Marconi’s development of wireless transmission, would reignite the public association of media with the supernatural, but in a distinctly different tone. Perhaps a result from its wider applicability, or of its less restricted nature, or even the symbolic loss of wires, wireless communication inspired a type of apprehension and fear that sharply contrasted with the wide-eyed optimism with which telegraphy was met after its invention. This is of course not to say that such apprehension was universal, nor is it a claim that telegraphy did not have its abundant share of skeptics. Wireless transmission did, however, appear to open the gates to the ether far wider than the public once thought possible, and the subsequent loss of perceived control inspired a palpable sense of concern. Sconce writes:

Although no less awestruck than the speculative narratives and supernatural theories that greeted telegraphy, fantastic accounts of wireless technology

³¹⁵ Sconce, Jeffrey. *Haunted Media: Electronic Presence from Telegraphy to Television*. Durham, NC: Duke University Press, 2000. 29.

³¹⁶ *Ibid.* 58.

were decidedly more anxious, pessimistic, and melancholy. In the first three decades of the new century, a variety of paranormal theories, technologies, and fictions challenged the otherwise wholly enthusiastic celebration of the emerging medium by suggesting an eerie and even sinister undercurrent to the new electronic worlds forged by wireless.³¹⁷

One such conception was of wireless transmissions travelling across an ethereal radio “ghostland”, a term coined by P. T. McGrath, in which the reduced volume of a person’s voice in response portrayed them as pushing through a dense void, the act of signing off leaving them dead.³¹⁸ The invocation of wireless space as “ethereal” became almost omnipresent, generally conceived as a vast and often dangerous space, largely an effect of its mysteriously extrasensory nature. Sconce explains:

Fantastic accounts of wireless suggested hazards of disembodiment and dissipation lurking in these mysterious atmospheric oceans. Not only did the metaphor of the “etheric ocean” encourage the idea that one could become “lost at sea”, but it also implied that, as with the oceans of the earth, unknown creatures might stalk this electronic sea’s invisible depths.³¹⁹

Through the lens of this narrative, the human voice becomes representative of the human body as a whole, or perhaps its soul, placed at great risk when sent out into the void of radio waves. Sconce is apt to note the connotation of otherworldly beings lurking in this space, as this would stand to inform the plethora of examples in fiction wherein ghosts, creatures, or spirits lash out through the newly opened gateway of communication.

In other words, wireless radio conceptually opened a World-Without-Us, in a sense, as this “etheric sea” treated us as the intrepid invaders, and with the loss of all senses but hearing, humans found themselves diminished in terms of their defenses. Within this framework, the earlier Spiritualist beliefs regarding the ether as the realm of the dead gained

³¹⁷ Sconce, Jeffrey. *Haunted Media: Electronic Presence from Telegraphy to Television*. Durham, NC: Duke University Press, 2000. 61-62.

³¹⁸ *Ibid.* 67.

³¹⁹ *Ibid.* 69.

greater force due to factors both historical and fictive. Wireless communication arrived at nearly the same time as World War I would ravage the globe, and as a result of this, families found themselves having to contact their loved ones deployed on the frontlines through a medium that reduced their present to quiet and broken transmissions. Before their probable deaths would even occur, it was as if they were speaking from the netherworld in real time, wireless devices bridging the gap in an unnerving spectacle.³²⁰ And of course, it would be wireless transmission that would lead to the contemporary practice of ghost hunting. While the practice has evolved to the point of using a remarkably vast array of detection technologies (infrared scanning, motion detection, electromagnetic frequency arrays, sophisticated thermometer systems etc.), one of the principle devices of ghost hunting remains the simple audio recorder. Used to capture vocal sounds from spirits (referred to as Electronic Voice Phenomena, or EVP, by ghost hunters), ghost recordings are frequently considered to be paramount evidence by believers, second only perhaps to video or photography. Audio recording is, of course, not the same format or procedure as wireless communication proper, but the concept of capturing the sound of spirits does in fact find its nascent moment with wireless technologies. Sconce cites several incidents wherein early adopters of wireless sets heard voices of deceased relations announcing themselves through transmissions, thereupon captured in recordings and used as testament to the existence of an afterlife of some kind.³²¹ The point here is that from its invention, DXing and wireless exploration was colored with the tint of a world beyond our senses, and with this came a sense of humans overstepping into frightening and dangerous realms. Douglas' account of

³²⁰ Sconce, Jeffrey. *Haunted Media: Electronic Presence from Telegraphy to Television*. Durham, NC: Duke University Press, 2000. 74.

³²¹ *Ibid.* 84.

exploratory listening and world-building forms the surface layer of the cultural effects and opportunities afforded by wireless, a bright new frontier ripe for adventure. The secondary history explored by Sconce, however, outlines the world beneath the surface, steeped in shadow and a dark alternative.

4. Letting the Devil Through the Doorstep

With this history established, my aim is to draw the cultural narrative of numbers stations into dialogue with the paranormal foundations of wireless and Thacker's conceptual framework. Much like the vocal fragments of spirits entering through a set from another realm, numbers station transmissions disrupt the "radio-world" in such a particular way that it invokes a sense of the "World-Without-Us". While they do not do so by explicitly evoking the supernatural or paranormal, they nevertheless resist easy codification into clear identities or source locations. They are paradoxically hidden, but universally accessible to anyone with a shortwave radio set and time. They either await interception, or are sent with little concern as to whether or not they ever found. With the latter aspect in mind, it would appear as if they spawn from a world that can neither be affected by our interactions nor take into consideration our presence at all. But if they are in fact spy transmissions, as conjecture and one high profile arrest indicates, they do promote harm even in the most benign of cases, save those sent as a lark by individual shortwave users. This final point offers the most pronounced complication of discussing numbers stations, as in the absence of voiced national or governmental responsibility, there is no assured way to conclude whether or not they are in fact genuine or come from another enthusiast. Furthermore, the baseline for "genuine" dissolves on contact in the face of this problem, given that there exists no functional metric against which a transmission may be tested, instead only circumstantial evidence and

inference. Finally, numbers stations are rarely, if ever, believed to arise from supernatural sources or realms, instead assumed to be human generated. The question, then, is why these transmissions incite a markedly similar set of responses to those of the early days of wireless communication. To claim that it is simply an effect of the unknown would seem too facile in approach.

There is a network of qualities operating within numbers stations, and they work together to evoke an affect of anxiety and dread on the parts of listeners. By analyzing a few representative examples of numbers stations, one can see this effect with more detail and clarity. “The Lincolnshire Poacher” in a certain sense stands as a model for the overwhelming majority of numbers stations. As a rule, numbers station transmissions begin with a set of repeating tones or short loops of music. These tones and loops are often composed with rudimentary synthesizers, a scant few exceptions using direct samples of orchestral scores. In certain cases, a synthesized or sampled voice first reads a test pattern of numbers, counting from zero to a selected limit number in ordinal succession. Following this preliminary section, believed to be a test pattern for listeners, these particular broadcasts enter a sequence common to almost all numbers stations with remarkably few exceptions. The voice reads a string of seemingly random numbers (dictated within the limited set established at the start when present) for anywhere from roughly thirty seconds to several minutes. Some broadcasts will repeat this pattern a second time, and following this repetition the same loop of tones or music that marked the beginning of the broadcast will repeat again, forming a closed bracket. The station will return to dead air in most cases until it activates again, some on the same frequency while others jump to a different one. In the case of frequency jumps, archival sites such as Priyom have noticed that they often rotate in a set

pattern that can be traced with relative ease. Broadcasts of this type are thus identified by similarity in composition (i.e. the same voice, same tone/music bracketing, etc.) until they can be verified as following a chartable rotation of frequencies. Critically, numbers stations are routinely un-obscured, meaning that the broadcasts are not jammed or scrambled, and they are easily accessible to anyone who possesses a shortwave radio set. In other words, numbers stations are public broadcasts.

However, this does not by any means diminish their inscrutability. The standing consensus is that numbers stations are broadcasts of coded messages. Given that each station tends to use the same format while broadcasting different strings of numbers, aficionados conclude that each broadcast is a single message delivered to a field agent or spy in an undisclosed global location. There are some exceptions to this rule: A station colloquially referred to as either “UVB-70” or “The Buzzer” emits a continuous buzzing tone on repeat, but scattered recordings of alleged Russian military commands have appeared on it. This has led some to conclude that it serves as an alert system for a Russian military base with the buzzing tone serving as a signaling mechanism.³²² However, “UVB-70” is a distinct minority amongst number stations, and there has even been one high profile case that has lent credence to the theory that these broadcasts are indeed used for global espionage.

In 2002, Ana Montes, an analyst for the US Defense Intelligence Agency, was arrested and convicted of espionage for the Cuban government. FBI agents discovered that a partial method through which she was receiving orders and directions was a shortwave radio

³²² “There are also special command messages, for example КОМАНДА 145 (Command 145). It has been found that Command 145 means training alert (while Command 45 means real alert). By this command all personnel should arrive into assigned positions.”

“The Buzzer”. <http://priyom.org/military-stations/russia/the-buzzer>

station sending strings of code. Montes would then use a “one-time pad”³²³ to decrypt the messages and plan her actions accordingly. It is a short logical step to conclude that these shortwave broadcasts were formally similar, if not right identical, to numbers stations, heavily suggesting that numbers stations are fundamentally tools for spy communications. Despite this blunder, no government has either formally discussed their use of number stations or disclosed their origins, leading to a noticeable blank space in their definitive identification. This is coupled with the aforementioned point that very few number stations transmissions have been convincingly “decoded” in any fashion. If in fact numbers stations are one piece of a complete Vernam cipher, and if the cipher system is working as intended, any attempt at decryption would be entirely fruitless. Given such a lack of conclusive information combined with the ludic allure of puzzle solving, each broadcast becomes a mystery with aspects both obvious and subtle for examination. Hence, these factors sow the seeds of obsession and fear in equal measure: an endless puzzle to be solved with assumedly nefarious secrets hiding beneath. As Priyam displays, these examinations can be of great depth indeed, but they rarely settle into a verified and solid conclusion. In metaphoric terms, at the core of numbers stations lies an informational dark zone, a point wherein all efforts at examination eventually fail.

This “dark zone” in terms of quantitative opacity only gains force when coupled with the qualitative “darkness” of numbers stations, through which one can establish a link to the

³²³ A one-time pad (or Vernam cipher) is a cryptographic method that is claimed to be the only existent encryption technique that remains unbreakable. An encrypted message is matched with a random key that is exactly as long as the message and designed for one time use. After the key is received, both it and the encrypted message are destroyed and never used again. If both the key and the message are kept secret before their destruction, no known mathematical system can break these codes.

“One-time Pad”. <http://users.telenet.be/d.rijmenants/en/onetimepad.htm>

“dark world” of spirit mediums. The aesthetic qualities of each broadcast, while ostensibly designed for the sake of uniform reproduction and functionality, nevertheless impart a distinctly disturbing tone, a tone reflected in the popular response to their recordings. These recordings appear from time to time on trivia or list-based websites, and they are frequently described as being “creepy” or “disturbing”, in one case placed side by side with significant airwave hijackings and the (in)famous “WOW” signal, a transmission associated with potential alien life.³²⁴ This may seem a bit excessive, given that a recorded voice reading numbers might not seem particularly noteworthy on its own. Nevertheless, there is something anomalously affecting about these stations, an ineffable quality that taps into a sense of mystery and eerie distance. In a 2014 interview with the BBC, archivist Akin Fernandez remarked, “Once you hear them, it has an effect on you...it is a dry subject until you listen to them.”³²⁵ This comment is particularly significant given its source, as Fernandez is responsible for *The Conet Project*, an audio archive of numbers station recordings sold as a three CD set. One of the most extensive compilations of its time (until the advent of websites like Priyom), it transcended its niche appeal and was sampled in more mainstream music, most notably Wilco’s *Yankee Hotel Foxtrot*, whose very title hails from one of the numbers station broadcasts captured in Fernandez’s archive. That ineffability, that “changing” effect, was transformed via such samples into an alien otherness that did not even need to put forth

³²⁴ Kasindorf, Evan. “The 5 Creepiest Unexplained Broadcasts” *Cracked.com* 15 Jan 2010 https://www.cracked.com/article_18381_the-5-creepiest-unexplained-broadcasts.html

Another notable instance comes from *lifehacker.com*, who call numbers stations “one of the creepiest things you’ve ever heard.”

Allen, Henry. “How to Listen to Real Spy Broadcasts Right Now”. *Lifehacker*. <https://lifehacker.com/how-to-listen-to-real-spy-broadcasts-right-now-5961035>. 16 Nov. 2012

³²⁵ Sorrel-Dejerine, Olivia. “The spooky world of the ‘numbers stations’”. *BBC*. <https://www.bbc.com/news/magazine-24910397> 16 Apr 2014

its historical baggage, that being its ties to espionage. Instead, these samples, and *The Conet Project* as a whole, can be taken as a selection of transmissions from some unknown world, announced through these distant and uncannily inhuman voices. Like the quiet voices battered across the “etheric sea”, they open a conceptual plane that, as Fernandez puts it, alters the global perception of the listener, carried into a “world-without-them”. In this light, the placement of a numbers station in the same rhetorical space as conjectural evidence for alien life seems less capricious.

What is even more fascinating is the “taxonomy” of numbers station voices, of which there are two principle “types”. Each produces a unique affect or sense of otherness, and it is worth describing each in greater detail. One type of numbers station tends to use rudimentary vocal synthesizing programs or applies basic effects such as ring modulation to short recordings of a human voice. An example of this type would be the station colloquially referred to as “Chinese Robot”, in which:

[The broadcast] is started up on usually two randomly chosen frequencies, which are not simultaneous emissions. Each broadcast may use a different sideband, and each usually a different speed, but both may be using the same speed. The transmissions consist of long, 20- to 36-digit strings, recited in fast Mandarin Chinese.³²⁶

As a technical note, “In an AM-modulated radio signal, a base signal, called the carrier, is continuously broadcast. The two modulating signals are called the sidebands. Any audio that you hear on an AM broadcast station is from the two sidebands.”³²⁷ In other words, the base frequency can be heard as static or a low hum on AM frequencies with no ongoing broadcast,

³²⁶ “The Chinese Robot”. <http://priyom.org/military-stations/china/chinese-robot>

³²⁷ “General HF Technical Notes”. <http://www.sgcworld.com/whatissbtechnote.html>

whereas the sidebands function as the channels through which auditory information is transmitted.

What is notable here is that “Chinese Robot” is particularly elusive, as it truly jumps to random frequencies as opposed to locking into a set pattern like “The Lincolnshire Poacher”. To complicate matters more, the transmission sometimes appears in divided form across two randomly chosen frequencies, perhaps allowing for additional security. What this means is that “Chinese Robot” can only be tracked by pattern with regards to its aesthetic/auditory qualities, but due to its highly distinctive nature, this is an easier task than it would seem. “Chinese Robot” uses one of the most obviously synthetic vocal patterns, eschewing the uncanny realism of the majority of broadcasts. The numbers themselves are read in very rapid succession, appearing to oscillate between three to four tones. Given that the broadcasts are assumed to emerge from China, (hence the station’s bluntly explanatory nickname) this is likely an attempt to replicate the tonal patterns of Mandarin Chinese. It is difficult to tell if a ring modulation effect has been applied to the voice or if it is distorted by auditory artifacts from the broadcasting process, but in either case, the voice has a distinctly tinny quality, with each number resonating at a high frequency and sounding entirely artificial. The recordings of “Chinese Room” (perhaps also in part due to the faint hiss picked up on reception) are in fact quite unsettling. The numbers are clipped tightly so that each takes less than a second of vocalization, and coupled with the undulating tones, they are more evocative of malfunctioning machinery than a human voice. Despite this distortion, one can still pick out hints of formed words even if one does not speak Mandarin Chinese, but this only adds to the dissonance for an outside listener rather than clarification. “Chinese Robot”

is distinctly “inhuman”, so to speak, as if it were a voice permanently altered on the “ethereal sea”, scrambled beyond repair.³²⁸

One would think that the second type would rectify this unsettling nature, but often ends up doing nothing of the sort. These types of numbers stations use either direct samples of human voices or more advanced speech synthesis programs which are then spliced and rearranged into the number sequences.³²⁹ There is a large variety in such samples, from adult men and women to young children depending on the particular broadcast. One such example, and a particularly famous one at that is a broadcast known as “The Swedish Rhapsody”. It apocryphally takes its name from the repeating loops of music that bookend the transmissions, which appear to be recorded from a music box.³³⁰ The musical tones are high-pitched and harsh, enough to cause large amounts of distortion in certain broadcast recordings. The music loops for around two minutes, followed by samples of either a woman’s or young girl’s voice reciting strings of numbers in German. Compared to “Chinese Robot” the voice in “The Swedish Rhapsody” sounds much more identifiably human, but it is no less uncanny for it. It speaks in a hushed tone throughout, but due to either the nature of the broadcasting or recording equipment, certain syllables (specifically the word “acht”) are much more pronounced to an almost startling degree. This results in a sequence of words

³²⁸ What makes this type difficult to pinpoint and, in a certain sense, rarer is being able to distinguish between vocal synthesizers/effects and shortwave auditory artifacts in general. There is a possibility, however slight, that several stations of this type, if not all, are in fact of the voice-sample variety but simply recorded under heavy distortion. I find that in these instances one can see the allure of speculation that captures so many numbers station enthusiasts. As it stands, I will maintain this distinction with the caveat that it may be subject to change with further research.

³²⁹ “The Lincolnshire Poacher” falls into this category.

³³⁰ Interestingly, this name is actually incorrect, as the samples of music are in actuality taken from the piece “Luxembourg Polka”.

that fall out of a natural flow or syntax, immediately betraying the artificial nature of the source. Further, the entire broadcast (or at least the existent recordings thereof) are particular laden with auditory static, causing each hard syllable to cut through with an uncomfortable harshness. It is quite possibly the most well-known example of a numbers station next to “The Lincolnshire Poacher”, with YouTube videos of its recordings amassing upwards of 500,000 views. On one such video, the description reads: “One of the better-known numbers stations -- and fittingly so. Its haunting, intermittent jingle is the stuff of nightmares, to be certain.”³³¹

This description indicates the broadcast’s music as its locus of dread, but I would argue that the particular way in which numbers stations employ synthetic voices plays as large a part. Essentially, there is something internally discordant about these voices, insofar that they superficially carry the trappings of humanity but could never be mistaken as such. In cases such as the “Chinese Room”, the outright shattering of this illusion compounds this effect even more so. They are uncanny the sense of the original German term, *unheimlich*, an “unhomely” feeling that rises from encountering something once familiar but somehow alien due to the subtlest of changes.

While there are many theories of the uncanny, Sigmund Freud’s landmark work being the most obvious choice, I instead find resonance with the work of Roland Barthes on the intangible qualities of the human voice, namely in the medium of sound recording. In his article “The Grain of the Voice”, he analyses what he considers to be fundamental element of the voice, something that he calls, unsurprisingly, the “grain”. This “grain” is a type of vocal

³³¹ “1_01: The Swedish Rhapsody”. TheConetArchive. <https://www.youtube.com/watch?v=GUQUUD3IMbb4> 19 Jan. 2011.

signature, unique to each vocalization and a vector for subconscious processes of identification. Barthes focuses almost exclusively on singing in his essay, but his categorical points are more universally applicable. In particular, he draws a distinction between two types of singing that he refers to as the “pheno-song” and the “geno-song”. He explains:

The pheno-song (if the transposition be allowed) covers all the phenomena, all the features which belong to the structure of the language being sung, the rules of the genre, the coded form of the melisma, the composer’s idiolect, the style of the interpretation: in short, everything in the performance which is in the service of communication, representation, expression [...] The geno-song is the volume of the singing and speaking voice, the space where significations germinate ‘from within language and its very materiality’; it forms a signifying play having nothing to do with communication, representation (of feelings), expression; it is that apex (or that depth) of production where the melody really works at the language—not at what it says, but the voluptuousness of its sound-signifiers, of its letters...³³²

In short, the pheno-song is responsible for communicating information and expressing emotion, but it lies within the realm of technique. Hence, Barthes notes that style is an expression of pheno-song, however this style is formed, as it is a complex of techniques and approaches that directly work at the informational level. For example, the phrase “I love you,” can be spoken or sung in a multitude of ways, with each intonation or utterance altering the impact of the phrase. Where a flat delivery could call into question the sincerity of the sentiment, an emotional or dramatic delivery could offer a sense of veracity. On the other hand, the geno-song is something much deeper. Barthes depicts it as something approaching a “pure voice”, in that it is not touched yet by emotion, information, or communication. Essentially, geno-song is a marker of human voice by way of fundamental aspects such as the volume, pitch, and tone that colors a vocalization before technique is applied. In a way, it is

³³² Barthes, Roland. “The Grain of the Voice”. *The Sound Studies Reader*. Edited by Jonathan Sterne. Abingdon-on-Thames: Routledge, 2012. 506.

the affective voice, operating at a level prior to cognitive applications of signification or “meaning” and instead communicating fundamental “humanness”.

Perhaps numbers stations receives their eerie quality in part from an imbalance between these two “voices”. The mechanical delivery of the numbers in “The Swedish Rhapsody”, for instance, appears to deprive the voice of geno-song. Given that the voice is a spliced set of samples, the natural variation of tone in a human voice is removed, and the inhuman quality of such repetition is amplified. Further, this effect is bolstered precisely due to the fact that the samples are sourced from an actual human voice, and this works only to draw the listener’s attention to this error. It is here, I argue, in which a sense of the uncanny enters from the start. On top of this, the auditory artifacts and modulation effects applied to the voice only separate it from a sense of humanity even further. Interestingly, this effect does not often seem to be expressed to popular songs that make heavy use of vocoders and effects such as auto-tune, elements which quite explicitly align the voice into the category of pheno-song while erasing geno-song components. By this measure, it would follow that a broadcast such as “Chinese Robot” would have less of an ability to induce the same unsettled reactions as “The Swedish Rhapsody” because it sounds expressly more artificial. If the uncanny valley could be applied to sound, it may find its proof in the latter of the two stations.

What to make of this in light of the technical history of spirit mediums and communication technology? As Sconce puts forth, much of the eeriness inherent to shortwave communication during its inception was due to the cultural narrative of radio tapping into an etheric dimension. As a result, the tinny and quiet voices on the other side appeared to be adrift on its waves, lost somewhere in an uninviting, astral dimension.

Following Barthe's line of reasoning, the transposition of the voice into the medium of electronic communication would deprive these voices of their tangible human qualities, ones only possible to experience when in close proximity to the human source. Perhaps this is a significant factor in what lent these transmissions their "otherworldly" or spiritual qualities, in the occult sense. While these transmissions were verifiably "human" in the sense that they could respond to conversation, replied in real time, etc., *something* was lost along the "etheric sea", allowing this technology to fit snugly into the established narrative connection between radio and the spirit realm. Numbers stations, then, send this disconnect into overdrive, as they add to the process a very noticeable artificiality via the use of sampling. That these recordings attempt to mask said automation with vocal samples only amplifies it all the more, with no noticeable trace of living humanity present. In splicing and reforming these bits of human voice, numbers stations emerge not as some poor soul lost at sea, but a recombinant creature born of a parallel world, "the creepiest thing you could hear."

In the absence of public acknowledgement of these stations on the part of global governments, numbers stations at the core remain unknowable, relegated to conjecture and speculation. But this unknowability extends beyond the informational content therein, augmented by the aforementioned vocal uncanniness at play. If shortwave radio was invented to bridge the gap between countries, cultures, and peoples, numbers stations persist as an artifact of this cultural history of the occult, as if through the means to connect and render the world more transparent, they steadfastly hold a portion of the veil in place. Like an entity slipping in from a "world-without-us", they defy understanding but also reject knowability on a deeper, affective sense, insofar that these recordings refuse basic vocal connection. As mentioned earlier, that these recordings are, of course, made by human beings, Thacker's

paranormally charged framework can only go so far, but his idea is not predicated on the acceptance of the paranormal itself. Instead, it speaks to a certain sense of anxiety, a certain sense of dread that arrives part and parcel with the fundamentally inexplicable and unrelatable. That the “creepiness” of numbers stations persists in the cultural consciousness *despite* the relative conclusiveness of the espionage theory is more testament to Thacker’s claim than a rebuttal thereof. Even in the face of a perfectly logical conclusion, numbers stations are approached as if they are one more chapter in the occult narrative of radio transmission. While their nature can be rationally explained, the associated fear is remarkably similar in tone to the early days of shortwave. Numbers stations are more than likely the work of spies, but they are also relics of a past age, serving as lingering heralds of a time when the span between shortwave sets was a “dark zone” of frightening potential. As public listeners, we cannot decipher the instructions of these chopped up, distorted voices. Instead, we are left to wonder, “If not for us, then for whom?”

Chapter 4: Death by Disconnection: EMP Attacks and Existential Terror

1. A New and Ancient Threat

On September 7th, 2017, the Democratic People's Republic of Korea (DPRK) officially announced the successful test of a hydrogen bomb.³³³ Details about the precise measurements and yield of the bomb were scant in the official announcement, and it was in fact the second claim on the part of the DPRK that they had successfully detonated a hydrogen-based weapon, following one from nearly two years prior on January 6th, 2016. While this earlier claim was met with scientific skepticism based on available seismic data from the region coinciding with the time of the announcement³³⁴, the latter event created an earthquake ten times as powerful as the test from 2016³³⁵, lending credence to the validity of the DPRK's announcement. The international response was one of expected condemnation and fear, especially given that this test punctuated a rapidly increasing exchange of bellicose rhetoric and threats between the DPRK and the United States. Should the DPRK truly have crossed the technological threshold into the production of hydrogen weaponry, a dormant strain of anxiety from the Cold War threatens to reemerge into the world, long since muted by the global termination of public nuclear tests that once dominated the physical and cultural landscape of the 1950's and 1960's. Unlike the overwhelming spectacles of Bikini Atoll and the Tsar Bomba, however, this test (like all of the DPRK's prior nuclear tests)

³³³ Kemp, Ted. "North Korea hydrogen bomb: Read the full announcement from Pyongyang". *CNBC News*. CNBC. 3 Sep. 2017.

³³⁴ Sengupta, Somini, David E. Sanger, & Choe Sang-Hun. "Security Council Condemns Nuclear Test by North Korea". *The New York Times*. The New York Times Company. 6 Jan. 2016.

³³⁵ "Kim Jong-un claims successful hydrogen bomb test." *Deutsche Welle*. Deutsche Welle. 3 Sep. 2017.

occurred underground, leaving analysts to work with only secondary traces of the explosion as a means to determine the nature of the weaponry involved, traces such as the aforementioned seismic data. While the Cold War-era nuclear tests between the United States and the USSR assumed a quasi-Bataillan tone, vast and sublimely visible expenditures of energy (quite literally) as a means to reconstitute vectors of power³³⁶, the DPRK's tests enter a far more complex space of deployment. As globally invisible events marked only by proximal phenomena, the tests assume a sense of the virtual that appears to galvanize fearful responses in a more insidious manner. While the nuclear displays of the Cold War visually left absolutely nothing to the imagination of the viewer, the DPRK's subterranean explosions trigger the virtual potential of an unknown space and an unknown event, only accessible through sequelae.

It is one these secondary effects that will be the focus of this chapter: EMPs. "EMP" is shorthand for an electromagnetic pulse, a burst of electromagnetic radiation that is formed by and follows from a large surge of energy, scaling from local disturbances such as large short circuits or lightning strikes, to galactic scale events such as a solar flare. EMPs pose an increasingly pressing danger for developed areas, especially those that rely on a densely interconnected electronic grid. This is due to the fact that an EMP possesses the ability to overload power grids and networks due to the sheer magnitude of its energy expenditure, causing effects that range from temporary disruptions to electrical service to irreversible physical damage to wires and electronic systems. Should an EMP of sufficient power and range be released over a country, it contains the potential to permanently damage its entire electronic infrastructure, and at worst cause a deeply catastrophic and widespread blackout.

³³⁶ Bataille, George. *The Accursed Share: Volume One*. Brooklyn, NY: Zone Books, 1991.

Given the fact that an EMP causes a blackout through a pulse of radiation rather than a locally manifested event (i.e. a downed power line, damage to a power plant, etc.), very few areas would be spared its effects, limited to cases such as fiber optic cables, fuel-powered generators, or areas enclosed within EMP-shielding materials or structures (such as Faraday cages). Unfortunately, EMPs can in fact be weaponized, and are always a byproduct of nuclear explosions.

Indeed, the threat of an EMP burst arrived part and parcel with the news of North Korea's hydrogen bomb test, inciting a wave of discussion, both anxious and skeptical, concerning the potential of an EMP attack carried out by the DPRK on the United States, Japan, or South Korea: all countries heavily reliant on disbursed electronic networks. And while disbursed networks are commonly seen as protective measures towards large-scale explosions or disasters³³⁷, a resultant EMP would render such protection moot, potentially crippling any widespread network as a whole. The effects of EMPs are not purely theoretical, to be sure, as there are several historical instances of EMP bursts causing unpredictable and destructive effects on power grids. As one of the more prominent examples thereof, in 1962 the United States detonated a high-altitude nuclear weapon as a means to study the effects of nuclear explosions in space, resulting in unforeseen consequences. Dubbed "Project Starfish", the explosion created a massive and unpredicted EMP burst, resulting in the distortion of measuring devices and (far more dramatically) the near-instantaneous blackout of nearly three-hundred streetlights in Hawaii.³³⁸ On a greater scale, a solar storm³³⁹ that took

³³⁷ Perhaps erroneously so. See: Hui Hui, Tung. *A Prehistory of the Cloud*. Cambridge: MIT Press, 2016.

³³⁸ Vittitoe, Charles N. "Did High-Altitude EMP Cause the Hawaiian Streetlight Incident?". Sandia National Laboratories, June 1989. 5-7.

³³⁹ More specifically, a rapid succession of solar flares that affected the geomagnetic field of the Earth

place in 1859 (dubbed the Carrington Event) caused a variety of strange effects to occur along global telegraph networks, due principally to a surge of induced current created by resultant EMPs from the flares. Said effects ranged from telegraph operators successfully sending messages without batteries due to the level of induced current, to destructive fires caused by telegraph devices that emitted sparks after having overloaded.³⁴⁰

Alarming as such phenomena may be for those in range, these incidents share in common a demonstrative significance at a reduced scale in terms of the total destructive potential of EMPs, especially those that have been weaponized for the express purpose of blacking out entire electric grids. In other words, the damage or disruption of such events was localized or temporary in nature: streetlights were repaired, telegraph offices reconstructed. Luckily, a full-scale permanent blackout, the type that is almost universally implicit within discussions of EMP warfare, has never been seen within recorded history. This serves, however, as one of the prominent factors that imbue EMPs with a sense of virtual terror. Much like the nuclear tests of the DPRK, EMPs have only been witnessed or recorded in diminished capacities, vestiges of the full potentiality of its effects. Compounding this issue is the fact that EMPs themselves are invisible processes, insofar that the wave of electromagnetic energy is invisible to the human eye. The only way to “experience” an EMP is through its resultant aftereffects, all phenomena predicated on a sudden and disruptive darkness, and even this scenario lies largely within the realm of the virtual.

³⁴⁰ Muller, C. “The Carrington Solar Flares of 1859: Consequences on Life”. *Orig Life Evol Biosph.* 2014, 44 (3): 185-195. 30 Oct. 2014.

It is through this very point that I wish to make an intervention, examining the way in which the EMP serves as a type of terminal symbol of fear by way of darkness. I use terminal here in the sense that in a metonymic or indexical sense, an EMP burst stands in for a total existential crisis. However, the task is significantly more complex in this particular case, as unlike the prior three subjects of the preceding chapters, this phenomenon *does* pose a significant threat to human life. Consequently, EMPs mark a complex liminal space for what has been discussed up to this point, as the posited resultant space of darkness produces deep existential dangers past a certain threshold of severity, thus breaching the metaphorical register and moving into a material stratum of actual physical death. Following this, EMPs stand in many ways as a total concretization of the metaphorical bridging of darkness with death and fear within media/communication technology as examined thus far. At a certain point, when discussing the destructive effects of nationwide blackout, as hospitals lose power, food spoils, communication is severely disrupted, transportation halts, engaging such an event in terms of its metaphorical or affective content lapses into hollow discourse.

What is important to remember, though, is that an EMP of such magnitude (i.e. apocalyptic on a global or national scale), despite any and all evidence or debate as to its inevitability, still remains a product of narrative creation, as one has still not yet happened. One can see remarkable similarities between current surge of anxious pieces concerning EMPs and the nuclear panic of the Cold War, namely the increase in speculative fiction that outlined post-nuclear holocaust landscapes. Much as the nuclear bomb became a metaphorical symbol for the Cold War, EMPs function similarly for the contemporary moment, responding to inherent dangers and weaknesses of an increasingly large global electronic and communication infrastructure. As the nuclear bomb promised to obliterate the

world in a lake of fire, EMP's serve as an updated force of erasure: a Nyx of the information age. While this chapter will commence with a more detailed explanation of the physical processes at play within EMPs (as well as the particular reasons why the United States and Japanese electric grids in particular are susceptible to attack), its principal object of analysis will be the growing narrative discourses concerning EMPs, namely the manner in which they assumed a greater and more threatening space over the course of the past five decades. Within this set of media (taken to mean newspaper articles, US EMP Commission joint hearings, government announcements, interviews, popular literature, etc.), there exists a tightly wound discursive system at play, one hearkening back to deeper cultural narrative or mythos of darkness as a primeval void, or an ultimate end. What these statements and write-ups also reveal is a societal contingency on electricity as a means to define itself: where the lights go out, society ceases to exist. In other words, EMPs introduce an interesting polemic, namely as to how society (including not just physical and spatial characteristics but also ethical and behavioral aspects) is predicated on an aegis of electric power just as significantly as territorial delineations or cultural assemblages. While EMPs possess all of the metaphorical dimensions explored in the prior chapters (darkness as a symbol of death, unchecked/unregulated growth, unknown threats, etc.), they are unique insofar that they also invoke a deep-rooted fear concerning cultural and societal fragility. Through the rapid, violent severance of technology, humans face an existence laid bare, an unwelcomed deterritorialization, all while a deadly darkness crashes through the gates. *How* this specific kind of darkness is characterized in terms of narrative is nothing short of mythic or religious in scope, and this lends EMPs a sort of absolute grandeur, virtual apocalypses in each burst.

Before illustrating these particular narrative bylines, discussing the mechanical and scientific aspects is a critical step towards understanding this metaphorical shift.

2. Overload

EMP bursts are in actuality quite common phenomena when discussed in terms of the total scope of their manifestations and occurrences. Given that the term “EMP” simply refers to an electromagnetic pulse of energy, any phenomenon that produces an unrestricted burst of energy (be it thermal or electric) concomitantly releases a burst of electromagnetic energy to a certain degree. Generally, in order to produce a visible effect (taken in this case to mean interference with electronic systems or atmospheric flashes), such bursts of energy would nonetheless have to be of a relatively significant scale, but this very relativity is proportionate to both the source of the energy burst and the system with which it interferes. As a shorthand rule, the burst must be larger than a receptive electrical system to cause destructive effects. Furthermore, nuclear explosions and specialized EMP weaponry mark the high upper end of this distribution in terms of both size and rarity (save, of course, events of a galactic nature such as a meteorite impact or solar flare). Lightning, for instance, a globally ubiquitous meteorological phenomenon, is an EMP producing process and considered to be a major manifestation thereof. The electrostatic discharge of a lightning strike is so immense and concentrated that it creates a localized burst of electromagnetic energy that possesses the ability to cause indirect damage to electronic systems in the immediate area. Interestingly, it is one of the few cases in which the resultant EMP itself produces visible flashes and distortions in the upper atmosphere.³⁴¹ Still, lightning-induced EMPs (damaging as they may

³⁴¹ Cho, Mengu, Mark A. Clilverd, Craig J. Rodger, M.J. Rycroft. “Lower ionospheric modification by lightning-EMP: Simulation of the night ionosphere over the United States.” *Geophysical Research Letters*. 2001, 28(2): 199-202. Jan. 2001

be to proximal electrical grids and appliances) effectively remain contained to the immediate area of each strike, thus losing the long-reaching and comparatively dramatic effects of nuclear-based EMPS (Starfish Prime, for instance). At the smaller end of this scale, the ignition of car or motorcycle engines can cause visible picture interference in certain (usually older) television sets. While minor, such occurrences are theoretically caused by small pulses of electromagnetic energy that follow the initial burst of thermal energy when starting a vehicle. Hence, EMPs can in fact occur on the level of annoyance or inconvenience, rather than apocalypse, and are far more present within the scope of electronic ecosystems than the panicked zeitgeist may have one believe. As previously stated, small as these EMPs may be, the pulse nonetheless is able to overload a proximal electronic system, causing interference within devices proportionate to the size of the EMP itself as well as those that do not contain adequate protections such as shielding, sufficient capacitors, etc.³⁴² In the case of a nuclear bomb generated EMP, the sheer magnitude of potential electromagnetic radiation (determinant on the size of the bomb) would easily overload any circuitry or wiring in its path, such systems lacking the safety systems to handle such an event.

Nevertheless, the physical processes through which EMPs form remain the same across this scale of magnitude, as do the means through which they cause direct damage. While the sequence of events behind large-scale, nuclear-based EMPs are quite complex, the basic concept can be articulated as matter of elementary physics, insofar that an EMP is simply a surge in electromagnetic radiation, and this radiation is a force given off by all physical bodies in the universe. As all matter is composed of charged particles (atoms, of course, whose charge arises from electrons), all matter too possesses a magnetic field of

³⁴² This is why starting a car doesn't result in all of one's household electronics flickering in tandem.

some degree.³⁴³ Given that charged particles oscillate at varying frequencies, their motion emits electromagnetic waves through said fields, and these waves emit as thermal radiation as long as the radiating matter has a core temperature above absolute zero, which is to say all matter on Earth³⁴⁴. Since thermal radiation is in and of itself a form of electromagnetic radiation, it can be charted along the same electromagnetic frequency, with the frequency of said waves proportionate to the temperature of the matter (i.e. the faster the oscillation of charged particles, the more overall heat that they generate.). The following figure offers a schematic distribution of electromagnetic wavelengths and frequencies:

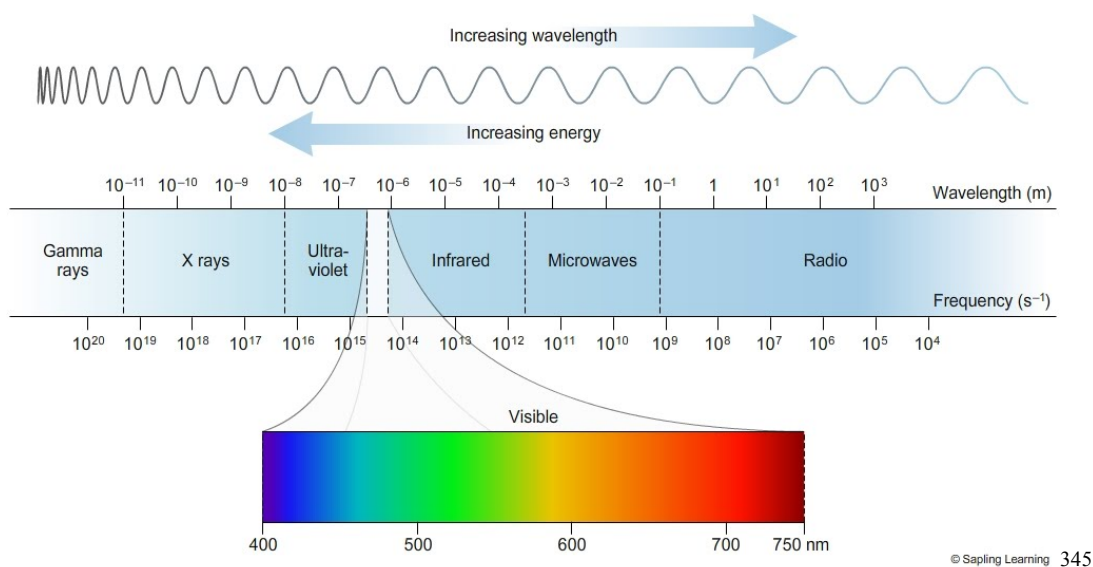


Fig. 15: A graphic representation of the electromagnetic spectrum. Nuclear weapons produce gamma rays amongst other types of high-frequency radiation. It is this short wavelength in particular that serves as the catalyst for large-scale EMP bursts.

Humans, for example, emit the majority of their electromagnetic radiation at the infrared level, and as the above chart indicates, this radiation exists just outside of the visible

³⁴³ "Electromagnetic Waves and their Properties." *Lumen Learning*. Lumencandela.

³⁴⁴ Blundell, S. & K. Blundell. *Concepts in Thermal Physics*. Oxford: Oxford University Press, 2006. 247.

³⁴⁵ "Electromagnetic Spectrum". *Sapling Learning: Chempendix*. Macmillan.

spectrum of light.³⁴⁶ This leads to the observation that light itself falls within the electromagnetic spectrum as well (an important issue with regards to fiber optic protections against EMPs, one of the most effective, if underused, strategies). The fundamental process here, that being the oscillation of particles producing waves and heat by extension, operates in both directions as well, in that matter can be heated by certain electromagnetic waves if subjected to ones of enough intensity (such as a microwave cooking food, or an induction stove).

The point of this is to demonstrate a direct correlation between the relative temperature of an object and the frequency of the electromagnetic radiation that it emits. Taking the above examples into consideration, the basic takeaway is that matter of lower temperatures will emit *longer* wavelength electromagnetic waves, while hotter matter will radiate increasingly short-wavelength radiation. This is to say that if an event were to occur in which an object or space were to rapidly reach high temperatures (such as an explosion), a sharp increase in short-wavelength electromagnetic radiation would occur simultaneously. In such a case, if within proximity there were a susceptible piece of equipment such as a closed-circuit electronic device, or one with inadequate shielding, this burst of energy could manifest as electrical current within the system and overload the wiring of said device, thus resulting in the stereotypical effects of an EMP event. This goes to explain the aforementioned incidents of car ignitions affecting older television sets as well as the way through which lightning induces the same effects at a far more drastic scale. However, when discussing existentially threatening EMPS, specifically taken in this case to refer to those

³⁴⁶ Lee Shuk-Ming, Olivia. "Radiation emitted by the Human Body – Thermal Radiation". *Hong Kong Observatory*. 22 Jan. 2013.

following nuclear blasts, the explanation becomes significantly more complex. To be sure, while nuclear blasts are absolutely massive explosions, the principle threat of a nuclear EMP is that it contains the potential to affect an entire country if exploded at the correct altitude, whereas the blast itself would not equate to the size of the country itself. No longer need the Cold War image of a nuclear holocaust apply: the true destruction may hail from a blast that *does not even touch the ground*. How this process of amplification occurs is partially engendered by the sheer volume of electromagnetic radiation emitted from a nuclear blast.

To discuss this effect requires introducing the concept of *blackbody radiation* here, as while the physical concept of a blackbody only truly exists in the theoretical realm, nuclear explosions approach levels of energy that can be measured in such terms. The term blackbody was coined in 1859 by physicist Gustav Kirchoff, and it refers to something that is both emits and absorbs radiation at perfect efficiency.³⁴⁷ To elaborate, a blackbody would absorb one hundred percent of the radiation directed towards it, and in turn would be able to emit an equitable one hundred percent of the absorbed radiation with no disruption by its form or the material out of which it is made. Due to this perfect absorption, the object would in turn be purely black (unless greatly heated), as it would neither reflect or allow any light to escape. The method through which the spectral density³⁴⁸ of this emitted radiation could be calculated was the great discovery of Max Planck, who proposed what would come to be

³⁴⁷ "October 1900: Planck's Formula for Blackbody Radiation". *APS News*. American Physical Society. Oct. 2002

³⁴⁸ Spectral density, in short, refers to the distribution of frequencies and power emitted by any signal across a certain section of time. When graphed, a spectral density plot reveals the intensity and overall amount of a given set of frequencies, and as such can be used to determine the overall frequency output of a signal. Within the scope of this chapter, a nuclear blast can be taken to mean a signal here, as it emits a vast range of wave-types and, in turn, frequencies during its explosion.

known as the titular Planck's law in 1900.³⁴⁹ Essentially, Planck's Law dictates that if an object reaches thermodynamic equilibrium, which is to say that it operates as its own enclosed system with no interference from outside operations (a crude example of this interference would be opening the door of a hot oven, thus releasing heat out into a now larger thermodynamic system, in this case the kitchen), then through a specific calculation the range of emitted radiative frequencies can be determined with almost exact specificity. I offer the equation for Planck's Law below:

$$E(\lambda, T) = \frac{2hc^2}{\lambda^5} * \frac{1}{e^{\left(\frac{hc}{\lambda kT}\right)} - 1}$$

h = Planck's constant = $6.626 * 10^{-34} \text{ J} * \text{s}$
 c = speed of light = $2.997925 * 10^8 \text{ m / sec}$
 λ = wavelength (m)
 k = Boltzmann's constant = $1.381 * 10^{-23} \text{ J/K}$
 T = temperature (K)

Fig. 16: Mathematical notation for Planck's Law.

Under such ideal circumstances (i.e. total thermodynamic equilibrium), an object or system's temperature directly correlates to the type and density of radiation that it releases. Given that Kirchoff's theoretical concept of a blackbody posits an object at perfect thermodynamic equilibrium, this specific type of radiation was dubbed blackbody radiation, as it would theoretically demonstrate the quality of radiation released by such a stable object. Further, this particular spectrum of radiation is characteristic to the theoretical blackbody model, appearing to follow a strict pattern of correlation between radiation and temperature.³⁵¹

³⁴⁹ "October 1900: Planck's Formula for Blackbody Radiation". *APS News*. American Physical Society. Oct. 2002

³⁵⁰ <https://www.quora.com/What-does-the-small-e-stand-for-in-Plancks-law-of-blackbody-radiation>

³⁵¹ Kogure, Tomokazu & Kam-Ching Leung. "Thermodynamic Equilibrium and Black-Body Radiation". *The Astrophysics of Emission-Line Stars*. Springer, 2007.

Of course, blackbodies do not exist outside of theory as far as the limits of known physics are concerned. All objects or systems are in some (even infinitesimal) way affected by outside thermodynamic operations.³⁵² As such, Planck's Law is often used to approximate the maximum amount of radiation that any body or object can emit when it is at a state of theoretical thermodynamic equilibrium, and this emission is coupled with the way in which an object changes color as it increases in temperature. Stars, for instance, despite not being true blackbodies themselves, do approach a relatively close level of equilibrium, which then allows them to have the spectral density of their radiation calculated through Planck's Law. Since stars tend to have more photons interact with electrons within their cores rather than escape (the process that generates the visible starlight we see at night), the internal temperature tends to remain at a stable and immense level over time, thus producing a spectrum of radiation that closely adheres to the characteristic blackbody spectrum as verified by Planck's Law.³⁵³ An interesting side effect of this is that the total spectral density of emitted radiation *and* the temperature of a star can be estimated by its color (crucially, though, this temperature estimation only applies to the visible outer layer of a star, where temperatures are comparatively cooler than their cores by orders of magnitude).

Why talk about stars, though, when a nuclear bomb related EMP remains a terrestrial and local phenomenon in comparison? Simply answered, the sheer energy of a nuclear blast produces temperatures that for a brief moment approach the estimated core temperatures of

³⁵² Save, theoretically, a black hole, believed by some physicists (most notably Steven Hawking) to be as close as one can find to a true blackbody.

Schutz, Bernard. *Gravity From the Group Up: An Introductory Guide to Gravity and General Relativity*. Cambridge: Cambridge University Press, 2004.

³⁵³ Green, Simon F, Mark H. Jones, & S. Jocelyn Burnell. *An Introduction to the Sun and Stars*. Cambridge: Cambridge University Press, 2004.

many stars, including that of our own sun. Within the first brief moments, the core of a nuclear explosion has been cited as reaching temperatures of minimum 10,000,000 K³⁵⁴, with further estimations of contemporary hydrogen weapons reaching ranges between 50,000,000 K to 150,000,000 K. Given that the estimated surface temperature of the sun is around 5,500 K with its core reaching temperatures of 15,000,000 K³⁵⁵, one can with little exaggeration claim that the opening millionths of a second of a nuclear bomb are equitable to the birth of a star on terrestrial land. Since contemporary nuclear weaponry (or, to be more precise, thermonuclear) utilizes fusion as its principle catalyst, the resultant explosion creates a core so dense, with such immense temperatures, that the initial reaction would create a moment of thermodynamic equilibrium, meaning that the majority of molecules react within the core of the explosion before escaping. Due to this very phenomenon, nuclear explosions operate within the range of the blackbody spectrum, as they essentially produce stellar conditions. Considered alongside of the basic electromagnetic spectrum, if nuclear weapons do indeed achieve pseudo-blackbody conditions, the temperature of the blast would correlate precisely to an increase in emitted wavelengths, something demonstrated by the fact that a large portion of energy emitted by a nuclear blast takes the form of x-rays and gamma rays, the very same classes of waves emitted by stars, incidentally.³⁵⁶

Gamma rays are at the heart of what gives rise to nuclear EMPs, as these rays cause an immense electromagnetic field due to a process known as the Compton effect, in which gamma rays tear electrons away from atmospheric molecules and allow them to travel freely.

³⁵⁴ Zitzewitz, Paul & Robert Neff. *Physics*. New York: Glencoe, 1995.

³⁵⁵ Sharp, Tim. "How Hot is the Sun?". *space.com*. 18 Oct. 2017.

³⁵⁶ Glasstone, Samuel & Philip J. Dolan. *The Effects of Nuclear Weapons*. United States Department of Defense, 1977.

These electrons accumulate and produce an electromagnetic field that is pushed away from the explosion, a result of the field's negative charge repulsing the positive charge of the explosion itself.³⁵⁷ In terrestrial conditions, this blast would be confined to a relatively short radius, somewhere within the range of two to five miles³⁵⁸. Under high-altitude conditions, the exact threat fueling the anxieties concerning North Korea's nuclear capabilities, the radius of a resultant EMP magnifies exponentially. Since a high altitude explosion would involve a far larger amount of energy directing downwards (as the explosion itself would not be blunted by the actual terrestrial ground), the resultant gamma rays effectively strip more electrons as they pass through denser areas of the atmosphere, creating a huge area of negatively charged particles, estimated at being up to fifty miles thick.³⁵⁹ These particles are then forced back towards the earth in a conic shape due to interactions with the Earth's electromagnetic field, raining down towards the planet with vastly accelerated speed and area of effect.³⁶⁰ This process is the dreaded high altitude nuclear EMP itself, and its effects are posited as being exponentially devastating in proportion to its increased range. What poetic irony in this process: the birth of a star on Earth gives way to a planet plunged into darkness.

This particular type of EMP tends to present itself in three stages, or pulses, named E1, E2, and E3 respectively. E1 is the primary pulse that causes the most immediate and direct damage, and this is the stage that most closely corresponds with the cultural perception of EMP events (i.e. a sudden, wide-reaching and total blackout). Its range is wide and its onset is the fastest of the three, with effects, according to an independent report by the

³⁵⁷ Glasstone, Samuel & Philip J. Dolan. *The Effects of Nuclear Weapons*. United States Department of Defense, 1977. 515.

³⁵⁸ *Ibid.* 518.

³⁵⁹ *Ibid.* 518.

³⁶⁰ *Ibid.* 519.

Congressional Commission to Assess the Threat to the United States from Electromagnetic Pulse Attack, that “[disrupt] or [damage] electronics-based control systems, sensors, communication systems, protective systems, computers, and similar devices.”³⁶¹

Theoretically, the overwhelming surge of current from E1 would accumulate within wiring and cables of sufficient length and cause them to serve as antennas of sorts, building up voltages that exceeded capacity and causing severe, often permanent structural damage to unprotected systems. E2, by contrast, tends to cover the same area as E1 but is of lower amplitude, causing it, once again, *theoretically*, to pose a lesser threat to protected critical systems.³⁶² Unfortunately, if one looks at the types of systems and components susceptible to the damage of E1, they include the very types of control and regulatory mechanisms that would serve to normally protect infrastructural systems from a pulse of E2’s strength. Thus, the rapid onset of E2 following E1 allows E2 to do severe damage of a far greater scale in terms of widespread infrastructural effects.³⁶³ Whereas E1 would short out protective measures across its area of effect, E2 would damage the larger communication, transportation, medical, and electronic systems across this area. In quotidian terms, if E1 is what turns the lights off, E2 keeps them off, and it prevents any unified response to the event. E3 then serves as a sort of final blow, consisting of a “slower-rising, longer-duration pulse that creates disruptive currents in long electricity transmission lines, resulting in damage to electrical supply and distribution connected to such lines.”³⁶⁴ In sequence, E1, E2, and E3 create a procession of events that not only destroy electrical equipment but also remove from

³⁶¹ Foster, Dr. John S. *et. al.* “Report of the Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack.” US Department of Defense. 2004. 5.

³⁶² *Ibid.* 6.

³⁶³ *Ibid.* 6.

³⁶⁴ *Ibid.* 6.

the table the systems necessary to even approach restoring damaged mechanisms and systems. This cascade of effects is what lends high-altitude nuclear EMPs of this nature their apocalyptic tenor, as the sheer magnitude of protective or recovery efforts seems impossible to achieve in both directions, leading to a doomsday scenario for an affected nation. So much of a country's infrastructure that is taken for granted as being accessible and present (communication, food supply, medical services, police and protective systems, etc.) would be taken down simultaneously, each possessing synergistic relationships with one another that only are revealed in the moment they fall apart, a broken tool in the Heideggerian sense expanded to nightmarish scales.

It is this "EMP eschatology" on which this chapter will focus, but I do not intend to fully write it away as hyperbolic, despite very clear exaggerations. These responses rise as a product of perceived infrastructural weaknesses, and in some cases, the weaknesses extend *beyond* the common knowledge of the populace. The next section will briefly discuss these particular infrastructural qualities of the United States and Japan, as they are two countries most directly involved in recent discussions and anxieties towards EMPs.

3A. The Snowball Effect – Infrastructural Vulnerabilities of the United States

An updated version of the "Report of the Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack" from 2008 takes a far more exhaustive analytic approach in terms of charting the specific infrastructural vulnerabilities endemic to the United States. In it, dire scenarios are multifarious and surprisingly unique in their damaging effects. Given the sheer length of the report, my aim here is to select the events with either the widest ranging or most intractable effects as a means to illustrate a "worst case scenario", as it is from this extreme that popular narratives of EMPs draw

inspiration. Of course, this begins with an EMP's effect on the electrical grid, and while these effects would not be unique to the United States necessarily, the report still sheds light on the particular dangers for the sheer size of the country. To summarize, a nuclear EMP would theoretically initiate a catastrophic domino effect starting at the level of power generation and continuing along to transmission infrastructures. Regarding power generation, the major danger hails from the E1 pulse, in that its distorting effects would in most cases trigger inappropriate emergency shutdown procedures within plants in the affected area.³⁶⁵ In a moment of unfortunate irony, the report notes that the sophisticated control and computational systems of newer plants actually makes them susceptible to damage from the rapid emergency shutdown procedures *themselves*, leading to repair needs that would take far longer than afforded in such a scenario. This situation would be compounded by the fact that the E3 pulse, due to its genesis from atmospheric distortions of a far longer duration and scope, would have an affinity for power lines, charging them with large amounts of electrical current and compounded to their sheer length (i.e. their capacity to store this current). This would in turn lead to direct damage to power substations and transformers along power routes, hence blocking the ability to divert power from a less affected area to those that are in critical situations, such as those in proximity of a power plant that has been damaged or shut down.³⁶⁶ Furthermore, the report notes that the high power requirements of the United States, typical of a highly industrialized country, have already placed many transformers within

³⁶⁵ Foster, Dr. John S. *et. al.* "Report of the Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack." US Department of Defense. 2008. 29.

³⁶⁶ *Ibid.* 33.

close proximity to their loadbearing limits, thus causing them to be only a small push away from irreparable damage due to a system overload.³⁶⁷

Such a synergistic collapse, even short-lived, would then begin to apply the same snowballing momentum to a succession of critical infrastructures throughout the country, a selection from which I will sample below. Telecommunication networks would remain remarkably unscathed in comparison to the vast damage to electrical grids. The report notes that this is due to a harmonic set of circumstances that have created a semi-inadvertent shield to EMP effects. For instance, the report refers to the central infrastructure that connects various communication nodes (i.e. cell towers, routers, servers, etc.) as the “backbone” of a communication network.³⁶⁸ This “backbone” would be composed of central servers, telecommunication headquarters, etc. Given that many of these central locations utilize fiber optic cables for peak efficiency, they are largely shielded from EMP effects as such cables transmit light rather than conduct electricity.³⁶⁹ Furthermore, these buildings are often constructed from the start in ways that would shield them from unwanted electrical interference.³⁷⁰ Personal devices such as cell phones and laptops, while susceptible, contain circuitry and wiring of comparatively shorter lengths, hence preventing them from absorbing large amounts of current from pulses. Despite this relative shielding, however, the report posits that the sheer amount of attempted calls during such a widespread blackout would threaten to tax the telecommunications system to the point of degradation and potential

³⁶⁷ Foster, Dr. John S. *et. al.* “Report of the Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack.” US Department of Defense. 2008. 33.

³⁶⁸ *Ibid.* 66.

³⁶⁹ *Ibid.* 66.

³⁷⁰ As Tung Hui-Hui notes in *A Prehistory of the Cloud*, often times these stations were either modeled after or built directly in decommissioned military bunkers, hence the protective qualities.

collapse, a situation that would likewise increase exponentially.³⁷¹ Whether or not one could attribute this issue to the EMP itself is debatable, but it stands that such an event would dramatically compound recovery effects.

Existential risks would follow shortly thereafter. The damaging effects on electrical grids would have an immediate and dramatic impact on food production. The report notes that over the past century, the percentage of farmers in the United States dropped from 39 percent of the population to 2 percent, shifting the balance of food production to a machinic and automation-based infrastructure.³⁷² Because of this, a wide-scale blackout of nuclear EMP proportions would have an inordinately profound impact not only on food production, but also factory processing and distribution. The report, one that is remarkably slim on hyperbolic language, refers to the distribution system in particular as a “choke-point”, an area that with only a limited amount of pressure would have devastating impacts on the country as a whole.³⁷³ The availability of food would swiftly drop due to critical failures at all levels of production, thus leading to rapid depletion of food stores both within directly affected areas as well as external areas due to attempts to redistribute food from other locations. Likewise, water production would also be dramatically impacted by widespread electrical failure, as urban centers, large building complexes, and even smaller towns routinely rely on electrical pumps for distribution.³⁷⁴ The true danger here, though, would be resultant shutdown of water purification plants and systems, something that the report posits would promptly lead to widespread public health crises due to contamination.³⁷⁵ Emergency services, while

³⁷¹ Foster, Dr. John S. *et. al.* “Report of the Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack.” US Department of Defense. 2008. 67.

³⁷² *Ibid.* 132

³⁷³ *Ibid.* 133.

³⁷⁴ *Ibid.* 139.

³⁷⁵ *Ibid.* 139.

relatively more protected than other systems, would be “degraded to the extent that they are dependent on other infrastructures that are themselves damaged by the EMP attack.”³⁷⁶

While vehicles would be largely unscathed due to the same inherent protections of computers and cellphones, (and this rule extends to many non-emergency vehicles as well) and while many medical buildings are already shielded from electromagnetic interference due to the nature of operations contained within, radio communication would be adversely affected by a nuclear EMP, causing disarray and disorganization amongst necessary responses to compounding emergencies.³⁷⁷ Given the nature of the prior dangers regarding food and water, an EMP would cause an unpredictable amount of taxation on emergency and health services, potentially contributing to rapidly deteriorating public health scenarios.

While all of these scenarios tend to capture the most immediate attention with regards to EMP fears (and for good reason, as they pose the most direct dangers to physical life), the commission reserves its most alarming language for an oft overlooked but no less susceptible system: the financial infrastructure. The report notes that the financial system has proven to be quite resilient in the past, surviving past disasters (including the 9/11 World Trade Center attacks) and emerging all the stronger for it in terms of bolstered protection.³⁷⁸ That said, it also notes that these cases were highly localized in effect, and the tests and procedures deployed by financial organizations so as to gauge susceptibility often is directed towards cyberterrorism and hacking.³⁷⁹ In the case of a nuclear EMP, the simultaneous and widespread disruption and destruction would overload any existing protections and cause

³⁷⁶ Foster, Dr. John S. *et. al.* “Report of the Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack.” US Department of Defense. 2008. 155.

³⁷⁷ *Ibid.* 152.

³⁷⁸ *Ibid.* 89.

³⁷⁹ *Ibid.* 90.

irreparable damage to the financial system as a whole. It is worth examining the particularities of the report's language in this section, as it makes abundantly clear that this level of devastation is not a matter of theoretical possibility, as with every other infrastructure, but of inevitability. The report refers to the effects as "fatal", describing the resultant situation as a "financial infrastructure catastrophe."³⁸⁰ This is a result due in large part to negligence, it would appear. For instance, the report directly states:

The vast majority of electronic systems supporting the financial infrastructure have never been tested, let alone hardened, against EMP. Yet the enormous volume, speed, and accuracy required of the electronic infrastructure supporting the financial services industry allow little or no room for error. Financial operations could not tolerate the kind of disruptions or mass systemic destruction likely to follow an EMP attack.³⁸¹

The report treats the financial infrastructure as a nearly irreparable aspect of an EMP catastrophe, one that would result in a full stoppage of the United States economy.³⁸² Given the prolific use of virtual or electronic currency in proportion to hard currency in circulation, there runs a larger than acceptable risk of accumulated wealth not only being blocked, but potentially vanishing within an instant. The report suggests, alarmingly, that the only protected information or funds outside of hard currency would be records kept on magnetic tape, a vast minority within the system as a whole.³⁸³ This claim is also made conditional by the suggestion that said magnetic tape "probably" would not be in immediate danger.

Beyond the rippling effects of food and water infrastructural collapses into the realm of international trade and commerce, a financial collapse of this magnitude, from one of the

³⁸⁰ Foster, Dr. John S. *et. al.* "Report of the Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack." US Department of Defense. 2008. 90.

³⁸¹ *Ibid.* 90.

³⁸² *Ibid.* 92.

³⁸³ *Ibid.* 90.

major global economic powers, would have devastating effects on the international scale. For all intents and purposes, in this capacity above all others, the “local” event of a nuclear EMP on the United States (when observed on a global scale) would replicate the snowball effect within the country’s borders to an as yet unforeseen degree across the world. With this in mind, it is apparent that the destruction of an EMP does not limit itself to particular infrastructures, but instead wreaks the most havoc against *infrastructure itself*. In other words, the level of resultant damage is immediately proportionate to the level of infrastructural connectivity of the targeted country, something that makes the United States, with its vast arrays of networks crossing great distances, a particularly vulnerable target. The commission’s report offers at the start a graphic representation of this interconnectedness, displayed in the figure below:

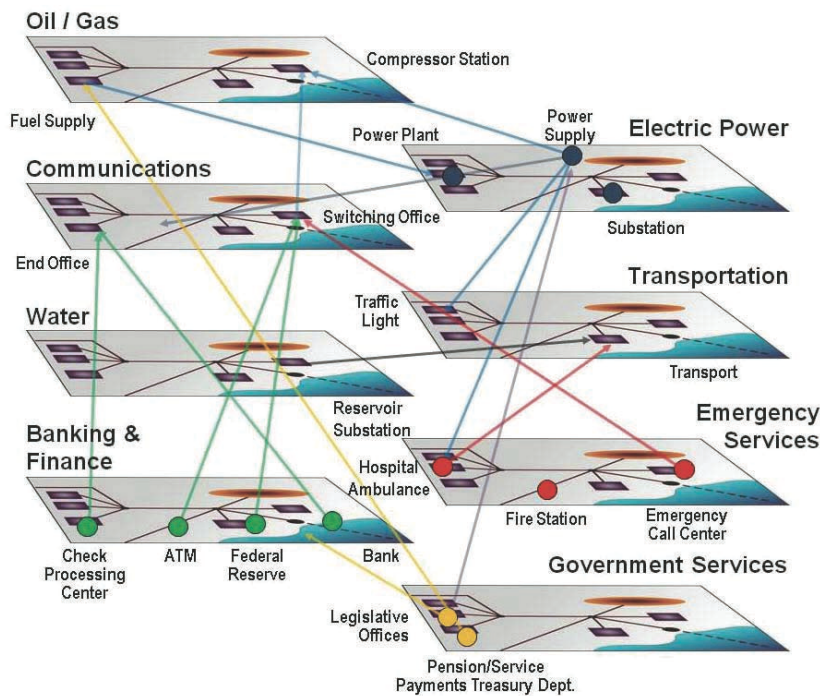


Fig. 17: Graphic representation of the interconnected infrastructure of the United States. This image is used to demonstrate the potential chain reaction that could arise were any single one of these infrastructural elements to be damaged or destroyed by an EMP burst.

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³⁸⁴ Foster, Dr. John S. et. al. “Report of the Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack.” US Department of Defense. 2008. 12.

As is made clear here, there exists no discrete infrastructure that possesses no critical connections the others. The very systems that give strength and efficiency to the United States in terms of accessible services and availability of information almost perversely opens it up to greater levels of destruction. This very point will serve later as a bridge regarding the transfer of this very material situation into the metaphorical and narrative sphere. With this in mind, it would be prudent to first turn to the second country in question, that being Japan.

3B. A Country Divided—Infrastructural Vulnerabilities of Japan

Given the highly industrialized nature of Japan, it serves in many ways as a parallel case to the United States in terms of its susceptibilities to an EMP attack, with all of the preceding discussion applying to it to a comparable degree. That noted, there are specific considerations to take into mind concerning the country, not least of which the physical layout of its power network. Japan's electrical grid is effectively divided into two major parts, positioned respectively in the eastern and western halves of the island. This would normally be of little note, at least in terms of the way that electric grids tend to be situated in terms of topography, that being that they are often divided into large sectors within countries of sufficient land area. What *is* noteworthy, however, is that Japan's grid is subject to a pronounced bottleneck across this division. Due to a combination of historical conditions and seeming complacency, these two regions have grids that generate power at both 50 Hz and 60 Hz frequencies, with the eastern region utilizing 50 Hz generators and the west using 60

Hz.³⁸⁵ To elaborate, this nearly even split is a direct result of governmental decisions reaching back to centuries, as in 1883, Japan's electrification began in earnest with the founding of the Tokyo Electric Light Company, which chose the 50 Hz frequency as its baseline. As electric requirements and needs increased with greater rapidity, the Japanese government purchased electric equipment from the German company AEG in 1895. As was the standard in Germany, this equipment functioned at the 60 Hz frequency.³⁸⁶ Over time, the deployment of these incompatible systems became highly regionalized, leading to the divided country as it remains today. This is in no way a typical infrastructural scenario: on the contrary, it is wholly unique, as Japan remains the only existing country in the world that operates with two conflicting electrical frequencies.³⁸⁷

In order for the country to adequately transfer electricity across this divide, it requires the use of specialized facilities that can convert the frequency of the input electricity to the frequency of the destination area. Japan does possess such facilities, but only three, positioned almost directly on the border region that separates the two grids.³⁸⁸ While this surprisingly small amount of stations is adequate during ideal conditions, the inherent instability of such a setup was placed into stark relief following the catastrophic Tohoku earthquake of 2011. This was the very earthquake (and subsequent tsunami) that decimated

³⁸⁵ Gordenker, Alice. "Japan's Incompatible Power Grids". *The Japan Times*.
<https://www.japantimes.co.jp/news/2011/07/19/reference/japans-incompatible-power-grids/#.XaonkC2ZPAI>
19 Jun. 2011.

³⁸⁶ Williams, Martyn. "A legacy from the 1800's leaves Tokyo facing blackouts". *IT World*.
<https://www.itworld.com/article/2744204/a-legacy-from-the-1800s-leaves-tokyo-facing-blackouts.html>
18 March 2011.

³⁸⁷ Topham, James & Aaron Sheldrick. "Japan's power failure: Bid to forge national grid stumbles". *Reuters*.
<https://www.reuters.com/article/japan-electricity-grid/japans-power-failure-bid-to-forge-national-grid-stumbles-idUSL4N0QI36720141021> 21 Oct. 2014.

³⁸⁸ Gordenker, Alice. "Japan's Incompatible Power Grids". *The Japan Times*.
<https://www.japantimes.co.jp/news/2011/07/19/reference/japans-incompatible-power-grids/#.XaonkC2ZPAI>
19 Jun. 2011.

the Fukushima Daiichi nuclear power plant, catalyzing both a national and global crisis in terms of potential fallout and containment failures. Lesser known on the global scale, however, was that the same earthquake knocked eleven reactors offline in total, resulting in a net loss of 9.7 GW of electricity within the eastern region of Japan.³⁸⁹ As standard procedure, this would lead to any unaffected areas rerouting electricity to the disaster zone as a crutch until native systems are restored. The critical issue here is that this response in any other case, save that of Japan, would operate within an electric grid of unified frequency, a luxury Japan's grid does not afford. The result was the three border conversion stations being overtaxed almost immediately due to such high electricity demands, with their combined functions only able to convert a fraction of the net loss from 60 Hz to 50 Hz in time. What followed was a protracted period of rolling blackouts that plagued not only the eastern region of Japan, but also made appearances in the western region due to a rebound effect from the imbalanced system. In short, Japan serves in some sense as a case study for the very dangers of a nuclear EMP blackout as articulated by the US Commission report, specifically its concern about the efficacy of supplementary power transmission following blackouts of sufficient size. Given the inherent imbalance of Japan's grid structure, all of the infrastructural vulnerabilities detailed in the US Commission report not only apply to Japan, but also, depending on the context of an EMP strike, could very well be *doubled*. This is to say that only one side of the country could be targeted, and yet the other could in turn be brought to the brink of collapse due to this imbalance, if not pushed over the line completely. Combined with Japan's moderate land size as well as it being an island (and thus made more

³⁸⁹ Williams, Martyn. "A legacy from the 1800's leaves Tokyo facing blackouts". *IT World*. <https://www.itworld.com/article/2744204/a-legacy-from-the-1800s-leaves-tokyo-facing-blackouts.html> 18 March 2011.

difficult to immediately reach in terms of aid even by a small margin), it finds itself in a very precarious position indeed in the face of EMP threats.

4. The End of Days – Government and Official Responses

Having illustrated the infrastructural and systemic vulnerabilities as well as the theoretical results of their failures, my aim is to now guide this topic back into the realm of narrative analysis, in this case looking to the tropes at play within governmental and popular cultural responses to this particular danger. While the approach will be familiar, comparing these cultural narratives to longstanding literary or mythic metaphorical systems concerning darkness, EMPs nevertheless bear special consideration. Whereas phenomena such as the deep web and numbers stations are charged with a sense of dread or inherent potential for harm, this is in part the result of a lack of understanding amongst the general public of the intent or material processes behind such structures. In other words, while one can directly encounter the deep web or numbers stations (i.e. anyone can download Tor or find numbers stations recordings online), the capacity for any resultant danger tends to be portioned off to highly contingent circumstances. For instance, if conjecture that numbers stations do in fact serve to facilitate espionage were to be true, then any potential harm could come to the listener in only a few extreme cases. Either they themselves are a target of these transmissions, and thus are more intimately woven into this network than most from the start, or the resultant action of such spy activity results in an act of mass military or terrorist action within a country. In this latter case, while the results could be quite deadly, the numbers station functions as a signal and not the event itself. Similarly, given that the deep web is more often than not associated with thievery, crowdfunded assassinations, and child pornography rings, amongst others, it too only serves (correctly or not) as a staging ground

for such activity to cross into the physical world. As articulated in the first chapter, while criminal activity does indeed play out on the dark web to a degree, criminality cannot be held to compose the *entirety* of the dark web, popular assumptions aside. As such, the dark web maintains its status as a neutral medium “darkened” by associated narratives.

This is not the case at all when it comes to EMPs, as they are the only phenomena examined here that could lead to mass casualties in a significantly more immediate fashion. While the argument could certainly be made that an EMP merely catalyzes precarious events (i.e. infrastructural degradation and failure), and as such it too is a sort of signal for following dangers, the potential scale of an EMP’s blackout is something quite unique to its capacities. Whereas numbers stations did not create espionage, and the deep web did not spirit into existence the formation of shadow organizations and crime, the type of destruction associated with EMPs really does stand alone in its scope and reach, save a natural disaster of a galactic scale. Compounding this issue is the fact that phenomena like numbers stations and the dark web assume their unnerving or frightening “darkness” from associations with relatively familiar realities. Spies and organized crime exist; pedophilia exists; cyberattacks exist. Hence, the ease with which one can tap into deep cultural narratives as a means to process the perceived dangers of these phenomena is clear, as I have demonstrated so far.

With EMPs, it is difficult to draw these kinds of associations, as a projected EMP attack on the United States or Japan would initiate an event that has only been seen quite rarely over the course of history. There have indeed been instances of country-wide (or nearly so) blackouts, most recently in India in 2012, in Argentina and Uruguay in June of this year, and a few months later in Java. Notably, the recent blackout in Uruguay was particularly intense, affecting the country in its entirety. What links the three of these

examples together, though, is the fact that they were all rectified within the span of a few days. And while this is not to downplay the serious and deleterious effects such widespread blackouts can have, even for a short period, they were not (thankfully) the result of permanent, system wide destruction of the grid. A total and consuming, near permanent darkness swallowing up a country all at once: *this* is a liminal event in terms of comprehension, and as such discussion of EMPs tends to default to the most fundamental narratives concerning darkness as a force of purgation, as I will discuss in due time. Moreover, to be susceptible to this darkness is less a matter of contingent or selective relationships (i.e. listening to numbers stations or seeking out disturbing content on the deep web) than unavoidable proximity. All one has to do in order to be threatened by an EMP is rely on electricity, and this inherent precarity is amplified by the lack of direct reference points other than the similar blackouts mentioned prior.

This particular purgative narrative is multifaceted, such to the degree that one might be inclined to conceive of them as a tripartite set of eschatological narratives: narratives of erasure, narratives of invasion, and narratives of violent renewal. To begin, I draw sources for this not from speculative fictions of the event, but instead back to government and official discussions of EMPs, as they tend to assume a baseline platform from which subsequent perceptions grow. Taking stock of the United States first, there have been several joint committee hearings regarding the growing threat of EMPs to the country, with several transcribed into written reports and made freely available to the public. I offer here five of them, spanning a timeframe from 1997 to 2015 as a means to chart any evolution in tone across the hearings over time. Firstly, the report from 1997 is particularly remarkable, as it proceeds overall with a tone of unsettling revelation. The overwhelming majority of the

hearing concerns itself with scientific testimony, all towards the apparent purpose of establishing EMPs as a significant threat to be considered. Within a few pages, a representative Owen Pickett refers to the study as “EMP phenomenology”³⁹⁰, an assuredly coincidental adoption of the philosophical term, but no less productive for such a coincidence. For the report does in fact read as a tentative step towards capturing the catastrophic essence of an EMP event, despite it claiming multiple times that such an event would have no direct point of comparison. It is Dr. Gary L. Smith of John Hopkins University’s Applied Physics Laboratory who makes an attempt to draw an analogue, referring to solar flare activity such as the aforementioned Carrington Event. That he refers to this event as “God’s EMP”³⁹¹ is of particular note, especially given the apocalyptic, bordering on religious framework into which EMPs are often placed within public discourse. The testimonies and prepared statements of the 1997 hearing are colored with a tone of justification, meaning that the aim appears to be an assertion of the valid existence of EMPs as a national existential threat, as well as developing methods of protection. This goal is plagued by an apparently formidable obstacle, however, that being proving the existence of a heretofore virtual possibility. In his prepared statement, Dr. Gary Smith takes special note to assure at the hearing that the EMP phenomenon is “very real”³⁹², perhaps necessitating after all the need for a phenomenology, as at best the committee can only piece together a functional idea from projected and prior experiences of a lower magnitude.

³⁹⁰ *Threat Posed by Electromagnetic Pulse (EMP) to U.S. Military Systems and Civil Infrastructure*, 106th Cong. 16 Jul. 1997. 4.

³⁹¹ *Ibid.* 30.

³⁹² *Ibid.* 52.

Moving ahead nearly a decade to 2005, the speculative tone of 1997 is markedly diminished in the later report. The hearing took place in the aftermath of the September 11th attacks, with tensions and fears regarding terrorism still running high in the American cultural consciousness. Specters of the then recent attacks permeate the report from beginning to end. However, any discussion of EMPs must remain speculative and focused on potential, so a diminishing of such a tone does not equate to full abandonment. The major difference in the opening statement is Senator Jon Kyl's direct assertion that EMP dangers are too often overlooked and that both "the public and Congress need to pay more attention to that danger."³⁹³ Taking this statement in concert with the formal title of the hearing, that being *Terrorism and the EMP Threat to Homeland Security*, at this point EMPs have transcended from being a nebulous potential from a post-Cold War period to an urgent (and much closer) threat. With the cultural dynamics and logistics of military defense having changed dramatically following the devastating terrorist attacks on the World Trade Center, the increased acuity towards infrastructural weakness can be seen even in this small utterance. Whereas the 1997 report seemed satisfied to keep the discussion largely within the sphere of governance (despite the myriad mentions of public devastation), that the 2005 hearing's opening purpose includes greater public awareness speaks volumes. Stunningly, on the next page, the report reveals that Sen. Kyl feels a sense of resentment towards the timing of the 9/11 Commission Report's release the year prior, claiming that it overshadowed 2004's EMP hearing and pushed it irresponsibly towards the background, thus implying its increasing sense of dire urgency.³⁹⁴ While the same fears of infrastructural collapse and related defense measures appear again, one section in particular stands out, that being Peter

³⁹³ *Terrorism and the EMP Threat to Homeland Security*. 109th Cong. 8 Mar. 2005. 1.

³⁹⁴ *Ibid.* 2.

Pry's concern over what appears to be a growing global justification of legitimacy towards EMP warfare. He claims that, based on his research, many countries, despite being concerned with EMP strikes, see EMPs as electronic warfare over nuclear, considering it to be a legitimate use of nuclear weaponry as it does not cause any direct casualties. Most notably, he makes reference to an (uncited and untitled, unfortunately) scholarly article from Japan that voices this very logic, claiming incredulity that a country so historically averse to nuclear warfare as a result of its first-hand experience would support such a method.³⁹⁵ Pry's concerns point towards an increased fear of "EMP Culture", in a sense, a situation similar to the Cold War's nuclear ubiquity, in which a growing permissiveness towards a falsely "clean" weapon of war will unlock the door for apocalyptic events. It is difficult to imagine from the vantage point of the present an attitude that would see a national blackout to be more humane alternative in war, and Pry's statement projects a quasi-dystopian world state over a frightening technology, a result of permissiveness or a false faith in technology upon which this chapter will expand later on.

Another significant takeaway from the 2005 report likewise relates to its historical moment, as there is a marked shift in concerns regarding access to EMPs. Rather than large state actors, the discussion of potential attacks largely focuses on access to EMP technology on the part of stateless terrorist cells³⁹⁶. This expands the reach of EMP strikes considerably, removing them from an easily quantified list of national actors and into a distributed network of untraceable agents who could be anywhere at any time. The conversation routinely makes claims of the ease with which any motivated group of people could construct EMP

³⁹⁵ *Terrorism and the EMP Threat to Homeland Security*. 109th Cong. 8 Mar. 2005. 6.

³⁹⁶ *Ibid.* 13.

generating devices of considerable force. Rather than an EMP strike presaging or heralding a subsequent invasion, it is as if EMPs give credence to an invasion already in progress.

Interestingly, while the report spends much time discussing the material ramifications of an EMP strike, well-trodden territory by this point, one paragraph stands out insofar that it shifts the target of an EMP from physical structures (indicative of earlier discussions) to one of will and spirit. When discussing the difference between an EMP attack versus a standard nuclear strike, Pry remarks:

Moreover, whereas the attack on a city could backfire in the sense of instead of breaking the will of the American people in the war on terrorism, it could just further enrage us and steal out resolve to project our military forces and use our strength to prosecute that war, when you think of, well, how could the terrorists possibly win the war on terrorism, this is one of the few options that is available for them to actually win the war on terrorism.³⁹⁷

As terrorism preys on the collective emotions of its enemy in tandem with its material assets, so too would EMPs strike at the emotional core of its targets. Beyond the mass destruction of infrastructure and concomitant loss of life, the killing blow of an EMP here is its ability to dismantle the resolve and character of the American people. It would seem obvious that within such a widespread zone of negation, deletion even, there would be an equitable sense of despair and panic, and this would threaten to collapse the spirits of those affected. What *is* unique here is that Pry's comment implies that an EMP strike would also negate the sense of rage that would spawn a counterattack, a rage seen following past attacks on American soil such as Pearl Harbor or 9/11, incidentally. It is as if in tandem with a material blackout, an EMP would do the same to the American people on an affective scale. This begs an interesting question: is this "American" resolve inherent to each American citizen, or does it

³⁹⁷ *Terrorism and the EMP Threat to Homeland Security*. 109th Cong. 8 Mar. 2005. 23.

only operate as a unified spirit, or both? If unified, does the shutdown of communication technology correspond to a waning of this spirit, or a complacency in the face of doom? While an EMP would certainly scuttle the ability to organize a coherent counterattack, Pry's claim to American resolve offer more curious questions than convincing answers. For now, what is important is that the narrative thread concerning EMPs has moved from a speculative anxiety to one of explicit cultural erasure and subsequent invasion.

Nevertheless, by the end of the report, the same assurances of adequate protections under development are made, and the overall tone is one of growing, yet tempered, fear. The same cannot be said for the report made in 2012. The introductory remarks make reference to a study carried out by Oak Ridge National Laboratory in 2010, one that showed that the United States is in no way functionally prepared to resist an EMP strike.³⁹⁸ Notably, the report reveals that the Department of Homeland Security at that time had yet to identify EMP strikes as a high-risk threat, and as such had not yet implemented it into a standardized set of planning-scenarios.³⁹⁹ While the report as a whole oscillates between detailed outlines of projected defensive measures and reiterated claims of potential danger, one testimony stands out due in part to its unique speaker. Amongst a plethora of scientists and government officials seen the prior reports, an amateur radio aficionado by the name of Nickolaus Leggett submitted a written testimony, claiming that his own private studies of EMPs have been ignored on the part of the FCC despite his earnest pleas. The end of his testimony discloses what appears to be an ulterior motive, as he frames the looming EMP threat as a reason to allow for free construction of amateur radio antennae “despite opposition of

³⁹⁸ *The EMP Threat: Examining the Consequences*. 112th Congress. 9 Sep. 2012. 1.

³⁹⁹ *Ibid.* 4.

homeowner associations, condominium managements, and rental landlords”⁴⁰⁰, his reasoning of course being that amateur radio would serve as a vital communication network following such an event, a not altogether incorrect claim in theory, but difficult to quantify in practice. It is a brief section in the middle of his testimony, however, that is the most eye-opening. Titled “Hostile Nations”, the section appeals to the “easily imaginable” thought that there exist several countries who would delight in the United States being struck by an EMP, an expected claim given that this very idea is the framework of the entire set of reports in the first instance. It is the following claim that is startling: “Also, the structure of the United States may become so shattered by an attack that other nations could actually colonize parts of the former United States.”⁴⁰¹ What could be easily written off as the uninformed projections of an amateur technician before the government fall resonate quite forcefully with the eschatological EMP narrative as a whole. The concern with this statement is thus twofold. First, the idea of EMPs opening the door for not just an invasion, but *colonization* of the United States scans as a direct evolution of the transition to the hypothetical invasion of terrorism as seen in the report from 2005. More than just paralyzing the infrastructure of the United States, Leggett sees EMPs as a door through which the country could be forcefully *transformed*, a violent renewal precipitated on death and emerging from quite literal darkness. This leads to the second point of note, that being that Leggett refers to the United States as the “former” United States here. Once again, like the will and spirit of the people, EMPs evolve from a material spectrum to a level of destruction that targets the conceptual boundary of the nation itself. This is not a unique claim either, in and of itself, as will be seen in EMP references from popular culture. What is significant here is that it appears within the

⁴⁰⁰ *The EMP Threat: Examining the Consequences*. 112th Congress. 9 Sep. 2012. 11.

⁴⁰¹ *Ibid.* 11.

scope of official governance, essentially inscribing it into the narrative development of EMPs at a genetic level, so to speak.

While a report from 2015 follows largely the same patterns of the prior ones, there are a few noteworthy aspects to mention before shifting focus. More than any other report, the 2015 report assumes an accusatory tone, taking aim at the perceived failures of the government at a bureaucratic scale as reason for so little progress having been made in terms of protections. After explaining the mechanical processes behind EMPs, Professor George Baker of James Madison University claims that absence of appropriate protections having been developed largely falls under the blame of hesitant financial stakeholders and a general lack of anyone willing to take charge.⁴⁰² Regarding stakeholders, Baker claims that an overall sense of incredulity has led potential investors to balk at the need for applying new provisions to EMP defenses, instead incorporating existing measures for large scale (but contained) blackouts at a projected scale. He argues that these isolated events cannot be seen as diminished EMP-like events on a geometric scale, referring to a process through which EMPs would cause a cascading and catastrophic series of failures that dwarf smaller-scale blackouts. Due to the lack of any organizational spearhead, he further claims that EMP defense is passed around in an attempt to avoid responsibility, thus ensuring that no strong case could ever be made to convince financial stakeholders that a solid plan is in place rather than its “random, disoriented and uncoordinated”⁴⁰³ present state. Essentially, Baker’s written testimony can be read within the context of a long line of “media-anxiety” here, specifically in that he expresses concern that the threat of technological collapse erodes a

⁴⁰² *The EMP Threat: The State of Preparedness Against the Threat of an Electro-Magnetic Pulse (EMP) Event*. 114th Congress. 13 May 2015. 19.

⁴⁰³ *Ibid.* 19.

veneer that obscures a level of decay and disorganization operating at a societal level. From Plato's cautionary tale of Theuth to Virilio's apocalyptic screeds about the terminal velocity of technology, Baker's claim finds a home amongst these fears, all related to the idea that an overconfidence in the solidity of electronic infrastructures presages a great fall.

Finally, the 2015 report makes several references to past large-scale blackout events (despite Baker's claims of false equivalence) in what appears to be an attempt to give the virtual threat of EMPs a greater sense of presence. The opening remarks refer to the infamous 1977 blackouts of New York City, an event that quickly devolved into a full-scale riot under the protection of a failed electrical grid. That these riots were largely catalyzed by eroding race relations as a result of increasing disenfranchisement and racism towards African-Americans in New York City largely escapes the speaker⁴⁰⁴. Nonetheless, this comparison sets the stage for the return of Dr. Peter Pry, who within his extended written testimony deploys a veritable fusillade of attempted and/or successful global terror attacks that specifically targeted power grids.⁴⁰⁵ In his spoken introduction, Pry also reveals that the EMP Commission of past reports had disbanded in the past, leaving a crucial void in terms of governance and preparedness. What is striking about Baker's and Pry's testimonies is their representative shift from certainty to doubt, not with regards to the exigency of EMPs, but instead towards an appropriate amount of attention given their way. While this entire selection of reports displays a consistently apocalyptic tone, the 2015 report's pleas are truly unsettling, insofar that they display a sense of desperation akin to the panic of one whose

⁴⁰⁴ As it also mysteriously does in David Nye's admittedly stirring book on major American blackouts, outside of a few cursory sentences.

Nye, David E. *When the Lights Went Out: A History of Blackouts in America*.

⁴⁰⁵ *The EMP Threat: The State of Preparedness Against the Threat of an Electro-Magnetic Pulse (EMP) Event*. 114th Congress. 13 May 2015. 30-33.

terrible fate has long since been sealed. In their narrative development, EMPs shift from an alarming but theoretical possibility to a casually ignored inevitability. Indeed, the trajectory of the United States Joint Commission reports do resemble a consistent narratological framework, one that aligns them squarely within a long-standing tradition that fastens darkness to destruction, or even the land of the dead. So much of the space within the reports concerns itself with what EMPs “mean” for the country, as if they are charged with far more than simply their material effects, instead signifying the end of days itself and listing a litany of sins by which this apocalypse was beckoned. They function as much as metaphors as material events.

Unfortunately, to analyze similar government responses from Japan is not quite as simple of a task, as very little exists in the way of publicly available documentation regarding discussion of EMP threats and proposed protections. This is perhaps somewhat unsurprising given Japan’s recently demonstrated approach to disaster response. After all, one of the greatest global controversies of the Fukushima Daiichi nuclear disaster arose from what was considered an inappropriately protracted response on the part of both the Tokyo Electric Power Company (TEPCO) and the government itself, leading to accusations of governmental cover-ups and intense criticism on the geopolitical scale⁴⁰⁶. That said, there is a wide gulf between an actual disaster and the virtual possibility thereof (a tension underlying the cultural position of EMPs at large, admittedly), so while transparency may be desirable in this regard, the ethical nature of this apparent obscurity is not so easy to assign. In any case, what information that *can* be gleaned about this topic largely stems from newspaper reports

⁴⁰⁶ For more on the historical precedent for this veiled approach as well as its connections to the Soviet cover-up of the Chernobyl disaster, see Olga Kuchinskaya’s book *The Politics of Invisibility*.

or interviews, a selection of which I have taken akin to my approach with the United States Joint Commission Reports. For obvious reasons of proximity alone, North Korea's opaque EMP threats at the end of 2017 ignited a flurry of reporting and discussion of EMP provisions in news media, but I will narrow my focus to two accessible reports concerning these relatively recent developments, hailing from one of Japan's major news publications.

An *Asahi Shinbun* article from September 9th, 2017, titled 北朝鮮言及の電磁パルス兵器、防御策を検討 菅官房長官⁴⁰⁷ includes a rare, direct statement on the part of the Japanese government regarding EMPs as an emergent threat. Delivered before a press conference, Kanno Uni states, “菅氏は「EMP攻撃が行われるといった万が一の事態の備えとして、国民生活の影響を最小限にするためにも、必要な対策について検討していきたい”⁴⁰⁸ While the U.S. reports (which are public documents) assume an increasingly apocalyptic tone throughout their course, Kan's statement could not be more banal and optimistic, assuring the public that the chances of such a strike occurring are virtually nonexistent (the idiomatic expression 万が一 translating directly to “one in ten thousand”). Granted, this type of rhetoric is commonly used so as to avoid stirring panic within the general populace, but it nonetheless provides a stark contrast to the expressive anxiety of the U.S. reports. While this might invite contingent discussion regarding the

⁴⁰⁷ “Chief Cabinet Secretary Kanno Uni on defense measures against the EMP weapons referred to by North Korea”

⁴⁰⁸ “Kan stated, “Concerning the preparations for the highly unlikely chance of an EMP strike, we would like to consider necessary measures to minimize the impact on citizen's lives.”

北朝鮮言及の電磁パルス兵器、防御策を検討 菅官房長官. *Asahi Shinbun*. The Asahi Shinbun Company. 9 Sep. 2017.

discursive functions of news media within various sociopolitical and national contexts, the difference here is absolutely remarkable.

But this is more clearly illustrated in another *Asahi Shinbun* article in which Takashi Onizuka, former director of the GSDF School of Chemistry, discusses the potential aftereffects of an EMP with surprising composure and resignation. He states:

何がどれぐらい被害を受けるのかではなく、全部やられてしまうのですから、復旧を最優先すべき重点インフラから書き出せばいい。個人レベルでは、常々懐中電灯を携帯するのは大事ですね。それと、移動手段として自転車は役に立ちます。EMPで壊れませんから。食料も1週間分確保していれば、3週間ぐらい食いつなげます。水だっているところに井戸がある⁴⁰⁹

Onizuka's advice regarding flashlights and bicycles is almost charming in its small-scale practicality, especially when compared to reports that illustrate the threat of mass scale death and subsequent colonization. In this light, one could easily read this as more palliative rhetoric as a means to stymie panic. That would entail, however, ignoring the first sentence of his remark, in which he calmly acknowledges the inevitability of complete national destruction. The contrast here is bracing: whereas the U.S. joint commissions were replete with proposed methods for preventing damage and upbraiding remarks concerning a lack of action in equal measure, the *Asahi Shinbun* articles indicate not only a patient approach to

⁴⁰⁹ "It is not really a matter of how much damage will be done, since everything will unfortunately be destroyed, so one can mark out the infrastructure whose restoration should take top priority. At the individual level, it is important to keep a flashlight handy in general. Also, bicycles are effective for transportation. They will not break due to an EMP. If one secures one week's worth of food, it can be extended to three weeks of eating. There are wells from which to draw water everywhere."

such development, but also a tacit resignation to the inevitability of dismantlement in the face of an EMP. This latter effect is not restricted to this single instance in Onizuka's interview.

A few paragraphs in, he states, “日本がやられたら世界の経済もしばらくはガタガタになります。そこから復旧を図るのに、電子部品の供給をタイなど東南アジアの先進国と融通し合える関係性を構築するのが大事です。”⁴¹⁰ Onizuka's long-term planning takes destruction as a given, instead looking productively towards restoration efforts by way of international relationships, again a marked difference from largely preparatory measures articulated by the United States. It bears mentioning that while there are a multitude of reasons behind this shift in tone, even taking into account a simple difference in personality, one cannot help but keep in mind the history of Japan regarding crises of this scale, specifically those of mass destruction. While the United States has never experienced the direct effects of nuclear warfare of events of its scale on its own soil, Japan has, at the hands of the United States, no less. Taking the U.S. Joint Commission reports as representative of government response, there is within them a distinct focus on preventative measures, almost isolating in effect, forsaking a focus on restorative measures on the citizen level. Invisible enemies, domino effect disasters: the American rhetoric is hermetic in tone, doomsaying for the unconverted. While this is not to claim that a focus on prevention or protection is misguided, the U.S. reports radiate a tangible fear of the unknown, the particular terror

⁴¹⁰ “If Japan were to be destroyed, the world economy would be rattled for some time. Even if a restoration plan is in place, it is important to establish a relationship with advanced countries in Southeast Asia such as Thailand in order to exchange electronic components.”

endemic to envisioning a level of destruction as yet unseen. Whether or not the obverse plays into the Japanese response must remain speculative, but that both Onizuka's and the Japanese government's responses approach the matter with a sense of deference is difficult to ignore, especially within the context of both the nuclear bombing of Hiroshima/Nagasaki as well as the recent nuclear disaster at Fukushima.

5. Virtual Reality – EMP References and Narratives in Popular Culture

In any case, for the purpose of tracing narrative representation of EMPs, popular culture offers perhaps a greater level of insight in terms of its ability to incorporate such phenomena into established tropes and fictional structures. While government reports and official responses work to reveal the faint narrative threads to the darkness “mythos”, so to speak, sources such as television, film, and video games can make these implicit connections explicit. Whereas the Joint Commission Hearings require no small amount of effort to uncover its narrative patterns, the following examples quite readily inscribe themselves into a narrative history that traces back to Antiquity, the most pronounced of any of the connections discussed so far. Returning to select points from the introduction of this dissertation, the earliest of creation myths established a cycle of death and renewal as personified by “dark” gods, ones who emerged from chaos and gave rise to the creation of light. Despite this, gods and goddesses such as Nyx were baneful beings, heralding destruction despite their association with renewal. Moving to biblical times, the cycle of purgation and renewal is well known in the stories of Moses' plagues (more on this shortly) and Noah, who survives the total destruction of the world as a punishment for rampant sin. My gambit here is that the following examples of EMP narratives resonate with this lineage, placing EMPs as one more apocalyptic example in the history of purging darkness. As with the dark web and electrical

maps of Africa, the stakes here are as follows: in identifying this narrative history, one can perhaps locate in this lineage a source of fear, and in turn a means to temper it. From this one may be able to approach the issue with a more productive perspective, one liberated from pernicious cultural anxieties. One cannot will away the destructive force of an EMP, but one can perhaps defang its image as a perverse divine punishment. I will outline these three examples first, and then draw them in to conversation with the narrative history I consider to be their primary source of inspiration, subconscious or otherwise.

Certainly, EMPs cannot be considered especially common flashpoints in contemporary media, but they nevertheless emerge dramatically when deployed for this end. One of the earliest appearances thereof occurs in the 1983 television film *The Day After*, which debuted on United States television to a massive viewing audience.⁴¹¹ Chronicling the days leading up to and through a Soviet nuclear attack on the United States, the film serves a triple purpose as a thriller, an anti-nuclear statement, and a less than subtle piece of anti-Soviet propaganda. It withholds the nuclear strike itself until roughly a third of the way through its running length, instead taking the first portion to establish pathos by chronicling the mundane lives of its characters living under the shadow of nuclear terror. The attack itself is brief but overwhelming, ostensibly in an attempt to replicate the immediacy of the actual destruction itself. Following this, the remainder of the film chronicles a country in rapid decline, displaying structural damage and human death in equal measure, from either the blast itself or the toxic effects of nuclear fallout.

⁴¹¹ Nielsen reports estimate that 62% of the US viewing public watched at least a portion of the movie on its debut.

What is significant about *The Day After* is that it briefly includes an EMP strike that precedes the targeted nuclear attacks themselves. Taking place while the populace rushes to leave the city following a warning, this strike is made with the explicit purpose of creating an EMP pulse, as the film depicts it exploding off-screen in the sky above a city, depicted only through its intense glow. Notably, the strike takes place in the middle of the day, causing the film to rely on a series of “tells” to demonstrate the EMP effects that thus require more specificity than if the scene were to take place at night. In the latter situation, as is the case with so many films that include blackouts, the simple image of lights simultaneously shutting off is enough to communicate a sense of urgency or terror. In a remarkable shift, *The Day After* attempts to transmit a fear of darkness in the middle of broad daylight, relying on enclosed rooms losing light as well as various electronic devices shutting down in equal measure. It displays a sequence of shots that show one device powering down after the next, and its specific choices are notable in their precision. In order of appearance, the film shows the following in rapid succession: the tachometer on a man’s car dropping to zero while in motion, three public clocks stopping (the third of which is a digital display going black), the lights going off in an office building (cutting away before any reaction shots), fountains in front of an office building shutting off, a movie theater going dark, an elevator stopping, a surgical ward losing power mid-procedure, a motorcycle stopping dead in the road, a panicked man exiting his now dead vehicle and running away from the camera towards the forest, and finally, a major traffic jam caused by the simultaneous malfunctioning of every car on the highway.

What is compelling is how much space in this sequence is devoted to the failure of transportation. Given the context that the citizens are already attempting to evacuate, the

EMP closes off all possibility via its wide-reaching effects, trapping people in place and immediately signaling the inherent precarity of technical reliance. From the first instance to the traffic jam at the end, it is as if the drivers are punished specifically for this reliance, unwittingly rushing to vulnerable positions for lack of a stronger survival plan. This point is driven home by the actual nuclear strike that immediately follows, blasting the drivers stuck in place with heat and killing them on the spot. While the proximal blast is the fatal stroke, the EMP and its concomitant “darkness” serves as the herald for destruction. Truly, there is something poetically resonant about the man who rushes from his car towards the forest, a metaphorical “return to nature” in the face of the technology’s veil of protection having been pierced. Besides the transportation failure scenes, the rest capture a wide spread of the infrastructural vulnerabilities detailed in the aforementioned government reports. Each short clip appears to correlate with a related structure: the office building representing commerce and finance, the clocks signaling a loss of sensible time, the fountain capturing the loss of water transportation, and the surgical ward representing the destabilization of medical services. In an instant the pillars of society crumble, and the encroaching darkness of the EMP opens the gates for the subsequent purge.

The Day After concludes with society after complete decimation, focusing on one of the few remaining characters vainly attempting to contact any other survivors following the nuclear holocaust. After having been crippled by the initial EMP, the infrastructural network of the country completely dissolves, in turn allowing the subsequent strikes to destroy society beyond any apparent hope of repair. However, in filtering this narrative through individual character stories, the film sets its sights principally on establishing an empathetic register, something all too typical for films with such a heavy pedagogical slant. *The Day After*

maintains its propaganda tone by attempting to strike fear into its viewers by way of such empathetic connection, transposing its chosen setting of Kansas and its inhabitants into a functional any-space-whatever/any-persons-whomever in the Deleuzian sense. The events of the film are thus easy to transpose onto the immediate surroundings of the viewer, in turn disturbing and alarming them in terms of bringing to light their own vulnerability. One would be hard pressed to claim that the film offers any sense of preparatory lessons, given that ostensibly the entire country lays in ruins by its finale. Instead, it emanates an almost nihilistic tone, one that lays bare the futility of all human achievement and relationships in the face of nuclear warfare. In this light, the EMP strike functions as a sort of stage-setting mechanism, producing a tableau that signals not just the diegetic events to follow within the film, but also the inevitable destruction and erasure of humankind in the nuclear age. It is darkness as the horrible purifier, descending on the world before the cleansing fires follow, and it is utterly inescapable. While one could perhaps read the film as attempting to compel the viewer to reject nuclear weaponry as a concept, that the film displays a Soviet strike *during* the Cold War complicates this admittedly seductive approach. Through the lens of Cold War nuclear panic, disarmament would protect the American populace as much as the cars in which the victims of the second bomb strike sit: not at all. And the realism of this depiction aside, the eschatological tone of this film, almost theological in scope, is no accident in its delivery. Returning to the man who flees his car for the forest, a knowing look of fear in his eyes, it is if his reliance on technology as some sort of grand mistake, some fatal sin made immediately apparent, sending him sprinting towards nature itself. Human technological progress is purged and revealed in one instant to have been utterly futile, and

the world is then violently reconstituted. As with Nyx, Chaos, etc.: disorder and darkness gives way to new creation.

Equally dramatic in scope, but deployed for different narrative effect, is the EMP strike that occurs at the climax of Infinity Ward's first-person shooter game *Call of Duty: Modern Warfare 2*. Much like *The Day After*'s wide reach in viewership, the popularity of the entire Call of Duty franchise bears significance here. *Modern Warfare 2* found the series at its arguable zenith in terms of cultural significance, arriving as the second in a meta-series trilogy within the franchise as a whole. Within the first twenty-four hours of its release on November 10, 2009, the game reportedly sold around 4.7 million in the United States and United Kingdom alone, cementing it at the time as the largest debut in the history of video games as a medium.⁴¹² The first entry, *Modern Warfare*, was considered a revolution in terms of design and cinematic narration, gaining great notoriety and significance for its showpiece level titled "Shock and Awe", in which the player character experiences a nuclear blast within the immediate range of the explosion, then forcing the player to crawl along the ground in the death throes of heat and radiation exposure. The scene was met with suitable controversy and acclaim in equal measure, perhaps what led the team at Infinity Ward to double down on its effects in *Modern Warfare*'s sequel.

A mission titled "Second Sun" serves as the narrative climax of *Modern Warfare 2*, starting by placing the player behind the visor of an International Space Station crew member on spacewalk. After relaying a series of strange findings, a distant but massive explosion erupts in the upper layers of the Earth's atmosphere, sending a shockwave that obliterates the

⁴¹² Johnson, Robert. "Call of Duty: Modern Warfare 2 destroys records in first day sales rampage, pulls in \$310 million". *nydailynews.com*. <https://www.nydailynews.com/news/money/call-duty-modern-warfare-2-destroys-records-day-sales-rampage-article-1.417049> 27. Nov. 2009.

space station itself and blows the player character into space. The scene admittedly plays as an almost cynically hyperbolic reimagining of the nuclear blast from the game's predecessor, a disturbing and empathetically charged loss of life replaced by the wholly unrelatable first-hand experience of a dying to a nuclear bomb *while floating in space*. Criticism aside, the blast itself merely serves as staging for the events to follow, as it is shortly thereafter revealed that the explosion was a calculated strike by Russia (yet again) as a means to create an EMP pulse over the United States. The game descends into the view of a soldier on the ground, thrust suddenly into blanketing darkness with only the fires created by warfare to serve as sources of light. *Modern Warfare 2*'s gameplay is positively drenched in electronics, serving as much as a military tech exposition as video game. The player is routinely reliant on a multitude of media-technologies, such as camera systems, communication platforms, and a night vision visor for dark environments. In "Second Sun", the comfort and reliability of all of these devices is immediately dismantled, as the EMP causes all electronic equipment and systems to promptly malfunction, including the very night vision visor the player until this point has likely used in order to illuminate dark areas for more effective play. There is a neutering effect to the event, coupling the inherent tension of the dark environments with the shocking revelation of just how much one relies on these systems to succeed within the scope of the game's combat. In this sense it finds some conceptual camaraderie with *The Day After*'s EMP scene, a string of electrical failures that cause instantaneous frailty on the part of its victims.

The level itself is structured in suitably tense form given its contextual setting. Where once enemy soldiers were relatively easy to spot amongst their spatial settings, they now emerge from shadows, forcing the player to readjust to a newfound lack of visual

clarity. As fire becomes the principle source of illumination, enemies are revealed only in flickering light, melting into backgrounds and instilling greater intimidation with their newly predatory status. Granted, the game appears to adjust the enemy AI to this setting as well, making them relatively more inaccurate than usual and creating an overall sense of hysteria to the ordeal, even amongst the opposing soldiers who were ostensibly well aware of the EMP blast to come. Where *The Day After* attempts to convey its message through a sense of empathetic terror, a carefully selected string of images that ask the viewer what they would feel in the face of losing all power, *Modern Warfare 2* makes the player deal with it directly, forcing them to readjust their perception and tactics within the newly dark environment. Furthermore, its comparatively more frightening set of enemy soldiers is conditioned by this darkness as well. Moreover, this entire scene takes place in Washington D.C., an assuredly conscious design choice that effectively deploys an EMP to shut down the nerve center of the United States (a contrast to the strike on the American heartland in *The Day After*). In *Modern Warfare 2*, darkness veils the successful Russian invasion of the United States, signaling the actuation of a Cold War fear come to pass years after it should have been long since buried by the fall of the Soviet Union. If *The Day After* deploys an EMP as a metaphorical bridge to a narrative of destruction and erasure, the narrative of invasion is all too apparent in *Modern Warfare 2*, adhering to the well-trodden (and pernicious) trope of a creeping darkness obscuring a threatening multiplicity, notably that which informs the history of “Darkest Africa” as discussed in Chapter 2. As the shield of light collapses, the Russian soldiers swarm under the veil of darkness, newly threatening despite the player’s eventual (and required) victory.

In terms of a sense of renewal following a purge, a Japanese source perhaps expresses this with more force than any other. The anime series *Terror In Resonance* ends with a terrorist created EMP strike on Tokyo, and the entire series builds up to that point with allusions both subtle and direct. The narrative twist of the series is that it selects the terrorists as the sympathetic protagonists of the story, creating a truly disarming inversion to standard narratives of its type. For a series that ended with only eleven episodes, its plot is remarkably complex and entangled but its fundamental thrust can be summarized with some simplicity. While the show contains several major characters, its arguable focal point (taken to mean the characters who set the attack in motion) are two young men who go by the names Nine and Twelve, both of whom are embittered escapees of a government medical operation dubbed the “Athena Project”. An attempt to artificially induce savant-level skills in orphaned children, the process proved fatal to the overwhelming majority of the children, save one survivor and two children who escaped, Nine and Twelve respectively. The two develop a plan to set off multiple nuclear bombs in Tokyo, disguising themselves as a terrorist organization named Sphinx and communicating to authorities with cryptic videos online. While they do not achieve the goal of directly bombing Tokyo by the series’ end, they are in fact essentially successful, insofar that they manage to set off a nuclear bomb in the sky and destroy Tokyo’s electronic infrastructure via an EMP. Sphinx serves as a figure of revenge, to be sure, but their stated goals in their videos allude to an attempt to cause Japan to “wake up” to some sort of new consciousness or order, ostensibly to face the social configurations that would lead to such a brutal program of child experimentation as the Athena Project in the first place.

Before discussing the show's artistic depiction of the EMP, it is worth noting that the series is bookended by blackouts, as in the first episode, Nine and Twelve set off a small bomb that causes a temporary blackout throughout Tokyo. After announcing that the city will be "enveloped in darkness" as if it were a weather report, the episode shows several quick scenes in line with *The Day After*'s model: lights in rooms going dark, traffic lights going off, crowds of people stopping in their tracks collectively. This blackout, however, is never treated as anything other than a minor nuisance, and it is remedied as quickly as it sets in. While the show does depict characters as surprised and slightly unnerved, it establishes a dichotomy between this blackout in question and the EMP that goes off in the final episode. What is notable is the manner in which the first even serves not only as a bit of foreshadowing, but also establishes a sense of scale for the climactic EMP strike. In the first instance, despite its disruptive presence, the blackout serves to reinforce the dominance and protective function of light and electricity: at no point do the characters fear that the lights will not in fact come back on.

The EMP-generating nuclear strike in the final episode offers no sense of security. There is little ability to overstate just how much *Terror In Resonance* indulges in sublimity during this scene, portraying the blast as both overwhelmingly horrifying as well as disarming in its beauty, appearing to focus more on the latter aesthetic dimension. After a frantic (and ultimately failed) attempt to stop the bomb's detonation on the part of the Japanese Self-Defense Forces, the bomb erupts into a golden glow in the night sky above Tokyo. Sound-tracked by a hymnal choir, onlookers stare up at the glow in fear, but are placed in such a way that alludes to images of devotion. There is nothing in the way of panicked behavior or action, a stark contrast to both *The Day After* and *Modern Warfare 2*.

Instead, *Terror In Resonance* places its citizens beneath the glow of a sublime force, paralyzing them under its radiant beauty to the religious music. As the general populace stares at the explosion in rapture, Twelve and Lisa (a love interest and recruit into Sphinx's plans) clasp hands as tears stream down the young girl's face, overwhelmed by both the intensity of the explosion as well as the dawning of a new order in its wake. Indeed, the show shifts to the following morning, wherein the streets of Tokyo are all but deserted, abandoned buildings and dead electronics framing the empty streets. Nine, Twelve, and Lisa are then seen kicking a soccer ball with joyful abandon, finally free of the societal structure that once oppressed them, or at the very least, Nine and Twelve. It is as if a new world has opened up for them, and they have their long-sought freedom due to the EMP's slate-wiping effects. The contrast in images is quite striking, as the soccer scene, with all of its levity and idyllic nature, nearly erases the memory of the barren city from a few seconds prior. And yet the ruined city persists, a shocking reminder of the terrible price of freedom from the former order.

Whether or not *Terror In Resonance* expects the viewer to remain wholly sympathetic to Nine and Twelve despite their plainly terroristic actions is at best perplexing, but this is perhaps the intention. By framing the liberation of Nine and Twelve within the context of nuclear weaponry and infrastructural collapse, the show appears to call into question the drastic lengths to which humans collectively must go to undo the oppressive inclinations and trappings of the established order. Through this lens, it is more condemning of the debased morality of the world than the actions of Nine and Twelve themselves, effectively proposing an apocalyptic scenario as a reliable catalyst for the awakening its main characters seek, if not the *only* reliable scenario. Herein lies the doubled terror: where the EMP event and

subsequent destruction of Tokyo is the principally terrifying incident, its aesthetic depiction as a revelatory and cleansing event attempts to bring forth the inherently terrifying hopelessness with regards to any sort of redemption outside of such a disaster. In other words, the EMP serves as the just payment, the divine retribution for unforgivable sins and a chance to start anew. As such, *Terror In Resonance* traces an archetypal eschatological framework onto the EMP, articulating it as not just an erasing or invasive force, but also one that is *earned*.

6. Analyzing the Invisible

Of course, the prior examples cannot be taken as exhaustive, as EMPs do appear in other media, and references to them grow with each passing year in proportion to their growing danger. Of particular note is the growing use of EMPs in video games as positive user abilities or attacks. Ranging from racing games to first-person shooters such as *Overwatch*, EMPs are often associated with the technological elite, and they are deployed for disruption and immediate player gain. While the lack of these is in part a consideration of sample selection and curation, I attest that the aforementioned examples are representative of the most archetypal narrative and through which EMP's are filtered in almost every instance: erasure, invasion, and renewal. As I have suggested at times throughout this chapter, these three narrative thrusts carry a particularly resonant relationship with apocalypse narratives at large, but I will propose that the specific nature of EMPs inscribe them into a highly specific mode of narrative and metaphorical deployment. In the first part of this chapter, my summary and outline showed the very material ways in which an EMP could initiate massive collapse, bolstered from scientific primary sources amongst. Within this field of knowledge, to fear EMPs would be a responsible attitude to a certain degree of attention. Nevertheless, even

amongst the plethora of predictive reports and historical data (the latter of which can only truly claim the Carrington Event and the Starfish Prime tests to its name), this “certain data” simply does not exist. In other words, as information about EMPs grows, the lack of experiential and direct data, the mystery at the core of the event, becomes equally more pronounced.

To elaborate, beyond the apocryphal data of the Carrington Event and the single recorded high-altitude nuclear test on the part of the United States, there exists no first-hand data of what an EMP strike would entail, and the two aforementioned incidents are particularly dated in terms of the progression of technological development. While the handful of US Joint Commission reports discussed testing and experiment data, they were restricted to single electronic systems at a time by nature of practicality and accessibility, only then expanded to larger scales based on modeled data. The actual scope of an EMP strike on a country, one that strikes multiple systems in simultaneity under the myriad mitigating conditions of everyday life (position of blast, altitude, topography of affected area, density of electronic systems, proportionate ownership of handheld versus larger electronic devices, devices being turned on or off, etc.) is difficult to accurately capture within a predictive simulation. Nuclear blasts, for instance, are subject to the same type of predictive modeling. But in the history of the nuclear bomb, there *have* been two direct applications of the device towards their intended use, to horrifying results. On top of this, nuclear tests on the field were once quite common, and they offered direct visualized data of blast effects, maximum heat, luminosity, etc. As a functionally inverted effect of all of this, an EMP cannot truly be modeled outside of setting off an EMP of sufficient size over an electronically dense area, something that Starfish Prime did inadvertently in part, and yet

offered little in the way of tangible or permanent effects. The point remains that all discussion of EMP disasters in the first instance must remain speculative. We can *assume* with relative confidence what it would be like to experience such an event, but total national or global apocalypse remain inherently distant concepts in terms of relatability. Where speculation reigns, especially in terms of frightening scenarios or possibilities, metaphor and even mythologization can easily take hold, thus giving the inexplicable a relatable narrative form. Hence, you end up with a cartoon that attaches an EMP burst to symbols of the Rapture, creating a new kingdom on Earth.⁴¹³ An added risk of this process is the development of panic and hysteria, something the *Asahi Shinbun* attempted to assuage.

In fact, there actually have been several instances wherein United States government organizations have directed research towards nullifying the growing hyperbole and terror endemic to the growing cultural consciousness of EMPs as an existential threat. They just did not arise from the openly panicked exchanges of the Joint Commission Hearings. A report written by the Metatech Corporation⁴¹⁴ for the Oak Ridge National Laboratory in 2010 directly states as its purpose a summary of EMP processes as both a way to educate the uninitiated as well as dispel prevalent and pervasive myths and misunderstandings concerning its threat. It states in its introduction:

The U.S. military has taken E1 HEMP very seriously for a long time, including hardening and testing efforts. On the civilian side, the problems have not really been addressed. There has been a wide range in the perception of E1 HEMP as a threat. There are skeptics – those that think E1 HEMP does not exist, or that the models are wrong, or the field levels are not as bad as calculated. There are also those who believe we cannot do anything about it –

⁴¹³ The converse works here as well. Where this kind of eschatological narrative helps to capture the “essence” of an EMP strike, so too can an EMP strike aid the development of this longstanding narrative conceit.

⁴¹⁴ Located in Goleta, CA

if it happens we will just have to deal with it then. Then there are others that think every electronic device in the country will fail, and we will go back to the Stone Age. There are many such exaggerated scenarios; for example, it is doubtful that more than a very small fraction of vehicles will suddenly stop working – but how long will they be able to run with gasoline supply disruptions from possible electric power grid problems?⁴¹⁵

There is much to unpack in this single paragraph alone. To start, it is illuminating (and refreshing) to see a report that even acknowledges the effect of such information on the public consciousness, something almost entirely absent from the U.S. Joint Commission reports at the very least (reports that Metatech references throughout the body of their own). That it alludes to EMP skeptics, something of a non-presence in the aforementioned reports, is interesting in and of itself, as the rhetoric surrounding EMPs is one of increasing certitude, far away from the persistent debates over something like climate change. That said, the progressive shift in the Joint Commission reports towards pleading a case for attention underscores the possibility that this very skepticism was at play within the U.S. government itself at the time of the testimonies. Further, Metatech's acknowledgement of an element of resignation takes on added significance when placed against the Japanese responses to the threat, particularly those of Takashi Onizuka. As far as Metatech is concerned, apparently, such an attitude falls under the same umbrella of both skepticism and hyperbole, suggesting that it fails to grasp the total scope of the dialogue (in this case by ignoring the actual progression of events and anticipated success of immediate defense maneuvers). Still, it is the derisive take on disastrous thought that offers the most compelling information, as it directly targets erroneous aesthetic renderings of EMP strikes that have invaded the cultural consciousness, in their eyes. Of note is their succinct negation of *The Day After*, plainly

⁴¹⁵ Savage, Edward, James Gilbert & William Radasky. *The Early-Time (E1) High-Altitude Electromagnetic Pulse (HEMP) and Its Impact on the U.S. Power Grid*. Metatech Corporation. Jan. 2010. 1-2.

disputing the film's climactic scene in which the simultaneous malfunction of cars leads to a death trap from the direct nuclear strike that follows. By following up this assertion with a plausible danger on the infrastructural level, Metatech appears to suggest that much of the inflated rhetoric surrounding EMPs stems from an expected transfer of a vast infrastructural danger to the immediately individual stratum: it is the malfunction of one's personal property that heralds destruction, ignoring the network collapse that would only show its eroding force within the days to come. But even this is met with an overdetermined infrastructural scope on the part of civilians, as evidenced by their claim that there are many who inordinately believe that an EMP will cause an immediate collapse and return back to "the Stone Age", a functional reset in terms of history and time itself.

It is this "extremism", in their words, that appears to be their primary target. The bulk of the following report lays out the processes and dangers of EMPs once again in exacting detail, but its appendix once again devotes attention to what it deems to be "EMP myths". Ironically, much of this section actually works to instill more fear into the reader, as the majority of the myths take the form of contesting misplaced ideas of safety with regards to small devices and the safety of unplugged equipment.⁴¹⁶ However, the appendix begins with a particularly resonant claim that directly alludes to the ultimate lack of macro-scale data. The report states, "Some general emphasis of comments fall into either "the world as we know it will come to an end" if there is a high-altitude nuclear burst, or the other extreme: "it's not a big deal, nothing much will happen." Since we really have never had a nuclear burst over anything like our current modern infrastructure no one really knows for sure what

⁴¹⁶ Specifically speaking, smaller devices may be in danger due to a destructive accumulation of heat from the pulse, rather than direct overloading of circuitry, and that damage can still occur within unplugged electronic systems, albeit rarely.

would happen, but both extremes are not very believable.”⁴¹⁷ In the end, Metatech takes a position of carefully considered speculative doubt, something that it suggests is the most responsible path when navigating EMP discourses. While one should be healthily concerned and take knowledgeable measures of protection, one must avoid lapsing into unproductive hysteria. While this is, of course, an honorable path in the face of any unknown danger, Metatech seems to underestimate just how frightening the unknown can be on a purely affective level. Suspending the ability to focus cognitive or rational attention on a containable concept, the human mind fails to attach its primary affective response (in this case, fear) to a cognitively quantifiable object: an EMP will always remain just out of grasp in knowability, and thankfully so. This is what allows such “myths”, or metaphors, to spread so profligately, by Metatech’s own distinction. As another almost humorous example thereof, it is apocryphally said that the United States Air Force hired Bill Nye to create an educational video titled “Hollywood vs. EMP” for its soldiers that explains the difference between the realities of EMP strikes versus their increasingly aggrandized portrayal in entertainment media. Unfortunately, this video was never made available for the general public in any form, but that it ostensibly exists within this military framework suggests a splitting within the struggle against EMPs: the EMPs themselves, and an increasingly disabling imaginative function at work (something also seen at hand in the doubled arguments of the Joint Commission reports as well.)

The point here is that the lack of experiential data with EMPs leads to a speculative nexus that allows (if not promotes) a runaway inflation of its potential danger. While I have

⁴¹⁷ Savage, Edward, James Gilbert & William Radasky. *The Early-Time (E1) High-Altitude Electromagnetic Pulse (HEMP) and Its Impact on the U.S. Power Grid*. Metatech Corporation. Jan. 2010. A.1

argued the deleterious effects of this kind of runaway narrative construction and fear in terms of comparatively benign phenomena like the dark web, it must be remembered that EMPs *do* possess destructive power. The aim here, then, is to question what about them facilitates their connection to the greater lineage of darkness narratives, outside of their obvious material connection to darkness itself. The obvious and stark difference here is that while the deep web or numbers stations possess a symbolic attachment of darkness, EMPs deal in actual darkness, thus changing the grounds for their metaphorical deployment. Furthermore, they are also effectively the latest development in a longer narrative of concerns regarding weapons of mass destruction, such as nuclear weapons, chemical warfare, and weaponized disease. In many significant ways, the current panic over EMPs mirrors the nuclear panics of the Cold War, during which a nuclear strike was considered universally imminent (not without some reason) and was met with hyperbolic narrative projections and almost cynical attempts at self-preservation in equal measure. Once again, it is critical to note, though, that these particular vectors of mass death have all either seen practical deployment towards their intended purpose or similar events on the same scalar level. The gas warfare of the WWI trenches, the Spanish flu pandemic (amongst others), the bombing of Hiroshima and Nagasaki: each of these events has scores of evidence to their names, narrative and visual alike. In this sense, fears of their effects are grounded in directly proportionate data and visualizations, despite the fact that the overwhelming majority of those fears are held by people who have never directly experienced them. Testimony persists, and offer a bridge to the lived experience of such disasters.

But how can one visualize ultimate darkness, a kind that swallows up an entire country as far as the eye can see, and, critically, continues ceaselessly? Furthermore, how can

one comprehend the experience of effectively total disconnection within the scope of contemporary system integration. While I argue that Metatech is correct in their challenging of myths (specifically that of vehicle malfunction), it is also insightful in its acknowledgement of the true threat being the failure of larger systems outside of immediate property. Indeed, these fictional images and myths are so transfixing that some have argued that the cultural focus on EMPs has blinded the public to the true threat surrounding their deployment. An article by Medium titled “The Overrated Threat From Electromagnetic Pulses”, Matthew Gault shifts Metatech’s main thrust, claiming that given the lack of EMP testing both for defensive and offensive measures, the lack of data actually leaves little chance for an EMP even being successfully deployed in the first instance. While this perhaps is the very type of dangerous skepticism against which Metatech cautions, the article makes a particularly thoughtful claim shortly thereafter, asserting that at heart, fears towards EMPs work to obscure the reality that a country hit by such a strike would officially be a country set to engage in direct nuclear conflict, if not already in the throes thereof. Hence, the EMP itself would be the last of a country’s worries if the immediate destruction of nuclear weaponry was set to follow, a doubled assault captured in *The Day After* no less.⁴¹⁸ In claiming EMPs to be “overrated”, Gault appears to argue that they have reached prominence through the shock of the new, a fashionable threat that obscures the age-old menace.

While I too hold interest in this hierarchization of responses, I separate my argument from Gault’s here, for reasons outside of his apparent flippancy on the matter. Instead, I propose that EMPs hold court over a particularly powerful territory within the processes of

⁴¹⁸ Gault, Matthew. “The Overrated Threat From Electromagnetic Pulses.” *Medium*. A Medium Corporation. <https://medium.com/war-is-boring/the-overrated-threat-from-electromagnetic-pulses-46e92c3efeb9> 24 Jul. 2016

metaphorical deployment. Given that the prescribed and speculative darkness of an EMP ultimately delineates a limit of experiential understanding, and coupled with the fact that its deadly force comes not from the physical destruction of the body itself, EMP-related death (in this case taken to mean a blackout to the scale of a country or large proportion thereof along with a dispersed area of damage across multiple technological strata) is ultimately a void of unknowing, especially were one to be released without a related nuclear explosion. Furthermore, rather than principally erasing physical structures in the way that either nuclear or conventional bombing would, an EMP possesses an even greater threat to erase *culture*, deleting vast amounts of data, financial structures, and communicative capabilities to facilitate said culture. For a thermonuclear bomb to achieve this result in a country as large as the United States, it would take significantly more than one attack to have a culturally destructive effect to the same degree as an EMP. Keeping Dr. Peter Pry's remarks in mind, the potential for a physically destructive strike maintains the potential ability to strengthen national and cultural character, whereas an EMP would work to erase it. Because of these aspects, there is a terrifying finality to speculative narratives of EMP events, lifting it to an almost metaphysical level, and under such conditions, where experience and explanation fail to capture the totality of a concept, absolute metaphor steps in, following Blumenburg's theory.

As such, I argue that EMPs trigger a particularly dense fear towards total darkness via disconnection, a hypothetical severance of all technology that facilitates a metaphorical attachment to a particularly long-standing and mythic cultural narrative: the plague of darkness. I would note here that this claim opens up several strange questions, the most important being whether or not this would suggest an unconscious death drive akin to that

principally outlined by Freudian psychoanalysis. In other words, does this claim suggest either a cultural affinity towards death or a fundamental apocalypse narrative residing beneath all cultural operations as an engine. I do not claim that to be the case here, but instead argue that EMPs serve as an unexpectedly resonant phenomenon in relation to the earliest known metaphorical framings of the concept of darkness, both as a narrative device but also an ontologically charged mythic trope. I also do not claim here that this narrative is *always* brought to mind consciously when synced to the concept of an EMP. In certain cases, such as *Terror in Resonance*, the allusion to a purgative darkness plague seems all but obvious in intention, but in others EMP can serve to trigger the activation of this dormant cultural trope, so to speak. I argue that it is due to this latter effect that EMP narratives often fall into their unique trifold of erasure, invasion, and renewal as a single unit rather than addressing them separately. The darkness plague myth tends to be articulated as a composite narrative of these three aspects. As with the selection of examples used to demonstrate cultural responses, I will select the most prominent example of these mythic narratives as a measure of specified curation over an exhaustive taxonomy, and yet I argue that the metaphoric relations at play exceed mere circumstance.

The most direct example of a plague of darkness comes from the Bible, in which God deploys a literal plague of darkness as punishment for the maltreatment of the Jews on the part of Egypt. The pertinent passage reads as follows:

Then the Lord said to Moses, “Stretch out your hand toward the sky so that darkness spreads over Egypt—darkness that can be felt.” So Moses stretched out his hand toward the sky, and total darkness covered Egypt for three days.

No one could see anyone else or move about for three days. Yet all the Israelites had light in the places where they lived.⁴¹⁹

As one of the ten plagues of Egypt, the plague of darkness is framed as one of the most severe, swallowing the land and severing all interaction and motion between the Egyptians. Rather than panic and resistance, the plague causes stasis, a paralysis of action that stops the kingdom in its tracks. Of note is how this particular darkness is one “that can be felt”, immediately framing it as distinct from a “natural” darkness, such as the kind that occurs regularly at nightfall. It is a blanketing darkness, one that invades and erases all connection for the length of its period. Notably, of the ten plagues, darkness is the ninth, arriving shortly before the final plague in which the firstborn of every Egyptian family is slaughtered by the Angel of Death. In this sense, darkness serves as the herald for the holocaust to come, a calculated loss of life that is reaped as if a crop or tithe. This economic relationship is also significant, as the death of the firstborn is framed as the ultimate price for the Egyptian’s ongoing abuses and sin. Along with the other plagues, darkness serves as a signal for a moral debasement on the part of the Egyptians, a cultural catastrophe that meets equal recompense in the personal catastrophe of death. This reading is reinforced by the passage’s mentioning of the Israelites, noting that in their homes and living areas light persisted, illuminating them as the chosen and blameless people. That said, the passage suggests that the darkness cast over the Egyptians is so thick that they would not even be aware of such enclaves of light, thus the engulfing peril of situation.

The biblical plague of darkness actually stands as one of the only direct narrative encapsulations of such an event, the genetic line of its symbolism arising in claims of

⁴¹⁹ Exodus 10: 21-23. *The Holy Bible, New International Version*. Biblica, Inc.: 1973.

darkness sweeping the land or standing in as an aesthetic backdrop for morally degenerate societies, the very kind of metaphors explored earlier in this project. Prior to this, the only existing deployment of darkness to similar effect is within the Greek underworlds of Erebus and Tartarus, hearkening back to the introductory chapter. It is The idea of moral recompense likewise finds home here, as both Erebus and Tartarus were manifestations of the afterlife designated entirely for immoral or aberrant people. The darkness of both realms served both as their primary aesthetic signifiers as well as their main source of punishment. I argue here that this framework of moral justification is critical to the metaphorical operations within EMP fears. At the moment, I would like to highlight the immediate aesthetic resonance between these mythical/theological depictions of such total darkness with the descriptions seen in the aforementioned fictional examples of EMP narratives. By nature of EMPs largely deployed within the narrative context of war, they are almost always charged with the tone of righteous conflict, in which one side uses dramatic measures to blot out its enemy. While this would seem discordant with the passage from Exodus, insofar that it is told from the perspective of the eventual victor versus the victim as with *The Day After* and its like, this reflexive shift is indeed significant, and I will elaborate on this shortly. For the moment, I wish to concentrate on how in the prior three examples, much like the biblical plague, the darkness of the EMP serves as a herald for death in each case. *The Day After* is the most obvious of the three in this case, wherein the EMP traps citizens in place and causes them to be vulnerable to the following nuclear strike. It is still worth noting the issue of stasis here, as both Egypt and Kansas are frozen in place, unable to escape the erasure to follow. *Modern Warfare 2* forces the player to experience the EMP while in direct armed combat, and as such the player is surrounded by death catalyzed by the EMPs exposure of systemic

vulnerabilities. While there are no direct scenes of Tokyo citizens dying following the EMP strike of *Terror In Resonance*, the city itself is shown as a lifeless shell shortly thereafter, bereft of movement outside of the three children playing in their new paradise. That said, physical death does in fact follow the event, but for Nine, fatally shot as he threatens to detonate a second nuclear bomb hidden within a nuclear power plant. Unlike nuclear bomb narratives in literature, television, film, etc., EMPs are relegated in these instances as heralds of total destruction to come, much like the placement of darkness as the ninth plague of ten in the Bible. This of course has much to do with the way that they work: as already discussed, in the worst outcome, theirs is a prolonged destruction over a period of time rather than a concentrated blast.

Were this the only resonant connection between these examples, then this would very likely stop at a circumstantial relationship indeed, but it is the narrative function of sin and subsequent punishment that I propose as the most significant bridge at work. All three of these fictional examples attach their EMP events to narratives of just repayment via symbolism or direct narrative exposition. I would return here to the scene in *The Day After* wherein the terrified driver abandons his car to flee towards the surrounding forest. To reiterate my earlier claim, it is as if in this moment he has realized the folly of his dependence on technology to facilitate his safe escape, rejecting the now worthless object and running back towards nature as a means to shield him from impending death. That this scene is framed within a cascading sequence of electronic failures suggests a greater symbolic thrust at play, wherein the entire national dependence on electronics is within an instant revealed as a foolish trust in the strength of a very weak shield. Likewise, *Modern Warfare 2* seems to punish its players for having grown accustomed to its technologically

advanced systems, stripping them of their luxuries in a level that appears close to the conclusion of the game. After committing techniques and strategies to muscle memory, the Russian EMP forces the player to reacclimate to the game under the worst possible conditions, all as a replication of the moment of dreadful realization highlighted in *The Day After*. *Terror In Resonance* is all but explicit in this regard, as the EMP set off over Tokyo exists entirely as a punishment for the actions of both the experimenting scientists as well as the passive culture that allowed such atrocities to take place unnoticed. Trapped in a daze, the residents of Tokyo fail to realize just how the demands of science and technology led them to a point wherein doing potentially fatal experimentation on children is permitted for the greater pursuit of knowledge, hence Nine and Twelve's desire for all of them to "wake up". In these instances, the renewal that follows the invasive and erasing force of the EMPs is not just one of the society within the sources themselves (the scorched American landscape in *The Day After*, the symbolic destruction of Washington D.C. in *Modern Warfare 2*, the deserted Tokyo of *Terror In Resonance*), but also a renewal of the relationship to one's immediately surrounding culture and technologies, both functional and ethical in nature. In all cases, the EMP strikes at the connections with such technologies (i.e. the car, the game mechanics, the integrated electronic infrastructure respectively) and forces the question as to what led to such immediate disaster: the EMP itself, or these dependent relationships. In more direct terms, if the EMP and its darkness is taken to be a herald of destruction, who or what is to blame for allowing the following destruction to take place? Returning to an earlier, related question: if an EMP can purportedly "destroy the American spirit", to what exact degree do we seemingly identify ourselves *through* this technology?

I would like to emphasize here that it is not within the purview of this chapter to offer definitive answers to these questions, as any attempt would be philosophically fraught at best. Instead, the aim is to inquire into why this particular relationship appears to exist at all, as this ethical framing of technological dependence extends beyond the confines of EMPs alone. While I again will limit the following examples to only a small selection in the interest of space, they could not be more explicit in this particular philosophical view. Specifically speaking, starting in the mid-1970's (incidentally around the time that EMPs and practical, rather than sensationalized, nuclear threat began to enter into the cultural consciousness) a dominant strain of French postmodern thought frequently took recourse against what it deemed to be the perilous attachment to technology in contemporary society. Spearheaded by Jean Baudrillard and Paul Virilio, the two frequently harangued the Western world for effectively poisoning their own subjective integrity with technical apparatuses, going as far as to claim them to be the source of an impending cataclysm. Baudrillard's principle target is the destruction of reality via simulation, a point he drives into the ground in his most famous work *Simulacra and Simulation*. But it is in a lesser known late work of his, *The Perfect Crime*, where he affixes a cultural dependence with technology onto his fatalistic philosophy of the virtual. While the chapter "The Irony of Technology" furthers this general claim, positing in typically obtuse fashion that technology has led to a toxic irony of existence, wherein the increased confidence of technology to unveil the secrets of reality has resulted in an ironic realization that all things are ultimately unknowable despite closer inspection. It is a single paragraph near the beginning, however, wherein he puts forth his condemning edict on the foolhardy dependence on technology endemic of the contemporary moment. He states, "All our technologies might, therefore, be said to be the instrument of a world which we

believe to rule, whereas in fact the world is using the machinery to impose itself, and we are merely the operators.”⁴²⁰ Again, I harbor no aims to prove or disprove this particular point, but instead wish to use it to represent the very kind of ethical pinning operating at the heart of this particular subset of fear. Taken in congruence with EMPs themselves, through Baudrillard’s withering lens, they are the expression of a world turning its technology back on its assumed masters as a way to violently expose them as nothing more than mere “operators”. Taken further, it is as if this assumed control is the great sin, the act that opens the door for the destruction of reality as humans assume it to be, one wherein a single tipping event exposes it as mass illusion, or in other words, an existence laid bare from the veil of technological interconnectivity and left to atrophy and collapse. In this sense, Baudrillard offers a newly configured form of technological guilt, one fulfilled by the punishment of technology pulling itself away and revealing its true dominance in one fatal moment. That a later chapter references the Tower of Babel serves to cement his place within this mythic framework of sin and punishment. The Tower of Babel of course is conceptually inscribed within the particular framework of darkness as well, a biblical narrative concerning the divine punishment of the human race in a moment wherein it used the extent of its technological prowess to attempt to climb to heaven and face God. While the decimation of the tower and subsequent fragmentation of a unified human language into its multiplicity of dialects is not a narrative or literal darkness per se, it still can be read as a conceptual darkness, a clouding of communication that casts the human race into temporary stasis before it is renewed into its current form.

⁴²⁰ Baudrillard, Jean. *The Perfect Crime*. London: Verso, 2008. 73.

Virilio is, to his credit, much more direct in his accusations, modifying Frederic Jameson's productive claim that postmodern space requires the development of new perceptual apparatuses into an eschatological screed against the dangerous acceleration of technology beyond the point of human perception. In his book *The Information Bomb*, he views the internet as the greatest calamity yet, a moment where humankind oversteps its boundaries and once again enters into a Tower of Babel situation. He writes:

Every political revolution is a drama, but the coming technical revolution is without doubt more than just a drama. It is a *tragedy of knowledge*, the Babelish confusion of individual and collective bodies of learning. As Aesop said of language, the Internet is both the best and the worst of things. It is the advance of a limitless – or almost limitless – communication; and at some point it is also the disaster – the meeting with the iceberg – for this *Titanic* of virtual navigation.⁴²¹

The obvious hyperbole of his claims notwithstanding, Virilio places himself in a long line of techno-anxiety dating back to Plato, representing a fear that each subsequent development in communication technology pushes humankind further away from productive intellect and actual communication, instead hurtling it towards a disaster of unintelligibility and catastrophe. While Virilio is never quite clear on how the internet will lead to said destruction, his affixing of this line of technical peril to the greater paradigm of self-earned punishment is pertinent to this analysis at large, if for no other reason than to demonstrate the persistence of this line of thought over the course of literal millennia. That this reflexive condemnation for the use of technology has persisted for so long offers an immediate doorway through which EMPs can be joined to this line as well. When taken in concert with

⁴²¹ Virilio, Paul. *The Information Bomb*. London: Verso, 1998. 85.

the grand scope of their effects as well as the symbolic potential of the darkness that they unleash, their function as morally engendered punishments is easily constructed.

This of course begs the question as to whether or not Baudrillard, Virilio, and all those in this vein of techno-fatalism carry the same eschatological tone indictive of mythic and theological frameworks. While I would not be inclined to make a blanket claim here for the whole, I do believe it to be the case with regards to this particular set of writers, insofar that they propose a remarkably consistent rhetoric of guilt and punishment with regards to overdetermined technical relationships. The next question, then, is if this same appropriation of these eschatological narratives finds its place incontrovertibly at the heart of EMP anxieties. This is significantly more difficult to assign with certainty, as at heart this claim would remain as speculative as the very fears towards EMPs themselves. Nevertheless, if at the heart of this entire project is the desire to identify and isolate the narrative histories of darkness that take root in certain contemporary media phenomena, when the actual material danger of EMPs are set aside, what is left is this history of guilt and apocalyptic rhetoric. It is the very mechanism through which the “myths” of EMPs take shape, the very kind that organizations such as Metatech attempt to disrupt. While the narrative resonance that EMPs possess with regards to the concept of the plague of darkness is productive for the purposes of analysis, as with the dark web, it is *reductive* in terms of praxis or action. In other words, in being attached to a history of guilt and divine punishment, myths of retribution, the fear held towards EMPs threatens to eclipse a tempered and vigilant attitude towards approachable and effective protection.

Whatever the case, EMPs push the limits of Blumenberg’s concept of absolute metaphor close to its breaking point. As articulated in the introduction for this project,

darkness is generally deployed as a stopgap to explain singular concepts, such as unchecked productivity, death, or unknown danger, amongst others. Absolute metaphor stands in for unresolvable or ungraspable phenomena, the moments where rational conceptualization fall short. But an EMP is very quantifiable in terms of scientific conceptualization, while at one and the same time possessing a persistent metaphoric dimension, something that links it to the other phenomena addressed across the breadth of this project. Perhaps unique to the complex of EMPs and other darkness plagues/punishments, darkness symbolizes a fear of violent and deadly renewal, caused by an invading force and catalyzed by total erasure. On top of this, there is something singularly creeping and uncanny about the effects of EMPs, a death caused not by an assault on the body or an obliteration of physical structures, but a rapid withering of the technical threads that bind society. Even if, as Metatech claims, that an EMP would not set back the clock, so to speak, or cause every device to collapse, its damage is in fact proportionate to the level of technological sophistication that an affected country possesses. Analogically speaking, it is the same effect through which darkness gains greater presence in contrast to luminosity, and vice versa. It is through this that EMPs can so easily be attached to the mythic narrative of darkness as a tailor-made punishment, and perhaps this latter effect that above all makes the particular fear towards EMPs so difficult to define in simple terms. Hence, the absolute metaphorical force of EMP-related darkness takes hold, insofar that the massive blackout contains so many more inherent fears than the simple loss of power itself. But as the relatively limited metaphorical deployments of darkness likewise struggle to capture the whole, perhaps it is the case that EMPs, for the time being, serve as the total concretization of darkness as an absolute metaphor, the most singular expression of

the multiplicities of fear associated with the dark: disconnection, death, erasure, invasion, renewal, production, danger, etc.

I conclude this chapter with a very explicit connection, if for no other reason than to demonstrate the ease with which EMPs can be drawn into this eschatological framework. An apocalyptic religious website called omegashock.com posted an article in 2013 questioning if God's judgement will come in the form of an EMP strike, personally bringing to mind Dr. Peter Pry's depiction of the Carrington Event as 'God's EMP'.⁴²² Concluding that due to the great moral debasement of the United States, God's impending judgment is inevitable, the article proposes that an EMP would be a large possibility concerning its manifestation. Charmingly, the article then offers ways to protect oneself from said EMP, appearing to miss the central function of such a judgment scenario, that being its universality. The main source of frustration for the writer comes from the fact that the U.S. government has done so little to initiate national protective measures from the disaster. The moral failure of the nation is an unavoidable given in the eyes of omegashock.com, but the truly maddening fault is the failure to deploy further technology to block the destruction of all technology. As always, an EMP will only collectively highlight our lapse in judgment after it has done its damage and has "woken us up". It is a seemingly preventable catastrophe, but effectively unimaginable in its scope; it is potentially the righteous hand of judgment and renewal, but something against which must be defended; total destruction and infinite production. It is the mythic Nyx made material; it is the definitive symbol of darkness in the technological sphere. And so the most advanced of technologies stokes the fires of the most ancient and longstanding mythos.

⁴²² Little, John. "God's Judgment – Could It Be an EMP?" omegashock.com.
<https://www.omegashock.com/2013/11/08/gods-judgment-could-it-be-an-emp/> 8 Nov. 2013

Perhaps the most toxic effect of this process is how adroitly we can be convinced of its justice.

Conclusion: Living Shadows

What merit lies in studying the narrative aspects of these media-technological phenomena? Or, more specifically, what is there to gain in identifying the metaphorical and conceptual histories that precondition the responses to these phenomena? It is an unorthodox gesture to apply a sort of literary analysis to technological objects or events, and yet the field of media studies thrives nevertheless. This is not to say that media studies wholly replicates the tools of literary criticism, or even that it always derivates from them. But if literary analysis and theory are a means to interrogate the mimetic and hermeneutic capabilities of texts, then the exploration of mediating processes and technological praxes certainly lends itself to a similar analytic methodology. At risk of leaning into cliché, much as how one may derive insights into their culturally configured relationships with the world through the text, so too may one uncover cultural practices and relationships at large through media and technological practices. Technology mediates our desires, augments our capacities, and recursively contributes to our cultural and social coordinates. But like the text, these evolving practices will always import along with them the traces of previous relationships and imbrications; they always arrive part and parcel with narrative histories.

In his seminal book *The Political Unconscious*, Frederic Jameson offers a parallel but harmonious critique when taken in concert with the aims of this dissertation. Whereas I began my analysis with a schema of metaphor and concept, Jameson frames his critique in terms of “master narratives”, deployed almost identically to the manner in which I have used “narrative” throughout my work. Detailing the seductive tendencies of such narratives, he writes:

...if interpretation in terms of expressive causality or of allegorical master narratives remains a constant temptation, this is because such master narratives have inscribed themselves in the texts as well as our thinking about them; such allegorical narrative signifieds are a persistent dimension of literary and cultural texts precisely because they reflect a fundamental dimension of our collective thinking and our collective fantasies about history and reality.⁴²³

This passage introduces a disrupting metatextual aspect to the very kind of analysis upon which I have embarked in this dissertation. Essentially, Jameson argues that even the framework of my analysis, that there are conceptual and narrative histories at play within media-technological history, is *itself* conditioned by my own experience with these “master narratives.” A pertinent question: wherein does my own experience and culturally preconditioned relationships inform my approach? As Jameson would have it, in the very first instance. He writes, “Rather, texts come before us as the always-already-read; we apprehend them through sedimented layers of previous interpretations, or – if the text is brand-new – through the sedimented reading habits and categories developed by those inherited interpretive traditions.”⁴²⁴ Even the most novel of “texts” will link into what Jameson calls “reading habits”, a phrase I take to mean a process of inscription into codified patterns of reception. In this dissertation, the resonant literary histories I attached to novel media-technological phenomena would fit this definition, as they serve to precondition the means through which these phenomena are approached, in even the subtlest of ways. Narrative is an ontological concept for Jameson, as he states, “I take [narrative] to be the central function or *instance* of the human mind.”⁴²⁵ Even when approaching “the new”, we connect our experiences to these always-already-read textual or narrative histories, and the

⁴²³ Jameson, Frederic. *The Political Unconscious*. Ithaca: Cornell University Press, 1981. 34.

⁴²⁴ *Ibid.* 9.

⁴²⁵ *Ibid.* 13.

fundamental human experience of the world is narrative at the core. It is a generative function, mythical in its configuration, insofar that it is used as a means to construct a coherent interpretation of the world. It is the “political unconscious”, a “symbolic meditation on the destiny of community”⁴²⁶.

And so, the demarcation boundary between traditional “texts” and cultural manifestations thereof fades within Jameson’s critique, to the point that he eschews the word “text” entirely. In critiquing Althusser’s conception of history as an “absent cause” He writes:

We would therefore propose the following revised formulation: that history is *not* a text, not a narrative, master or otherwise, but that, as an absent cause, it is inaccessible to us except in textual form, and that our approach to it and to the Real itself necessarily passes through its prior textualization, its narrativization in the political unconscious.⁴²⁷

This is a crucial passage, one that appears to upend all that has been discussed to this point. However, it provides the most important keystone element to my own work here. “Master narratives”, like “absolute metaphors” and “conceptual complexes” are seductive in their apparent ease, an ease with which that offer a pathway of least resistance towards holistic understandings. They explain the unexplainable, register patterns and provide predictable outcomes: they are our comfort zone as narrative creatures. But as Nietzsche, Blumenberg, and Jameson assert, narratives are at the core *artificial processes*. They are not universals, nor could they ever transcend to that state with full totality. As Jameson argues, humanity may be a species of narrative creators, and we may be conditioned to read the world through narratives passed down through centuries, but in acknowledging this, so too must one

⁴²⁶ Jameson, Frederic. *The Political Unconscious*. Ithaca: Cornell University Press, 1981. 70.

⁴²⁷ *Ibid.* 35.

acknowledge the human capacity to shift and reconfigure “master narratives” or “absolute metaphors” when necessary.

And so this leads me back to the question with which I started my conclusion: what is there to gain in applying this strategy to these particular media-technological phenomena? As I put forth in my introduction, the culturally preconditioned responses to the four instances that I have examined are ones of fear and dread. While each case involved a fear towards a specified target, and I argue that they each draw from a unique narrative history as an encoding mechanism, all four lapse into the greater “master narrative” of opposing the Other. What complicates this issue is the fact that in certain of these cases, the targets of opposition are justified and sound. Take the “Dark Web” for instance: I harbor no hesitation in stating that it is a healthy behavior to fundamentally reject the trade of child pornography and abuse videos. But as I demonstrated in my own small sample of primary research, by no means does this activity speak for the whole of the “Dark Web” platform. But I, along with The TOR Project, acknowledge the insistent effects of conceptualization in the Nietzschean sense: all differences are eradicated in service of an internally consistent narrative, and all are subsumed in darkness for ease of interpretation. One must ask: what potential applications are lost to this narrative, and (in TOR’s line of reasoning) how does this narrative preclude the ability for the “Dark Web” to rectify its own problems? Consider the deleterious effects of regarding the light maps of North Korea and Africa as confirmation of the “Dark Continent” myth, as if their darkness is a given destiny. In what ways does this preconditioned attitude foster an indifference, a tacit acceptance of a pernicious colonial narrative?

Even more complicated are the cases of numbers stations and EMPs. There is no escaping the context of war and conflict with these two instances: numbers stations are

hypothesized as international spy transmission, and nuclear EMPs are literal weapons of war. However, in the latter case, to what end is the association of EMPs with divine punishment and justified destruction worth? Rather than viewing them as a fatalistic self-identification of weakness through the opposition of a menacing Other, something taken as an almost pre-destined fall, could the narrative be realigned with a motivation to oppose the global conditions that lead to an EMP as a diplomatic option in the first place? I am not naïve here, and I do not wholly believe in the collective wishing away of global dispute through the power of theory. But I do contest that, at the least, the idea that such events are inevitable outcomes for the technologically advanced is something that should be disarmed. Numbers stations are perhaps the most benign of the four cases, despite their immediate connection to sedition and otherworldly danger. That said, one can possibly see the seeds of a beneficial shift away from a conflict narrative in the aestheticization of numbers stations samples, such as *The Conet Project* and the work of Wilco. Perhaps this transposition indicates a defanging of the darkness narrative as used in this particular case, shifting their mysterious qualities from the realm of horror and towards one of aural beauty.

Similar efforts are being undertaken at this very moment. Returning to Edensor once again, he outlines a variety of attempts to shift darkness away from its negative associations, including a particularly fascinating instance of praxis. He writes:

A key agent in the gradual process through which darkness has been revalued has been the International Dark Sky Association, an organization with a global reach in campaigning against the spread of light pollution and for a reduction in the wasteful use of lightning, and above all, in promoting the incidence of star-filled skies untainted by skyglow. An expanding number of designated places diverge between International Dark Sky Communities, Parks, and Reserves. There are currently ten communities, eight in the United States, that

implement stringent lighting codes, deliver educational programs, and develop citizen support for dark skies.⁴²⁸

What is compelling to me about the work of the International Dark Sky Association is its focus on reconfiguring the parameters of “health”. Taking a bold stance against the centuries-old association of light with progress and social well-being, they put forth the idea that it is in fact light that is the encroaching danger, as the artificiality of urban illumination forces human beings out of their natural milieu. It is a noble effort, in my eyes, and I find it, like Edensor, to be a refreshing change of pace regarding the cultural import of darkness. However, there is a large caveat to this approach. While this project may indeed promote a healthy reevaluation of the beneficial effects of darkness, it still could not eradicate darkness’s associations with hidden dangers or obscured threats. In fact, it may cross the line into an almost irresponsible lack of attention to this detail. For example, I am hard-pressed to think that such a project would gain significant ground in an area wherein there already exists a significant anxiety towards criminal activity after dark, justified or hyperbolic the same.

Ultimately, when squaring off against a “master narrative”, “absolute metaphor”, or “conceptual configuration” such as that of darkness, and I hold the three to be interchangeable for the point at hand, one must always be aware of the limitations to these efforts. At best, one can hope to shift the grounds of engagement. This is not to say that neither Edensor nor the International Dark Sky Association is aware of this fact, and it is certainly not the case for the former. Rather, my point here is that any critical discussion must consider the rugged persistence of such negative narrative histories and conceptual deployments, for they must be addressed in tandem with any shift towards more positive

⁴²⁸ Edensor, Tim. *From Light to Dark: Daylight, Illumination, and Gloom*. Minneapolis: University of Minnesota Press, 2017. 180-181.

interpretations. As Jameson put, once again, “master narratives” are seductive, and the more easily replicable they are, the more apt they are to enthrall us. The metaphors and concepts that build these narratives are additive in nature, and they rarely can be destroyed wholesale. As such, it is my contention that one should be aware of the narrative histories that condition their interpretations from the outset, as “always-already-read” textual phenomena. Only then can one grasp the means to address and dismantle their negative repercussions at a fundamental level.

And so it goes with these “dark zones” in media-technological culture. In linking back to heavily reinforced narratives of the Other, they deal in the currency of fear with great efficacy. As I have argued, these narratives hold a greater significance that extends beyond their particular cases, as they stand (for me) as eye-opening testaments to the mobility of metaphor into even the least obviously “textual” spaces. And while a certain dose of fear is a healthy response to any danger, one must always be aware of the cultural forces that determine what threatens them, as well as the limit over which fear crosses into debilitating grounds. For instance, it is understandable to be afraid of the idea of an EMP, but one should always consider the narrative from which one sources this fear. It is one thing to fear the destabilization of national electrical grids, it is another to imagine it as the immediate destruction of all electrical equipment, a myth in terms of the science behind the event. And as with the case of “dark continents”, when this threat is constituted as an entire national population, the toxic sequelae of discrimination and racism never fall far behind. If we can never wholly dismantle the negative metaphorical and conceptual manifestations of darkness, we can at the least temper our own anxieties, and put to productive use the creative powers of narrative that make us what we are.